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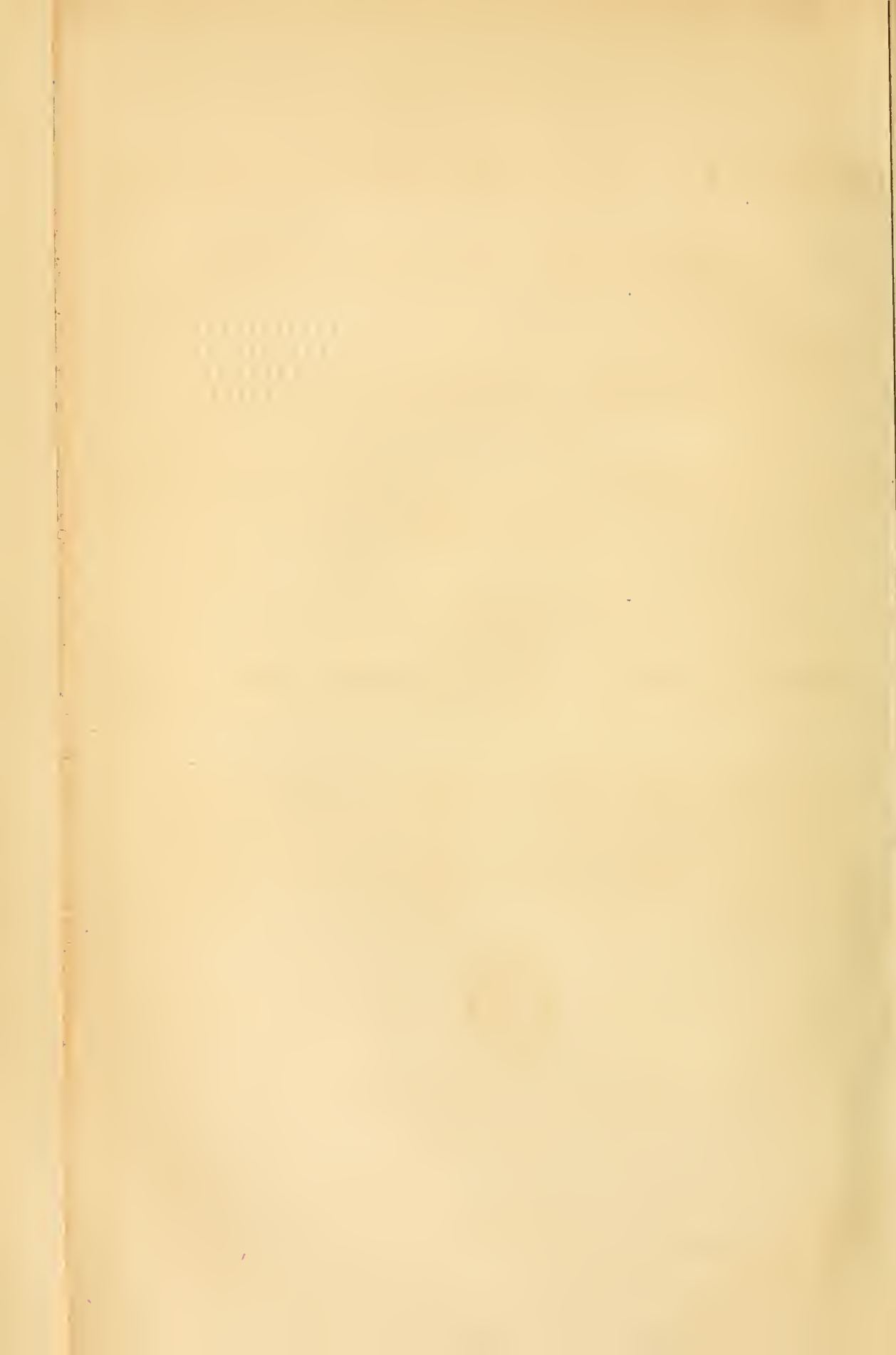
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THE

# JOURNAL OF HORTICULTURE, COTTAGE GARDENER,

AND

# COUNTRY GENTLEMAN.

A JOURNAL OF HORTICULTURE, RURAL AND DOMESTIC ECONOMY, BOTANY AND  
NATURAL HISTORY.

CONDUCTED BY

GEORGE W. JOHNSON, F.R.H.S., AND ROBERT HOGG, LL.D.

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## TO OUR READERS.

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WE know of one who would not have on the parlour chimney-shelf a dial with a second's hand, because it made him see and feel how life lessens, as it were, drop by drop. What he would have said, or how he would have felt, if he had to write these Prefaces surpasses our power of surmise, for they at once tell of six months gone—and how quickly gone!

Grateful are we to record that truth, for miserable is he over whom time passes on heavily. But no such weight has been upon us: no day has been long enough or slow enough—each day's evening seemed to arrive before its morning had passed into noontide.

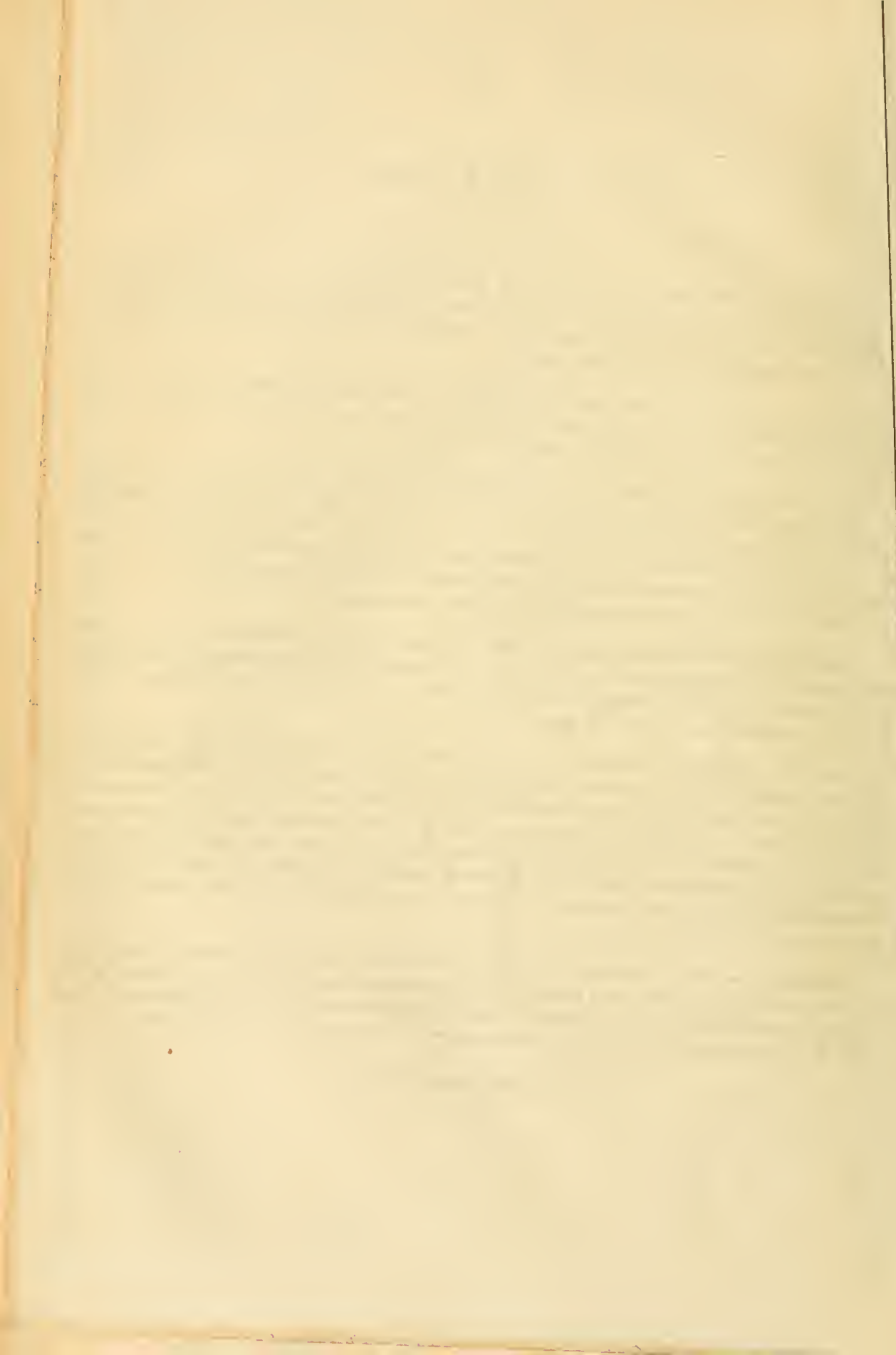
This was not because there were no sorrows around us; for we have had by our desk refugees from the once United States, telling of homes crushed, and of brother in arms against brother in fratricidal and suicidal war: we have had a blast from that war among our own homes, and our pages have told of one small passage in the wide and deep amount of privation and sorrow which it whelmed over our cotton districts. Death has not been less frequent than usual in his visits among those whose aid we had; nor have we found jealousies less jaundiced, nor envyings less detraactive.

But we have had compensations for all these ills. We were able to give occupation to the unemployed and to point out to others those who deserved assistance. When a chasm occurred among our friends others stepped forward to render the vacancy less observable; and as for the jealous and the envious, we had no leisure for being inconvenienced by them.

Thus have we passed on through 1862; and over its close we will inscribe the hope that from its days our readers, as well as ourselves, have passed on into 1863 wiser, happier, wealthier—wealthier not merely in this world's gear. May its harvest of wisdom, happiness, and wealth be even more abundant than that yielded by its predecessor; and we will include in that prayerful hope our brethren across the Atlantic. Many of our readers are there, and they may accept from us as truth that great is the delusion which suggests that "Britishers wish nothing but evil to America." If that fiendish desire actuated our countrymen, they would not so earnestly hope that the internecine war waging there may speedily cease.

Heartily do we join in that hope—nay, more, it is the most prominent in a cluster of good hopes, including one for the well-being and well-doing of each and all of our contributors, and another for the vigour and endurance of those so abundantly recording themselves as our "Constant Readers." May they all be evergreens, and then our concluding wish will be gratified, for we shall all have

A HAPPY NEW YEAR!



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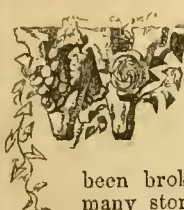


WEEKLY CALENDAR.

Day of Month	Day of Week.	APRIL 1-7, 1862.	WEATHER NEAR LONDON IN 1861.				Sun		Moon		Clock before Sun.	Day of Year.			
			Barometer.	Thermom.	Wind.	Rain in Inches.	Rises.	Sets.	Rises and Sets	Moon's Age.					
				deg. deg.			m. h.	m. h.	m. h.		m. s.				
1	Tu	Acacia conferta.	29.712-29.641	50-37	N.E.	.36	38	af 5	30	af 6	25	9	2	3 58	91
2	W	Acacia Dillwyniaefolia.	29.661-29.652	53-35	S.W.	.37	36	5	32	6	30	10	3	3 40	92
3	Th	Acacia juniperina.	29.709-29.662	55-35	W.	.04	33	5	34	6	31	11	4	3 22	93
4	F	Anthocercis viscosa.	29.767-29.709	57-30	W.	—	31	5	35	6	moen.		5	3 4	94
5	S	Aotus ineana.	29.919-29.773	53-24	N.	—	29	5	37	6	25	0	6	2 47	95
6	SUN	5 SUNDAY IN LENT.	30.122-30.083	51-37	E.	—	27	5	39	6	10	1	7	2 29	96
7	M	PRINCE LEOPOLD BORN, 1853.	30.216-30.174	53-25	E.	—	24	5	40	6	48	1	7	2 12	97

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 56.4° and 36.0° respectively. The greatest heat, 79°, occurred on the 7th in 1859; and the lowest cold, 16°, on the 1st in 1838. During the period 138 days were fine, and on 107 rain fell.

THE WALTONIAN CASE.



HEN Paganini got his fiddle smashed in a storm, a friend sympathized with his case, and the Signor instantly made known that he did not care a fig for the case, if the fiddle in it had not

been broken. Here, on the other hand, after many storms and tempests, together with temptations to get bread and cheese, fame and fortune, out of the Case, the Case itself is now more safe and sound than it ever has been; and I am enabled, from a more thorough conviction of the fact, to repeat that "I never saw a better contrivance for amateurs to strike cuttings and raise seedlings with than this, and that there is not a better mode in existence, as far as I am aware of," and not likely to be, for just yet awhile.

But the fiddle! The fiddle in that Case is the grand secret, and we shall never get over that fiddle, depend upon it, as long as the inventor of it and the manufacturer of the invention choose to whistle the tune as they have hitherto done, or play it out for the use of all parties, and for the benefit of the manufacturer thereof, who had risked a large sum on it in the first instance.

Mr. Bennett, the clock manufacturer of London, sends me regularly drawings of all his best new "cases" for his clocks and watches; for which, of course, I am very much obliged to him, as I can now tell to a minute if any watch I see is, or is not, in the fashion. But I cannot make a watch from all the drawings, nor can I get a single individual who can make a watch for me from the drawings cheaper than Mr. Bennett himself, so I go to him because I cannot help myself to a cheaper article. And the Waltonian Case is exactly and entirely such another case in point. No man can hit the thing from all the underhand and overhand drawings of it that have yet appeared, and yet there are four people in the secret, and I am one of them, and the most conscientious advice I can give, is to warn my readers against the expense, pain, and danger of attempting to fiddle out this fancy by the best player in their town or parish. A friend of THE COTTAGE GARDENER spent £15 hard cash, amongst the best artists in New York, with the best drawings from London before them, and they were all just as wise as when they first attempted it. Lots of dowers in white-smith's ways in this country have just as signally failed as the New Yorkers, and if you knew what I do, you would not wonder at it. In all sincerity, therefore, my advice is as I have just given it.

There is no one now in Surbiton, or within my reach, who has any interest in the run of the Waltonian. But about three years since, when Mr. West, the manufacturer of it, was about leaving Surbiton, I made it a point with him, that if ever he made any alteration or improvement in it, that he should acquaint me of it before any one else, on account of my being the godfather of it, and was bound to see it kept from such people as I did not

altogether approve of. He said he would, but I have not had a scrape of his bow since, and, therefore, conclude the Case is just as it was when he left us. That enables me now to bring down the history of the progress of the invention to the end of March, 1862, and you may dismiss every other move and turn referring to this Case from your mind, and accept the present contribution as the very best on the subject, till you meet with a better one, to paraphrase a Roman motto at the end of one of my school books.

It is entered on the record that the boundary line between THE COTTAGE GARDENER'S straightforward course in this invention, and the course that was not so, in the conduct of a few, ran in a south-east direction to the Gulf of Pudibundus, Vol. XV., page 386, where the Case and the fiddle, the tune and the way to play it, are set forth in brief. From that day to this the invention had been steadily extending on all sides, and the knowledge of working it seems to have spread at the same rate, so that all that our own correspondent sees fit to communicate anent it, is simply that oil or gas, lamp or flexible tube from a gas-pipe, will do the heating equally well, if you know how to do it, and he argues that the know-how-to-do a thing can no more be taught in black and white, than how to make a boot or a stirrup, and that all that must be learnt by practice, and by pluck to stick to it till the boot is actually in the stirrup, and the man or woman is ripe for rough or smooth ground, or for Rotten Row in Hyde Park.

About ten years since Mr. Walton began the Case simply by putting hot water in a close tin case, and the tin case inside a wooden box with a glass cover—exactly like that for which Miss Maling has taken out a patent; but finding the plan too troublesome, and not of sufficient power to raise seedlings and cuttings, which he chiefly wanted, he set about contriving artificial means of getting more heat and less bother, and in his first communication in these pages, Vol. XV., page 430, he says "the boiler (tin case) is surrounded by a false cover of tin, which I found necessary to create a draught for the lamp. The false cover has a chimney which runs through the frame and out at the back, to carry off the smoke, if any, but there ought to be very little. The lights are divided into three, and are merely fixed in zinc frames, not wood, and let into the top, to lift on or off, or tilt. This is better and cheaper than glass in a wood-frame, as the water (why I cannot tell) does not drop inside, but rests on the outside [of the zinc frame] and may be tilted off. The lamp was made by Smithurst, of Bond Street, but it is quite plain [brass] and circular, holding more than half a pint of colza oil. It must be well trimmed, so as not to smoke, and then will burn eight hours—that is, without any more trimming, but now it is only trimmed twice in the four and twenty hours, and the expense in oil is a fraction over 2d. for the day and night."

Mr. Walton continues, "a tin lamp will do just as well. The smoke does not get at the plants, but would collect at the bottom of the Case and fall on the lamp. The lamp is 3 inches high and 4 inches across. . . .

If the lamp should go out, and the water become quite cold, draw off some, and add hot water, otherwise the lamp will not burn." The italics are mine to caution people how to take out patents for what has been done before them, as Mr. Walton, who is a first-rate lawyer himself, and is well acquainted with all our judges, and their ways, told me last week that any patent for keeping hot water in a closed case under plants in pots, as he had them, and for renewing the heat to make the lamp go, or to keep the water to a certain heat was not worth one night's purchase. I was sorry to hear that on account of Miss Maling's patent, for I was very much taken with her writings; but my duty will not allow me to plant a Manetti stock, or to sorrow for those who bud them, but to caution my readers when I can only see breakers ahead.

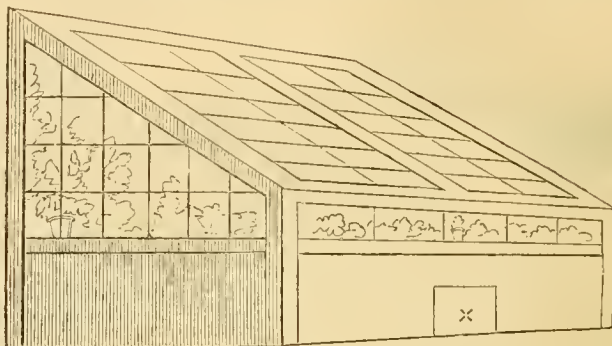
The only improvement in the working of the Waltonian since I last wrote about it is at this very point, and it is due to the practical head of Mr. Walton's gardener, who is one of the best plant-growers I know about Surbiton, and perhaps the most successful manager of the Waltonian Case in the three kingdoms. The meaning of the lamp refusing to burn, if all the water in the Case was quite cold, is well known to gardeners who have the old flue system in use. Cold air is difficult to dislodge out of a flue, or at all events some flues, and the little draught that is necessary for the lamp is not sufficient to dislodge the cold air round the tin case: therefore, the tin case had to be filled each time with as much hot water as heated the said cold air, and then it escaped and the lamp went as it should. Now, the improvement alluded to consists of this, the "chimney which runs through the frame and out at the back" as above is a tin tube, and is moveable; then, when the lamp limps at cold air before it, take the "chimney" off and hold the bottom of it over the lamp a little while, and the tube is soon so hot that no air can settle in it. Put it quickly on the end of the flue or coil; and, of course, the cold air around the tin case must go on to fill the hot "chimney," and so the draught is made perfect without the bother of filling-in the case with hot water as in the patented process.

Mr. Walton's gardener is now so thoroughly convinced of the handiness of this contrivance for raising seedlings and rooting cuttings, that he would not think of making up a dung-bed for the purpose; and, after providing stuff sufficient for one of the largest gardens in Surbiton, I found the Case half full of seed-pots from Barr and Sugden to prove them for their customers, all coming up nicely, and they seldom lose a cutting or a seedling out of a thousand. The same Case is in use from the beginning, the same lamp constantly under it, and all the difference I could see was owing to this extraordinarily sunless weather, through which they kept the inside of the Waltonian much drier than would be necessary if the sun had not hid his face from us here (about London) for the last six or seven weeks. I never saw more healthy young stock than these, and the greenhouse is quite a blaze with Azaleas, Coronillas, Cytisus, Cinerarias, Hyacinths, Tulips, Cyclamens, and other spring flowers. Their Golden Chains are certainly the best I ever saw, and the next best I recollect to have seen were in the garden of Sir Joseph Paxton. The Tropæolum elegans, a good test plant, good as a feather in the air to see how the wind goes, they kept over the winter in the cutting-pots, and only potted them off in February, without losing one of them, which is more than most can say. The cutting-pots of elegans stood over the winter on a front small shelf in the greenhouse, very near the glass, and all but quite dry the whole time; the young stock are now on an end-of-the-house shelf, high up, and facing the south-west, looking as

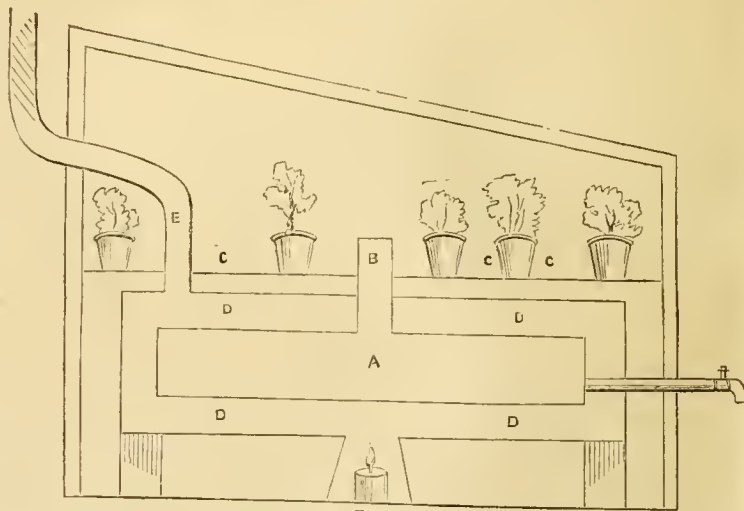
London-like as if they were in one of the splendid domes of the Exhibition building.

There must be two very different kinds of the German Ivy plant, for Mr. Walton's gardener flowered the one which the Misses Walton brought home from the Rhine, and it was in a head of small clear yellow flowers just like a head of Primula farinosa as he described it to me; while the one which bloomed in 1859 at the Pine Apple Place Nursery was a light lilac Ipomæa. Mr. Taylor wrote to me from Shrubland Park to say it was not an Ipomæa, and Dr. Lindley said the same thing more than once, and it is only fair that I should give both facts, though one of them be against myself, even leather is not better than the plain truth.

But I must return to the Waltonian. I do not take it that



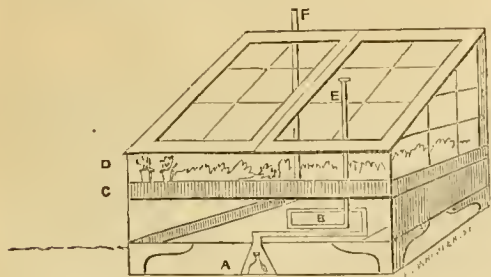
X Door for lamp.



A Boiler. B Steam-chimney opening into middle of box through zinc tray. C C C Zinc tray. D D D Outer cover to boiler, through which the heat is conveyed from the lamp round the boiler, and the smoke out through E. F Lamp for heating boiler. E Tap to draw off the water, and if the mouth of the tap be turned upwards, and a long-tubed funnel used, the boiler might be filled by it.

a few inches more or less in the length, or breadth, or height of the Case would signify much in practice; but as this notice of it is to take in the cream of what has already appeared about it, I may as well give the exact dimensions, which are as follows:—The box for the tin case is 34 inches long, 17 inches wide, 13 inches deep in front, and 18 inches deep at the back—all inside measure. Such a box will hold three rows of No. 48-pots, and six pots in a row. When making a smaller or a larger box one ought to fix on how many of these two sizes of pots the box would hold conveniently without loss of space. An amateur should never use a pot larger than a 48-size for striking cuttings in, and that size is large enough for all his seeds. But more often a No. 60-pot is even better for seeds and cuttings than a bigger one. As long as the sun would keep up the heat inside the Case above 70° there would be no need of the lamp burning,

and if the water got cold in the meantime, if the moveable "chimney" is heated over the lamp, the air or draught is as safe as if the lamp had been burning the whole day.



A Gas jet under the funnel-head. B Coil of zinc tube, 1 inch in diameter. C Lid covered with sand. D Pots of cuttings or seeds. E Vapour-tube. F Smoke or smell-tube.

In very dry sunny weather the sand under the pots—say half an inch thick of sand—should be damped after breakfast, and let get dry before night, and in dull weather the sand to be constantly dry, and the temperature not higher than from 75° to 80°; but in the sun it may rise to 90°, or above it with air on. In a dull season it would be better to lift out the pots to water them instead of risking too much moisture inside from the drops or the spilling, which is not easily avoided. Like all things else in this world, one expense brings on another, and the Waltonian must have its own share. You must have a rough packing-case, with large loose squares of glass to cover it, or a polished one of exquisite make and finish, if you work drawing-room fashion.

This second case you must call by its proper name, else be out of fashion entirely—the cold case, which is here equivalent to the cold pit in the framing-ground. In this cold case, all seed-pots and cutting-pots are to be removed for a few days to get more air to harden them a little before they are parted for single pots, or for four or six or so in a pot. This, no one can overrate the advantage of—it is the marrow and the backbone of the whole concern. The cold box need not be deeper than just to hold the sizes of pots which are used in the hot case, and so as to have the heads of the cuttings not touching the glass covers; but it may be as deep as thought for all that if you put shelves in it to raise the seed-pots and some kinds of cuttings up near the glass. In that case when you potted the things off, the bottom of the deep box would be just the very place for them for two or three days till the little things pricked up their ears again, and were fit to be set on shelves in the greenhouse, or wherever one had the means of keeping them till the frost was over.

If I had been working a Waltonian in the drawing-room, or even up in the nursery, as "Flora" is just doing now, I should have my hot case and my cold case made as smart as the rest of the furniture, and I would keep them going there at full speed the whole year round. I knew all along that could be done; but then I have kept that to myself, thinking it was better first to learn to creep before attempting to walk; but seeing, or, rather, hearing the age of going on all-fours was over, and that several attempts at going right ahead across the whole breadth of the carpet without a hitch or a hop have been accomplished, I would have an attempt at it too.

Then the Waltonian Case shall be my stove for Ferns and foreigners of that ilk, and the cold case would be my conservatory, and the conservatory would be a little higher in the room than the stove case; and I would have another moveable tube to let pass some few degrees of extra heat from the roof of my stove into the bottom of the conservatory in very hard weather. And if anything was ever better done in this world, than all that would be, exactly as I put it, why I would try and see it, and find out the difference, although I cannot see at the moment how anything could exceed my own notion. Indeed, to tell the truth, a very rough-ready notion of the kind has been in use under my roof for some years past, and I have found it a source of never-failing interest, and of some good luck to the bargain; and I can see no more reason why a Waltonian should not be made an evergreen in the drawing-room than Tam O'Shanter should be "fou" on market-days from November to October.

But there is another Waltonian-garden contrivance for the

sheltering of fruit-tree blossoms, and for other moves in that direction, which I am perfectly sure will come into as universal acceptance as a new evergreen yellow *Mesa Rose* would be sure to do, if it were as certain as that I have no more room to say it to-day.

D. BEATON.

### MR. J. STANDISH'S, BAGSHOT AND ASCOT NURSERIES.

THERE is an empire on the far confines of the eastern hemisphere, of which, in our school days, little but the name was known. The passing navigator, traversing those distant seas, might view from afar its snowcapped mountains clad with a luxuriant vegetation full of strange forms; but woe to him if he ventured on its shores—he never returned to tell the tale, and the world went on no wiser than before—a good, easy-going world, that thought the perfection of travelling was comprised in the "Flying Comet" at ten miles an hour.

It was a country that had never been penetrated by the traveller, the soldier, or the priest; a country from whose inhospitable shores even ambassadors were driven away, or sacrificed to the genius of exclusiveness which repelled all intercourse with European nations. Our phlegmatic but thoroughly commercial neighbours the Dutch, had, it is true, by dint of much perseverance and many humiliations, obtained a footing—a few square feet of ground, with liberty to freight two ships a-year with the products of the country. But they were treated like prisoners, and never allowed to pass beyond their allotted bounds, so that their residence added little to our knowledge of the country.

This empire, it will already have been conjectured, is Japan.

A new order of things has now been inaugurated, not without severe struggles, and the ports have been at length opened to commerce. Seizing the opportunity, Mr. Fortune, whose indefatigable exertions in China are everywhere known, hastened to explore this virgin and fertile field; and penetrating in search of objects of horticultural interest where European foot had never trod before, he has gathered a rich harvest which he has committed to the able hands of Mr. Standish, of Bagshot.

To some gleanings from this we now seek to call attention.

There is a plant—familiar even to those least versed in plant learning, which is to be seen in the smoky squares in London, or breathing the clear air of the country; dingy it may be in the first case, and showing a fresh morning face in the other; which is to be found in every garden, and which succeeds well in all, alike resisting cold and heat, wet and dryness. This is the *Aucuba japonica*, or rather a variegated variety of that plant, for that which has been so long known under this name is merely one of many such varieties only now brought to light.

The true *Aucuba japonica* is not variegated, but has beautiful shining green leaves which, when young, are of the brightest colour; and when the female plants are impregnated, it will possess an additional charm in being covered with its large red berries. It may safely be predicted of this new introduction, that in a few years it will be planted in every shrubbery, where it will be quite as valuable as the common Laurel, and, like it, will form admirable hedges. For planting near London and other large towns it will prove invaluable, for the leaves will not look dirty so soon as those of the bleached-leaved sort.

Such a shrub as this is alone an ample recompense for Mr. Fortune's journey, being, as it undoubtedly is, one of the greatest acquisitions among hardy shrubs that has been made in our time.

The male *Aucuba*, which is also in Mr. Standish's possession is, as far as its general appearance is concerned, but little, if at all different from the female. Its great value lies in its producing long catkins of flowers, somewhat like those of *Garrya elliptica*, by means of which the female plants may be fertilised and enabled to produce their beautiful berries. It is very scarce even in Japan, where it is only propagated for this purpose; but in a few years, when it shall have become sufficiently disseminated, there is no reason why every female plant in the country should not be covered with fruit.

But besides these two important acquisitions, Mr. Standish has several remarkable varieties of the same plant; one of which, called the true *Aucuba japonica variegata*, has dark green foliage, with curiously branched yellow marks, painted, as it were, in the centre of each leaf. Another, the toothed-leaved *Aucuba*, has a large leaf, with a golden blotch painted in the

centre of each leaf, and occupying about one-half of the entire surface.

There is also a sort with a long, narrow leaf, with some variegation upon it; and a variety with large leaves, edged with white, which is stated by Mr. Fortune, who brought it home himself, to be a magnificent plant; but of course it is not as yet in a condition to allow of an opinion being formed as to what its ultimate appearance will be; that it has a white edge however, is certain.

The variegated Holly has been justly considered one of the best of our hardy variegated shrubs, but it is very difficult to grow in many soils; for such, therefore, a plant that would grow freely anywhere and still preserve the general aspect of the Holly would prove extremely useful. This want, it is expected, will be supplied by the new *Osmanthus*es from Japan, which have all the appearance of a Holly, and are said to grow as freely as the Privet.

There are, in the first place, the green-leaved species, *Osmanthus ilicifolius*, which a casual observer might easily mistake for a Holly, and its dwarf variety.

Then there is the *Osmanthus ilicifolius variegatus*, like a variegated Holly, but having leaves of a brighter green with white variegations. This kind attains the height of 20 feet or 30 feet, and is altogether very effective.

*Osmanthus ilicifolius variegatus nanus* is a dwarf variety, with foliage like that of the preceding, and closely resembling a miniature Holly. It is likely to prove a most useful substitute for the Holly, and to make capital edgings.

The gold-variegated *Osmanthus* is another beautiful dwarf plant, the foliage being very dark green with golden yellow variegations.

*Osmanthus diversifolius* is a plant more curious than beautiful, the leaves being of all shapes with whitish variegations. It is very dwarf.

A dwarf and very shrubby *Ligustrum* or Privet, with oval leaves as thick as those of a Holly, and of a shining green, is a really important addition to our stock of dwarf shrubs, and in the hands of the skilful gardener it is likely to prove of great value in flower-garden decoration.

There was likewise a variegated Privet, probably a variety of the preceding, having the foliage beautifully variegated with bright golden yellow, some of the leaves being entirely of that colour. The whole appearance of the plant is very handsome.

*Buxus obcordata*, and its variety *Buxus obcordata variegata*, are two handsome species of Box with very short obcordate leaves, those of the latter being variegated with yellow. Both are likely to be very useful for edgings, &c.

A species of *Illicium* with oblong greyish-green leaves had these variegated with rose colour when young; but those of greater age were painted with white. This will, probably, reach the height of 4 feet or 5 feet, and will form a pretty object in spring.

Of *Skimmias* there were three new sorts—a new species, unnamed, with larger and thicker leaves than the old kind. The fruit is also larger, depressed, globular, and of the same ornamental character as that of the one previously introduced.

There were, besides, a new kind remarkable for its free habit of growth and which quickly forms a large bush, and a variegated form of this with dark green and white leaves.

Of *Euonymus* there are several kinds. One with larger and thicker leaves than japonica, of a bright glossy green with golden variegations, is said to be a very free grower. Another has pale green leaves much covered with white at the edges, and viewed from a distance it appears quite white. Lastly, we have a climbing species with ovate leaves variegated with yellow, and being of rapid growth it will, should it prove perfectly hardy, supply a great desideratum in the shape of a variegated climber for out-door decoration.

Another handsome novelty is a *Cerasus*-looking evergreen, with long lanceolate leaves, calling to mind those of a Bird-Cherry; but green strongly edged with white, some of them being quite white. This will evidently become a tall tree, when it would form a beautiful object on a lawn. *Eurya latifolia variegata* is another valuable shrub coming from Yeddo, and which will, in all probability, prove quite hardy. The foliage is broad and Camellia-like, beautifully margined and blotched with white, stained here and there with reddish-orange, and has a patch of green as if painted in the centre of each leaf. The young leaves, however, are entirely rose-coloured.

Mr. Standish thinks the plant will grow as large as a Portugal Laurel; if so, it will have a splendid appearance when its young leaves are peeping forth from among the older white foliage.

There is also a pretty shrub, which may for the present be distinguished as the small-leaved variegated *Eurya*, with long, narrow, deep green leaves, more or less broadly edged with white, some of them being altogether white.

We also noticed an *Eurya*-like shrub with curiously shaped leaves, no two of which were exactly alike. Many of them had the appearance of an oblong-oval, with a piece bitten out of the side. The older ones were much variegated with white, and the young ones being pink, it will be readily conceived that the whole aspect of the plant was very interesting.

*Ilex Fortuni*, a new evergreen, is another invaluable addition to our collection of hardy shrubs; it is thickly set with small, glossy, dark green leaves, which shine like varnish, is of rapid growth, and stands clipping into any desired shape. It is, therefore, admirably adapted for hedges; those which are formed of it in Japan are, we are told, so close that one may walk on the top—and, of course, the sharp apices on the leaves render such a fence totally impenetrable to the boldest would-be intruder. Now that geometrical gardens are coming so much into fashion the want of a good hedge plant, more lively in appearance than the Yew and more rapid in growth than the Box, is much felt, and this want the new species is expected to supply.

A new *Pittosporum*-like plant, with glossy oval leaves, was likewise pointed out to us; its foliage was handsome and of great substance, but of its ultimate appearance and the character of the flowers, no opinion can as yet be formed. The same may be said of a new *Berberis* with dark green leaves, smaller than those of the Chinese kind; it is a free grower, and will probably reach the height of 6 feet or 8 feet.

In the above rapid sketch we have far from exhausted the rare and valuable plants which are contained in Mr. Standish's extensive grounds. There remain the magnificent Umbrella Pine, the *Reticosporas*, and other *Coniferae*, with many more of other families, to the notice of which we purpose devoting a second article.

(To be continued.)

## USES OF THE MISTLETOE.

I HAVE been where it is grown to a great extent, and bundles have been cut out of the Apple trees and thrown away because it was killing the trees. Now, I know that it sells generally very well about Christmas, for that season's decoration, but some may not know that the leaves are used to make tea of for people that are troubled with fits.—W. H.

[Gerarde says, that if the juice of the berries and leaves be applied outwardly, it mollifies old ulcers, and mixed with opiment "taketh away foul, ill-favoured nails," and that "a few of the berries bruised and strained into oil, and drunken, hath presently and forthwith rid a grievous and sore stitch." Dr. Hogg in his "Vegetable Kingdom," observes—"The fresh bark and leaves have a peculiar disagreeable odour, and a nauseous, sweetish, slightly bitter taste. The leaves and wood were at one time highly esteemed as a remedy in epilepsy, palsy, and other nervous diseases. Birdlime is prepared from the berries and bark boiled in water and then beaten in a mortar."]

## WATERING AND STOPPING VINES IN POTS.

I AM growing some Black Hamburgh Vines in pots; they are just in the berries, and looking well, as far as I can judge. Will you give me some information as to their treatment—whether they will require any water, what quantity, and what sort it should be? I have stopped each shoot close to the bunch, is that right?—A SUBSCRIBER FOR MANY YEARS.

[You ought to have left one if not two joints beyond each bunch; but as you have stopped each shoot down to the bunch, you had better encourage the laterals from that bud to grow a little to keep up brisk root-action. The plants will need watering, especially before the bunches are well swelled and getting ripe, when less will be required. No one can tell you what quantity to give or how often—that must depend entirely on circumstances. In cloudy damp weather once in seven or ten days might do. In bright weather in April and May the Vines might need watering once a-day, and sometimes oftener. Weak

manure water will be best, and the sorts are all good if used discreetly—perhaps the superphosphate of lime is the safest and best. Of course, if your pots are plunged, less water will be wanted than if standing on a stage or shelf.]

### FORCING VINES IN POTS.

I HAVE two dozen Vines in pots from eyes last year. I cut them back in the autumn, and started them in January in a temperature of 60°, raised to 70° at the end of January, and kept to that heat, with a rise of 5° to 10° with sun heat, and 65° at night. I started them earlier than I wished, because I have to grow Cucumbers in the same house. The Vines are 6 feet long, and I wish to fruit them next year. I find they do not grow much, and lately they are turning brown. Will you please inform me how to act with them? Have I given them too much heat?—T. H. J.

[You should have started the Vines more gradually, beginning with from 45° to 50°; but we do not think there is any harm done. It is too soon to stop growth. If 6 feet is long enough nip the point out of the shoots, and when it pushes let it grow several joints, and nip again; and so on. Do the same with the laterals at each joint. If there are none or few now, the stopping of the shoot will cause them to come. Give plenty of air and manure water in such heat, and by the end of July you may begin to thin out and cut back laterals; then in the beginning of August get your plants for a month against a south wall or fence, and after that rest them where you like behind a wall until you want to force. The wood, we presume, will be ripe enough. If getting brown now, we think you must have neglected watering, &c.

The tuber pressed quite flat we deem to be *Tropaeolum tuberosum*. If you want to bloom it, give it plenty of top room, and keep the roots in a pot.]

### CROCUS IMPERATI OR IMPERATONIUS.

WILL you inform me where I may procure roots of *Crocus Imperati*? The *Crocus* referred to is a bright purple inside, lighter outside, and shaded into yellow. I found it growing in old mossy walls and rocky banks, in full flower early in January, 1859, in the Valley of Ravillo, Anagni, and in one or two other places in the South of Italy; but few of the bulbs I brought home lived, and they have not increased, though two of them flowered in a cold frame this winter the last week in December. Both the beauty of the flowers and the season of flowering render them most desirable plants, and I am anxious to obtain enough to be of some use, but cannot find a nurseryman who sells them.—JANE.

[What you mean is *Crocus Imperati*, or *Imperatoni* (*Imperato's Crocus*), which, also, you may find under one of its other names *C. incurvus*, and *C. recurvus*. We do not know where it is to be obtained, but some of our readers may be able to tell you. There is a drawing of it in the "Botanical Register," 1993, with this note:—

"For the specimens of this charming plant I am indebted to the Hon. W. F. Strangways, who has furnished me with the following note upon it:—

"*Crocus Imperati*, so named by Professor Tenore, after an old Italian Botanist, *Imperato*, is, perhaps, the most beautiful of the genus. It varies greatly in the size of the flower, which is sometimes very large, and rises from a double spathe; the bulb, which is covered with irregularly interwoven fibres, is comparatively small.

"Although it belongs properly to the set of vernal *Crocuses*, it seems to connect them with the autumnal, beginning to flower in the middle of winter. It is fortunate that, flowering at such a season, it requires less sun to expand its blossoms than any other species.

"It increases readily by seed, which ripens in May. The diffuse character of its leaves, which are of a dark green, and appear long before the flower, is one of its distinguishing marks: seen before the buds appear, they might be taken rather for the leaves of some autumnal species that had done flowering, than for those of a spring *Crocus* coming on.

"The variety *albiflorus* is the most beautiful of the white *Crocuses*—it is rather more decidedly vernal than this, which is the common form of the species.

"There has been much controversy between Italian botanists on the identity, as a species, of this and *Crocus suaveolens* of Bertoloni, of which a short notice is given below.

"The habitats of these *Crocuses* are—*C. Imperati*, of this figure, in profusion all about Castellamare, La Cava, and Salerno, and other parts to the south of Naples, in every hedge bank to the height of 2000 feet or more above the sea. It is wonderful that so fine a plant has not attracted more notice in such a frequented country.

"*C. Imp. albiflorus* is rare, and found much higher up the mountains.

"*C. suaveolens*, *Bert. Fl. Ital.* is found in the pass called Le Gole d'Itri, near the town of that name; and also in the Valle d'Inferno, about two miles from Rome, behind St. Peter's.

"*C. suaveolens*, *Bert. Fl. Ital.* has the petals lanceolate, pointed; the spathe one-leaved; the stigma filiform, pale orange or yellow. It is sweet-scented; the leaves are short, appearing with or little before the flower. The petals are seldom finely veined as in *Imperati*; it blossoms regularly later in the spring, February and March."]

### PROGRESSIVE VARIEGATION.

I THOUGHT the enclosed leaf and a few words about it might interest you. It is a leaf of a cross between Flower of the Day and Tom Thumb. I have had it three years, keeping it with an expectation that it would turn to something; but it remains as fixed as any other variety. I crossed it last year, and it yielded just what I liked to have it—white or yellow variegation, or plain green, thereby producing a string of facts, to my mind conclusive, that variegation is perfected by degrees. But how the first degree of it originates, or what is the cause of it, at present remains the mystery.

Perhaps you will say, Circumstances alter cases, and the same results could not be produced in a different place. Well, having received much pleasure and profit from the labours of your pen, I thought if I could yield you a mite in return I should have very great pleasure in doing so.—WILLIAM SMITH, York.

[The examples of variegated leaves alluded to by Mr. Smith are really very interesting, and I am much indebted to him for sending them. There was a collection of the very same kinds of variegation, but of many more kinds, exhibited by Mr. Lennox at a May Show at Chiswick just before the Russian war. None of the plants were in bloom; but I think Mr. Lennox had a prize for them. Mr. Smith's argument on progressive variations through successive generations, or, as he says, "perfected by degrees," is well borne out by the samples he sent. But then the very contrary is just as common—that is to say, the most perfect variegation we know in *Geraniums* has been obtained at once without going through progressive stages.—D. BEATON.]

### EDINBURGH HORTICULTURAL SOCIETY'S HYACINTH AND SPRING FLOWER SHOW.

THE Edinburgh Horticultural Society have conducted their spring shows with much spirit, and they certainly have had their reward. Not only have the exhibitors increased in point of excellence year by year, but the public have come forward, in spite of the inclemency of the weather, in increasing numbers, until the magnificent Hall, apparently commodious enough in years bygone, is filled to overflowing, and not a few compelled to forego the pleasure of inspecting, in a manner satisfactory to themselves, the several meritorious subjects placed upon the tables. Owing to the peculiar arrangement in the placing of the tables, there was such a rush and a crush in the labyrinthian passages, which, to the lookers-on in the gallery, was suggestive of a wading through the Hampton Court maze; still, what with looking at any flowers they could see, and at one another, and anon listening to the stirring strains of music so masterly discoursed all seemed well gratified.

The Hyacinths were, unquestionably, finer than they have ever been exhibited in Edinburgh. Thrice has the champion of the southern growers (Mr. Cutbush) laudably crossed the Tweed and pitted himself against northern growers, and twice has only come off second best in the attempt. It certainly would have required an extraordinary effort to have eclipsed the superb collection of Cartairs & Sons, and James Dickson & Sons, on

this occasion. The plants, as individuals, were beautifully grown, having fine dark green foliage, stiff and sturdy grand pyramidal heads, and the pips horizontal and well defined. Their dress and finish, in fact, were almost all that could be desired, and reflect much credit upon the respective exhibitors who were placed first and second in the order they are named. The premier lot contained Von Schiller (the colours will be found in any nurseryman's catalogue), Mr. Macaulay (one of the most striking varieties in the hall), Count Carour (with a head of bloom  $8\frac{1}{2}$  inches deep, of perfect asymmetry), General Havelock, Cavaignac, Grandeur à Merveille, and double Lord Wellington. These were extra in whatever way the censors examined them. The others were Grand Lilas, Miss Nightingale, Alba Maxima, Clotilde, Seraphine, Charles Dickens, Maria, Prince Albert, Lina (a really chaste variety, but rather delicate in corpulence), Alba superbissima, and Mrs. Beecher Stowe. The second lot only differed from the above, in having Mont Blanc, Mimosa, P'Etincillante, and Queen Victoria.

Gardenera were also unusually well represented, Messrs. Walker and Henderson, as usual, carrying off the best prizes. The former gentleman had very handsome spikes of Cavaignac, Poniatowski, Madame Hodson, General Havelock, Grandeur à Merveille, and Von Schiller. The latter was singled out as the best Hyacinth in the room, either double or single, and Carstairs and Son carried off the premium for the best double Lord Wellington. Amateurs were also in strong force with pot Hyacinths; the Secretary, Mr. Young, carrying off premiums for the best six. However, an amateur from Trinity, whose name we regret we did not learn, had six most wonderful examples growing in glasses, eclipsing by odds anything that was exhibited or ever has been exhibited in this way. They were, we learned, his first attempt, and this only shows the glorious uncertainty of backing the winner for another year. Their names were Alba superbissima, Miss Nightingale, Baron Von Tuyll, Grand Lilas, Grandeur à Merveille, and Von Schiller.

Passing from Hyacinths to Camellias, Mr. Stark showed a very creditable twelve—Candidissima, Fra Arnold di Brescia (red with white stripes), Ocbrolenca, Hendersonii, Valteverado, Alba Plena, Archduchess Marie, De la Reine (fine smooth white, of good substance, and fine-formed petal, with faint carmine stripe), Saccò Nova, Picturata (good bold crimson), Guiardino Franchetti, and Emilia Campioni. The best blooms in the other lots differing from the above were Bernetii (large showy crimson), Duchess of Buccleuch, Frostii, and Jubilee.

Rhododendrons were largely exhibited, but not calling for any special remarks. The best were Prince Camille de Rohan, Bouquet de Flore, Grand Arab, Altaclerense superba, Albertus superbus, and the finely perfumed Edgworthi.

Azaleas were not exhibited in large numbers, but were very good. Mr. Henderson showed a fine pair very nicely bloomed—Criterion and Iveryana.

Heaths were extra fine, especially the premium pair Sindryana and Cavendishii, both full of bloom, and measuring 4 feet by 3 feet.

The best Cinerarias were Dr. Livingstone, Brilliant, Midshipman, and the old Sir Charles Napier.

Bouquets were briskly competed for, and upon the whole did not exhibit any marked degree of taste, with the exception of one that was disqualified, from Mr. T. H. Douglas, owing to non-conformity with some of the regulations. It was really a chaste, handsomely-got-up bouquet, each flower standing out individually in harmonious contrast with the other, and yet not too loose. Its chief features were Camellias half expanded, Azalea amœna, the pretty Melanthera Heath, and a few fronds of Asplenium trichomanes interspersed.

In hardy spring bulbs there were one or two interesting collections, comprising Scilla bifolia (blue and white), præcox, and the lovely sibirica, Muscari botryoides, Iris reticulata, Narcissus minor, Erythronium dens-canis, &c.

Vegetables were very well represented, more especially in the collections of Messrs. Thomson, Dalkeith and Woodburn. The former gentleman had fine samples of French Beans, Asparagus, Mushrooms, Spinach, Onions, Leeks, &c.

The several nursery firms had contributions, which added much to the general appearance of the Show; but there was a particular selection of choice things sent from Dalkeith which deserves to be particularised as showing what is doing and what can be done among the rarer samples of Flora in the "heart of Mid Lothian." Ranged on one of the centre tables were two or three specimen Acacias, two or three extra specimens of the horned Orange, one of the plants having twelve fruit upon it, and one

of the samples measuring  $12\frac{1}{2}$  inches in circumference. Also the Bird's-nest Fern, Pilea moschata, Coleus Verschaffelti, and Alocasia metallica, with nine leaves of nearly uniform size, one of them measuring 17 inches by 11 inches—a very grand example of this striking novelty. Among Orchids were Phaius grandiflorus, Zygopetalum erinitum, and cut spikes of Vanda suavis (Rollison's var.), Trichopilia suavis with five blooms, and one bloom of the interesting and lovely Uropedium Lindenii with its long appendages.

The Exhibition caused quite a sensation amongst the good folks of Edinburgh, and was the means of completely barring the traffic in this direction.

An extra award and the highest commendation of the Judges were unanimously voted to Mr. Methven for a species of Rhododendron from Bhotan named longifolia. This variety has a fine rounded petal in the way of Dalhousianum, French white, with a rich chocolate blotch at the base of each petal internally; tube  $2\frac{1}{2}$  inches long; foliage glaucous, silvery underneath, and fainter downy above. An extra award was also voted to Mr. Rose, of Floors Castle, for a nice example of retarded Lady Downe's Seedling Grape, which had been cut and preserved in the fruit-room for the last six weeks.

Mr. Thomson, Dalkeith, was successful with a nice bunch of Lady Downe's, also retarded, and the footstalk so green that it might have been considered an example of his early-forced varieties which he told me were all cut. He also was successful with a Pine and a dish of Strawberries.

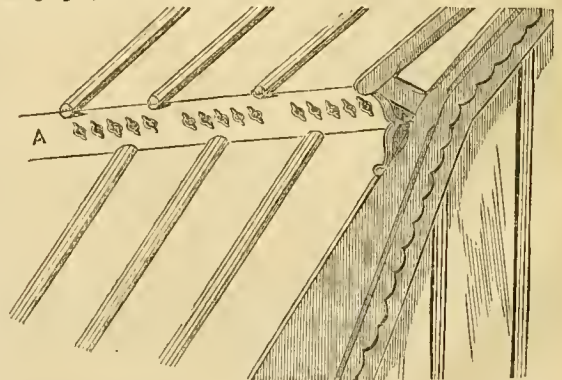
Mr. Thomson, Woodburn, showed a mixed dish of Apples in good condition, containing, among others, Northern Greening and Yorkshire Greening.

## NEW BOOK.

### CRANSTON'S PATENT BUILDINGS FOR HORTICULTURE.

THIS neatly got-up eighteenpenny monograph, consisting of some forty pages of letterpress, and eight plates, some of them showing the outlines of several houses, is sent out by Mr. Cranston, the eminent architect, of No. 1, Temple Row West, Birmingham, and should be studied by every gentleman intending to build glass houses, and by all gardeners, and especially those who may have to manage such houses.

Besides the beauty of the designs, formed in the most simple manner of wood and glass, the lovers of the novel may well be satisfied, as the mode of construction, so far as we are aware, is entirely new. The chief characteristic novelties are two—First, the forming of the roof, be it high or low, lean-to or apan, the space enclosed wide or narrow, by means of horizontal longitudinal radial ribs, in other words, rafters placed lengthwise of the building, standing on edge, and some  $3\frac{1}{2}$  feet or more from each other, and connected by the more vertical rafters, or what gardeners would call sash-bars, the lower end fixed to the outer edge of the radial rib, and the higher end to the inner edge of the rib above it, as at A, so that the glass between each pair of radial ribs is formed into a plane of a different angle from the rest, instead of any one or two uniform slopes, and thus nearly all the advantages of a curvilinear roof are obtained, without the necessity of using bent or curved glass. (See accompanying lithograph.)



The second great characteristic novelty is, that these radial ribs are pierced with holes from 2 inches to 3 inches long, and

half as much in width, for their whole length, the holes being somewhat vertical in the depth of the rib, but becoming somewhat horizontal when it is fixed in its position—a matter of considerable importance. By these ribs, therefore, alike the supporting and ventilating medium of the building, a regular and uniform amount of air is admitted to all parts, and the quantity can be easily regulated by caps and slides inside; though, as all lines, pulleys, rods, cranks, &c., are dispensed with, we presume some other simple mode is adopted for opening and shutting the multitudinous holes.

With a little contempt for cheap orchard-houses, &c., very excusable in an architect, Mr. Cranston, without giving us any estimate to enable us to form comparisons, deserves credit not only for producing a substantial elegant building, instead of one of a meagre makeshift appearance, but also for the great economy of its construction, arising from its being put together with screws, and, therefore, easily reared and easily taken down, and from the entire absence of framed joiner's work—such as sashes, either sliding or fixed, with all morticing and tenoning, and other expensive workmanship, &c.

The glazing for common purposes, where great heat is not required, is effected without putty and without laps, each pane being glazed with squares of that length across, the top end going into a groove in the rib, and the sides into grooves in the rafter sash-bars, and the pane is prevented sliding downwards by a wooden nut fixed with a screw on the end of each of these rafters, which when turned longitudinally keeps each square in its place, and when turned the other way allows the squares to drop out. But for dust filling the grooves, and the screws rusting, there would, therefore, be little difficulty in moving a house, and the tenant question is met by putting nothing when desirable in the ground but stout posts, on which the base planks for the house are fastened by spikes or screws. Except for exotic tropical-houses, Mr. Cranston looks on stone or brick ends and sides for glass houses with abhorrence, and tells us in a burst of enthusiasm, that "A house almost entirely of glass, rising in a curvilinear shape out of a green lawn, with no horizontal patch of brickwork, no heavy timber, no flaps or shutters gaping outwards to form holes for rain and wind, is a building, the beauty of which must be seen to be understood, for mine at least is not the pencil adequately to portray it." Though not thoroughly agreeing in the implied censure, we can help sharing the enthusiasm of the author, merely on the principle that fitness for the object aimed at is ever in itself an element of the beautiful, though we are well aware that such light-looking structures would be considered by many much on a level with a huge hand-light that had little claims to artistic merit.

Leaving, however, these and other matters glanced at, we think the twofold purpose of radial ribs is the great feature of this new system. For giving, to a great extent, the advantages of curvilinear roofs with straight glass, we question if for small houses it would be found superior in that respect to the mode adopted by Mr. Niven (see page 215), though for large wide houses we rather think it would; but we possess no means of deciding. Without, therefore, troubling ourselves as to priority of invention, the great characteristic of this new system is ventilation by every radial rib used in the building. With every allowance for its merit and ingenuity, we think the onslaughts on present systems might as well have been spared. We have extracts from Dr. Lindley, "The Book of the Garden," and Mr. Walker, showing that though provision is made for great blasts of wind, and plenty of rain and snow, that yet under present systems there can be no thorough regularly diffused change of air on a scientific and natural principle. Anything of this nature just leads people to ask, Where is the house or the room so nicely ventilated for human habitation, with the walls pierced all round with parallel rows of holes; and how has it come to pass that by such barbaric modes the British gardeners have produced fruit and flowers finer and richer than when gathered in their own natural homes? It is one thing to have openings sufficient to counteract strong sunshine, and another thing the opening of them to their full extent in a storm. There are plenty of simpler modes, alike to keep out a gale of wind, and give air in wet weather without admitting the rain. Changing and freshening the atmosphere of a house is not quite the same thing as admitting air somewhat regularly from almost every part of its roof. We need not dwell on the fact that heated air will ascend, and that openings at the apex, and small ones too, alone will change the atmosphere, and set the whole of it in motion. Look at the simplicity

of the modes adopted by such men as Mr. Rivers and Mr. Niven. Is it likely they would use them if they did not answer? "Good wine needs no bush"—a good system will always get feet to stand upon.

With much to admire in this new system, I confess that I should be afraid that in many circumstances, if all the rib ventilators were open, the higher ones would be safe enough; but the streams of air passing through the lower ones, would carry destructive, cold, freezing air along with them.

Paradoxical though it seem, the larger the house, the greater the amount of atmosphere enclosed, the less care necessary to attend to the minutiae of ventilation. In span or circular houses like the one represented, the air-power may be sufficient. In a lean-to of moderate size, we fear there would not be near enough, and the danger would be apt to occur that happened with curvilinear houses when first built. Take one side of the pretty lithograph, and suppose an opaque wall runs up the middle; and then for a sheet of glass of some 14 feet exposed to a bright sun, there would be only from 6 inches to 7 inches of space for ventilation in all the holes combined. The plan with all holes open seems well fitted for large houses, as orchards, summer pavilions, and crystal palaces. It may be owing to ignorance or preconceived notions; but were I using such houses for early forcing, I would be inclined to go on in the old jog-trot way until learned better; and that would be leaving a few holes in the upmost rib open all night, opening more in the morning, getting to the second rib as the sun gained power, and so on to the bottom, if we reached there at all, which would only be in very fine days. Mind, I by no means presume that I should be doing the best; Mr. Cranston may easily show it would be all wrong, and thus throw fresh lustre on a system which has so much to recommend it.

I fear that these trifling objections are mere matters of fancy, or that Mr. Cranston will make them so by suitable adaptations; and there is much in the mode worthy of all approval. Little or no rain can be driven in, the air is so far sifted through the holes in the course of admission, it will rise somewhat against the inside of the glass before falling among the plants; and, before entering the house at all, it will be somewhat heated by rolling against the plane of glass immediately below the ventilators, and then, a grand idea to many—the air, when desirable, may be admitted pretty equally all over the house. We trust that the genius, thought, and consideration employed in effecting a novel combination of the elegant and substantial, suitable alike for tenant and landlord, will meet with its due and legitimate encouragement.—R. F.

## WILD FLOWERS OF GREAT BRITAIN.

BEING a subscriber to your "Wild Flowers of Great Britain," I could wish to make a note or two upon the same. I much approve of it, and think the plants are beautifully represented as to correctness; and would now add my notes.

*Tulipa sylvestris*.—I think the plate would have been more interesting if you had shown the long stout fibre from its root, at the extremity of which the young bulb appears. It was from the knowledge of this that I found it near Gloucester, having never seen it in blossom.

*Finea minor*.—I have a double var., colour blue, quite as free-flowering as the single var. A great pet with me.

*Ononis arvensis*.—The beautiful white var. you do not mention. In my botanical rambles round Gloucester (since a boy), I have only found one specimen which still continues in the same place (seed from which I enclose you). Query, was not the same plant advertised in THE JOURNAL OF HORTICULTURE as a new edging plant for gardens?

I have also found near Gloucester variety alba of *Lathyrus nissolia*, a beautiful native plant; but only in one spot.—G. S. WINTLE, Gloucester.

## ORNAMENTING A BANK BENEATH A LAUREL-HEDGE.

I HAVE a bank of Laurels planted to hide a very ugly wall on one side of the garden. I have had occasion to lower the lawn, leaving the Laurels 18 inches above: consequently, there is a bank of earth which, not having any support, is constantly crumbling down. I am going to put in a row of small barrels

that have had oysters in them, painting them bark colour; and I want a Fuchsia and climber in alternate barrels. I shall have *Lobelia gracilis* to hang over the outer side. The inner sides of the barrels will, of course, lean against the bank, and I want some rich-coloured Fuchsias that will show against the Laurels. Will you advise me as to the best Fuchsias for the purpose? I think I shall have from twelve to sixteen barrels; therefore, say six or eight Fuchsias. I should have *Maurandias*, *Tropæolums*, &c., trained to match the Fuchsias in height, or they might be allowed to run over the Laurels. What made me think of the plan was, that all things planted in front of the Laurels were starved from the roots taking the nourishment.—KATE.

[An original and effective idea. No wonder at the rapid rise of our flower gardens when all the ladies in the land bear us onward on the tide. This is the very best place in the world to prove how effective the best white Fuchsias are when they can be rightly used in the right place, the very front of deep green evergreens, and rising from a lower level. Never was anything better contrived. But all the white Fuchsias ought to be as high at the top, above the bottom of the evergreens, and their roots are lower than the top of the slope—that is, they should be a yard high at the time of planting out. But that cannot be this season, as "KATE" is now only looking out for sorts, and red ones will not do there on account of the *Tropæolums* being a muddle colour of red and orange. There is no addition since we gave the last account of white and red Fuchsias, save *Minnie Banks*, the very thing for such a bank as this. No more than two kinds of white Fuchsias ought to be used in this design for fear that a contrast in the growth of sorts should spoil the harmony of the real contrast between orange, red, and the green background.]

### NEW PANCRATIUM.

Is Mr. Beaton not mistaken about this new *Pancratium* from Manilla? I believe it is understood that *Pancratiums* are natives of the old world only, and the *Hymenocallis* are all from the western hemisphere, but I am not so sure of *Choretis* of which he speaks.—CLERICUS.

[Not so far wrong, perhaps, as it might seem on the face of it. I recollect when Mr. Cumming introduced his Manilla plants, some three or four and twenty years back, that one or two or more of his kinds of bulbs were detected at first sight as natives of the hottest part on the face of the globe, according to Humboldt—that is to say, natives of the Spanish Main on either side of Cumana, opposite Trinidad, whence they must have been taken to Manilla by some ship captain. The fact of a bulb being now found wild in a country, is not always a surety that it is a native of that country. The leaf of Mr. Veitch's plant is much more like that of a *Hymenocallis* than of a *Pancratium*. The cup is that of a true *Pancratium*, with the pair of teeth between the stamens, if we take maritimum to be the type of the genus; but the union of the stamens to the whole length of the cup to the limbs, and their conniving posture put it out of court against *Pancratium*, and the reflexed form of the segments of the perianth falling low behind the edge of the cup is a new feature in that class of bulbs. The seeds of *Pancratium* have a hard, brittle, shelly black coat. Those of *Hymenocallis* are like *Crinum* seeds, soft and fleshy as a Bean. *Choretis*, natives of Mexico and Texas, is the link between the west world and *Pancratium* (*Hymenocallis*), and the Peruvian *Daffodils* (*Ismene*).—D. BEATON.]

### MESSRS. A. HENDERSON & CO.'S, PINE APPLE PLACE.

OUR readers will probably recollect that Messrs. Henderson hold every spring a show of unforced Hyacinths at their nursery at Pine Apple Place, and from the high reputation which these gentlemen enjoy in the floricultural world, it will readily be concluded that any display which they invite their friends to inspect, must be far above mediocrity; nor will the visitor be disappointed in the splendid exhibition which they have this season prepared.

Few who have not been accustomed to such sights could fail at being struck by the brilliant mass of colour and tasteful arrangement which are seen on entering the *Lapageria*-house, where the exhibition is held; passing in doing so through an alcove hung with baskets of Ferns and other drooping plants.

Along the centre of the middle platform runs a row of Orange trees loaded with fruit, and two fine specimens of *Daerydium cupressinum* forming a background to a multitude of *Hyacintha* varying in hue from the purest white to the brightest rose and deepest blue. But not in these colour alone does *Flora* array herself, for like her animate sisters she must follow the fashion, and is now decked out in magenta.

The side shelves are filled with *Hyacintha* arranged in ribbons beautifully relieved by a fine collection of *Tulips* and *Narcissus*, the pots being everywhere mossed over, so that nothing but the bloom and foliage appear.

Conspicuous among all the rest were the magnificent vases of *Hyacintha* which gained the prize at the Royal Horticultural Society's Exhibition on the 19th. One of them filled with *Grand Vainqueur*, was a mass of snow-white bloom; the others contained *Emicus*, *L'Ami du Cœur*, and *Grand Vainqueur*, both separately and in combination.

Having thus endeavoured to give an idea of the general aspect of the show, which comprises an immense collection of the best varieties, it may not be without its interest to those who are unable to visit it personally, to point out a few of the most remarkable. These were:—

*Double Red*.—Duke of Wellington, very fine, maintaining here, as elsewhere, its position as a first-rate sort; *Grootvorst*, delicate blush, densely set with bells; *Princess Royal*, large bells of a deep pink, with a dark eye; *Susannah Maria*, and *Waterloo* or *Bouquet Tendre*, pink, changing to deep red.

*Double White*.—*Francina*, pretty blush, small bells; *La Vestale*, lily white; *Prince of Waterloo*, magnificent bells and spike, pure white; and *Triumph Blandina*, blush, with pink eye, very fine.

*Double Blue*.—*Bloksberg*, fine marbled blue, splendid spike and bells; *Laurens Koster*, *Mignon de Dryfhout*, and *Paquin*, pale blue, very good; *Sir John Franklin*, splendid marbled blue bells; *Van Speyk*, which is always one of the finest; and *Othello*, with large almost black bells.

*Single Red*.—*Charlotte Marianne*, fine striped red; *Diebitz Sabalskansy*, very brilliant; *Duke of Wellington*, large bells, rose striped with carmine, a fine sort; *Fireball*, compact bright crimson; *Florence Nightingale*, striped pink, large and very showy; *Herstelde Vreede*, bright pink, closely set with bells, *L'Ami du Cœur*, a showy variety; *Lady Morgan*, deep blush; *Mrs. Beecher Stowe*, a magnificent sort with the bells very closely arranged; *Robert Steiger*, crimson, excellent spike and bells; *Sultan's Favourite*, a splendid kind; also *Keime des Jacinthes* and *Queen Victoria*, two new and handsome varieties.

*Single White*.—*Alba Maxima*, with immense pure white bells, not unlike *Mount Blanc* in character, new and very fine; *Blanchard*, fine spike; *Cloche Magnifique*, waxy white, splendid bells; *Grand Vainqueur*, *Madame Van der Hoop*, and *Mont Blanc*, three of the finest of their class; *Premier Noble*, white; *Seraphine*, blush; and *Tubiflora*, all three very showy varieties; and *Victoria Regina*, a superb waxy white.

*Single Magenta*.—*Haydn*, mauve, tinged with magenta, had magnificent spikes; *Honneur d'Overeen*, also quite new, a very fine purplish-mauve or magenta; *Unique* is also a good distinct sort, of the same colour.

*Single Blue*.—*Baron Von Tuyl*, *Bleu Mourant*, *Charles Dickens*, and *Oroindates*, were all first-rate; *Emicus*, *Nimrod*, and *L'Ami du Cœur*, compact and very good. *Grand Vidette*, with its large porcelain bells, very showy; *Richard Cœur de Léon*, splendid violet bells; and *Robinson*, of a peculiar nomenclature blue are likewise very showy. In addition to these we noticed an entirely new variety called *Priestley*, with magnificent azure bells, white on the outside, and a very large spike; also, *La Nuit*, a new and decidedly fine sort, which, perhaps, more properly belongs to the so-called black class, as it is of a deep shaded violet.

*Single Black*.—Among sorts not noticed elsewhere, were *Lampflinger*, royal purple with white eye; *La Plus Noire*, *Mimosa*, and *Uncle Tom*, all of them very good; also, *Tombeau de Napoléon*, with splendid spikes and deep indigo bells; and *Siam*, a new variety which we have not met with elsewhere, in colour royal purple approaching to black.

*Single Yellow*.—*König van Holland*, reddish-yellow; and *Overwinnaar*, lemon, are excellent; *Heroïne*, is a nice pale yellow; *Anna Carolina*, lemon; and *La California*, nankeen, are also very good.

The *Lapageria rosea* which covers a large portion of the roof

of the house, and is now developing its magnificent bell-shaped flowers, is believed to be one of the largest in the country.

In addition to this, there were hanging-baskets made of a kind of pottery, in what is termed the Indian pattern, and which being chaste in colour have an elegant appearance in conservatories and rooms. Some models of fountains taken from the designs of those in ancient cathedrals and churches, executed in a kind of soft-stone-ware, and filled with Hyacinths, were likewise exhibited. These, we were told, are intended for dinner-table decoration, and being comparatively inexpensive, it is expected that they will supply a desideratum to those who are unable to afford the more costly ornaments and the gorgeous foliage-plants which are only within the power of the rich. But without seeing them in their proper position it is impossible to say what their effect would be.

Although no part of our intention to give any detailed report of the remaining portions of the nursery, we could not refrain from visiting the other houses and making a few notes.

In the Camellia-house was a fine collection of all the leading sorts, such as Duchesse de Normandie, Donecknari, Mathottiana, with immense deep scarlet blooms; Candidissima, very fine; a fine plant of Storyii, 6 feet to 7 feet high, and covered with flowers; Chandleri elegans, Prince Albert, Sacciana, &c., in pots; and planted out were Eximia, Jubilee, Augustina Superba, Albertus, and De la Reine, with superb waxy-white flowers, all of them particularly fine both in the size and colour of the bloom.

In the fernery, suspended from the roof, were fine baskets of *Goniophlebium subariculatum*, and *Davallia bullata* which has very handsome foliage; also *Anaspeltis vacciniifolia*, an exceedingly fine Fern, with long downy tails which, when full grown, are stated to reach 10 feet in length; *Brainea insignis*, the young fronds coppery, the older of a lively green, spreading about 4 feet across, and gracefully curving outwards; a very large plant of *Drynaria morbillosa*, with stiff, slightly curving fronds, extending about 7 feet, and closely dotted on the under side with seed.

Among other Lycopods, of which there is a large stock, were *dentatum*, very large; *rubricaulis*, of a deep green, tipped with very bright green; *Selaginella Lyalli*, of an olive green; *S. densa*, forming a soft, mossy carpet of dark green, tipped with yellowish-green, and therefore appearing as if variegated; *S. caudata*, lively green, and very pretty, were also remarkable.

In a tank, with the bottom of the pot touching the water, there is a plant of *Saphnia alternifolia*, between 5 feet and 6 feet high, with long, strap-shaped leaves, forming an umbrella-shaped head. *Inatophyllum miniatum*, with its large, orange red Lily-like flowers, was likewise a conspicuous object.

In the stoves there were fine specimens of *Cyanophyllum magnificum*, one of which was 5 feet high, with leaves upwards of 2 feet in length; *Croton angustifolium*, a charming plant for the dinner table; *Ardisia crenulata*, covered with its scarlet berries, a very handsome plant for the same purpose; *Pandanus javanicus variegatus*, very fine; *Pavetta borbonica*, about 5 feet high, with its darkly mottled green leaves and bright red midribs; *Ananassa sativa aurea variegata*, another splendid plant for the dinner table; *Sonerila margaritacea*, with its pearl-spangled leaves; *Dracaena Rumphii*, with magnificent deep olive green leaves, having a fine white line round the edges; *D. ferrea*; a large quantity of *D. terminalis*, which is in great demand for table decoration; and numbers of the new *Cissus perphyrophyllus*, with its richly blotched emerald green leaves. *Begonias*, of course, are in abundance, many of the varieties being much sought after for table plants. We also noticed a collection of *Anceto-chilus*, which were quite a study in themselves; *Anceto-chilus striatus*, with a white stripe down the centre of each leaf, being very striking.

Trained along the roof of one of the stoves were *Allamanda Aubletii*, which is well worthy of the attention of any one in want of plants for this purpose, and that fine climber *Ipomoea Horsfallii*, with its twisting corkscrew-like stem. Occupying a similar position, and covering one side of the roof, was a very large edible Passion-Flower (*Passiflora edulis*), which bore last year, for the first time, between three and four hundred of its purplish fruit, as large as a hen's egg, and having a fine aroma of Peaches and Gooseberries combined. A fine specimen of *Bougainvillea spectabilis* trained against the back wall must not be forgotten. In two years it has covered a space of 12 feet by 8 feet—a luxuriance of growth which is no doubt attributable to the roots being in contact with the hot-water pipes with which the

soil is heated. If it flower, as it is expected to do, this season, it will be an object of rare attraction to the gardening, if not to the fashionable, world; at any rate, Messrs. Henderson appear to have gone the right way to work in order to insure this desirable result.

In the houses devoted to the growth of New Holland plants, of which this nursery contains some of the largest specimens in Europe, were a fine *Arancaria excelsa*; *Boronia pinnata*, 3 feet across and 4 feet high; *Eriostemon buxifolium*, 6 feet high and 4 feet through; *Eriostemon scabrum*, very large; *Eriostemon pulchellum*, beautifully in flower, one of the prettiest of this genus; *Acacia Drummondii*, 8 feet high and 5 feet across; and a very fine plant of the scented *Rhododendron Edgworthii*.

A whole house is filled with *Boronia serrulata*—a beautiful flowering plant which few persons know how to cultivate with success. The greenhouse was gay with flowering shrubs, and some fine Azaleas, literally a mass of bloom, gave it even a brilliant aspect. Hyacinths, Tulips, and Crocuses were there, too, in abundance; and there was also a fine new *Epacris*, called *Viscountess Hill*, with long spikes of rosy salmon flowers. As the Crocus seems to be a flower that seems every day growing in favour, we may mention that *La Neige* and *Queen Victoria* are fine whites; *La Majestueuse*, *Sir Walter Scott*, and *Van Speyk* excellent striped varieties; and *David Rizzio*, *Lord Wellington*, *Othello*, and *Sir John Franklin* beautiful purples.

Outside, the gardens were dotted over with fine old Box, *Laurustinus*, *Myrtles*, &c.; and the Tulip-beds were gaily edged with *David Rizzio* and large *Yellow Crocuses*.

#### GARDENING SHREDS AND PATCHES.

THERE are so many things which strike one, and of which one hears in the floricultural world that are hardly in themselves sufficient to form subject-matter for a paper, that I must crave permission from time to time to jot them down as they occur to me in the lump, as "Shreds and Patches," which may be useful to some of your readers. For instance, there is one of some considerable importance—

THE BEST WAY OF SENDING BLOOMS THROUGH THE POST.—As the season has already commenced when the raisers of seedlings are desirous of having one's opinion of what they raise, and as proof has already been afforded me of how little the instructions given in your columns have been attended to, permit me to bring before my correspondents in this matter a very simple and effective plan—one that owes its origin to my friend Mr. Miller, of Upway, near Dorchester, and which, if adopted, would save a great deal of disappointment. It is merely to procure a common tin canister or box about 4 inches or 5 inches in depth: indeed, the size may be regulated according to the description of the flower sent. In the centre of the lid a socket is to be soldered on about 1½ inch deep and about 1 inch broad. When you wish to send a bloom, get a Potato, and cut a piece that will fit tightly into this socket, and then place a piece of indiarubber band round it. Insert the stalk of the bloom into the Potato. Close your box, cover it with paper, and direct it, and it will travel quite safely. The advantages of this are obvious—the flower has no chance of rubbing; there is no mess round it; and sufficient moisture is contained in the Potato to keep it fresh during its journey. It was thus that Foxhunter *Verbena* was sent to Mr. Andrews, and in sufficiently good condition for him to make his drawing from it. How very opposite to this the state of a box I received only this week. It contained a pip of an *Auricula* and a bell of a *Hyacinth*. The box was carefully enclosed in a piece of oiled silk; but when I opened it a mess presented itself not very agreeable to the sight or smell. It looked as if they had been packed in seaweed, and one portion of the substance looked very like a squashed *Sea Anemone*. It was, of course, impossible to tell what either was; but one is tempted to ask, "Why send a *Hyacinth* for name? the bulb has flowered, and there is an end of it." Very different, of course, where the flower can be kept, as in the *Auricula*. Will those who intend sending flowers kindly bear this in mind?

Then there is another matter about which I have heard a little lately—

FORTHCOMING ROSE SHOW.—I was in a good quarter to hear of this, for I spent a day lately at Caunton Manor; and although the month of March, with a cold wet north-easter (and about whose character, I had rather take Mr. Punch's word than Mr.

Kingsley's), on a heavy clay soil, was not the very best time to see a place from whence so much has emanated to give an impulse to Rose-growing, yet the "genius loci" is the same, and the bitter cold without only draws us the more closely to the fireside, where, imagination being strong, we already saw box after box of radiant blooms, and sniffed in odours such as flow from "Araby the blest," and a pleasant chat it was. We all (that is, all interested in the Rose), know how the success of the National Rose Show was marred by the want of courtesy and ungentlemanly bearing of its founder! And, therefore, one could only expect similar treatment. Well, a truce to banter, and we are not going, Yankee like, to detail all we saw and heard; suffice it to say that none need wish him a better wish in his Rose-growing than that he may have as fair a bloom out of doors as he has within. Well, we chatted, and praised, and abused, as the fit came on us, and as we thought folks deserved. The subject was the Birmingham Rose Show; for as the day at Kensington has been fixed to suit the southern growers, the northern and midland ones are shut out. Our friend had intended to found a Midland Rose Show, and, indeed, had taken steps to that end, when an announcement was made that the Birmingham folks were bestirring themselves. The same feeling which led Mr. Hole to merge the National in the Royal Horticultural Society, led him at once to withdraw his own scheme and to throw himself heartily into the one which, though not originating from him, was calculated to work out the object he had in view. They seem to be going at it with real vigour, offer £80 and upwards in prizes, and encourage amateurs as well as growers for sale. Mr. Hole, however, still clings to the hope of a northern show; and if he succeed in originating one as he intends at Leeds, or in some such locality, then all England will be well represented, and the queen of flowers have ample justice done to her. There is a hitch about the time of the Birmingham one, which we hope may be got over. As arranged, it would only come a day before the Crystal Palace Rose Show. This would be a great mistake; but the Town Hall is required, and unless they can move those who want it, I fear it must be held so; and as it is intended mainly for the northerners and midlanders, this will not be of so much consequence.

There is one good piece of news in connection with

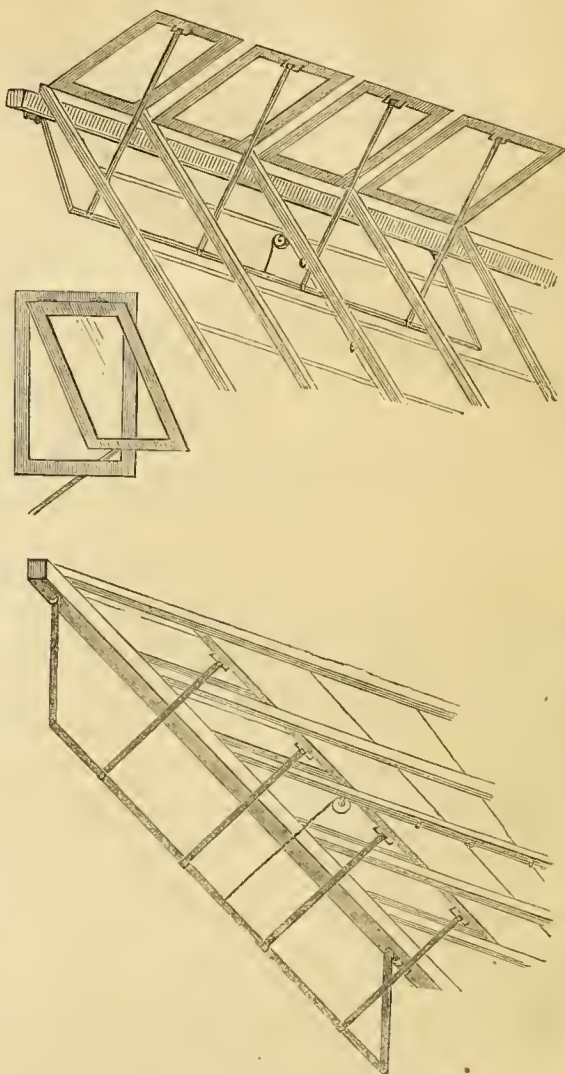
THE ROYAL HORTICULTURAL SOCIETY, which will gratify both exhibitors and those who desire to see—that the great shows are to be held under canvas at the lower part of the grounds, and not in the conservatory. Any one who recollects the heat there last year, and the miserable condition of the cut flowers after a few hours' exposure to it, will rejoice at the change.

I think "HORTULANUS" was a little too hard, and your reply correct; but that a watchful eye is needed there can be but little doubt. One subject of grumbling has been done away with—a little more agitation may do away with others. The remark which I saw in the report of one of the daily papers is quite true, that notwithstanding its apparent (and, indeed, real) prosperous condition, the Society must depend for its success on being up to the requirements of the times. I am glad, too, that Mr. Hole's conduct with regard to the Rose Show is, in future, to be acknowledged; it ought never to have been left for any one to complain that an act of such disinterested regard for the success of the Rose should have been passed over. There can be but one wish—that every society that endeavours to advance horticulture in its many branches should meet with public sympathy and support.

And now a word for that which, though last, is certainly not least,

THE NATIONAL AURICULA SHOW.—That which my blundering advocacy could not effect, the indefatigable perseverance of Mr. Douglas, of York, has accomplished; and we are promised a treat on the 30th April, of the first National Auricula Show ever held. The exceedingly judicious plan has been adopted of sending round to growers of the flower a paper to be filled up, with the place and time of exhibition marked according to the opinion of each person. The majority of votes has been given to London as the place, and the 30th April as the time (I fear the southern growers will find their bloom over, unless this very dull weather continue); and no more fitting home for it can be imagined than the Royal Botanic Society. It will fall on one of their spring show days—no expense will be incurred for room, &c., and the flowers will be seen by a large company. Great credit is due to Mr. Douglas for the zeal with which he has carried out an object so full of interest to all florists.—*D., Deal.*

## NEW ARRANGEMENT OF VENTILATORS.



I AM nothing of a gardener, but a bit of a mechanic, and amused myself last year in putting up a small greenhouse for my wife, who is fond of horticulture. I took up by accident your Number for January 21st, 1862, and felt interested in a letter signed B. Stevenson, and your remarks upon it, but I differ from you as to the long board at top for ventilation. The great objection to it is, that it is so liable to warp, and then it cannot shut close in winter. The plan I pursued I prefer, and if you think it worth recommending, here it is, it is cheap and simple. It may not be original, but it is so far as I am concerned, for I have not myself seen it elsewhere. The sash-bars are fixed, and lie on the plate, the house being a lean-to. The four top panes in the centre are set in tin frames (any tinsmith knows how to make these, they are very common), and these are put on to the sash-bars just as if they were glass, only that in addition to the putty they are fixed with springs. They are opened by a string running through staples to a pulley on the front sash, and this string is attached to a light iron rod in the form of a crank at the top, from which straight rods, equal in length to the chord of the angle which the top of the house forms with the back, are attached to a small staple of wire soldered on to the under side of the tin frame. It will be evident that the window cannot open wider than the length of the rod, but this is quite enough. There are tin frames of the same sort next the wall in each of the upright ends of the house, the only difference being that the hinges are at the side

instead of the end. These, with shutters in the front wall like an orchard-house, give sufficient ventilation. The drawings will make all clearer than any further explanation I can give.—G.

### CISSUS DISCOLOR.

No collection of beautiful-foliaged plants should be without a specimen similar to the figure of this truly beautiful plant. The leaves individually, when well grown, are fully 6 inches long and 2½ inches broad, of a lengthened, pointed, heart shape. The colours are rich beyond description, quite equal to the lovely leaves of the Anætochilus; but I need not dwell upon the beauty of the foliage of this plant. It is now so plentiful in collections that almost every one of our readers must have seen them.



My present object is to describe how to produce or grow a plant so as to be of the size and form of the specimen figured.\*

*Soil.*—This species being a rapid grower it requires a rich, light soil. I use the following compost—turfy loam, sandy fibrous peat, and half-decayed hotbed manure in equal parts. To keep it open I mix with the compost a few pieces of charcoal and a liberal addition of silver sand. This compost should be thoroughly mixed, but not sifted, and it should be placed in a warm shed to take out the cold. Many stove plants sustain a great check by being potted in cold, wet soil. It should be warm and moderately dry.

*Potting.*—Procure or raise a young plant, and when it has grown so large as to require a shift, repot in spring into a pot two sizes larger. Tie the shoot to a neat stick, give a moderate

\* We published this figure last year, but repeat it for the information of more than one querist.—Eds.

watering, and replace it in the stove in a temperature of 65° by night, and 75° by day. If you have the convenience of a bark-bed or any other method of giving bottom heat, place the pot containing the plant in it. In such a situation it will grow rapidly, and will soon require a longer stick. As soon as the pot is full of roots give the plant another shift, and still keep the shoot upright. In the August following repeat the repotting, and by that time the plant will be long and strong enough to commence the training it into form. Procure four or five strong sticks between 3 feet and 4 feet long, let them be painted green, and when dry thrust them at equal distances just so far within the pot as to stand upright. Then have a green circular ring of stout wire, place it near the top of the sticks, and tie each stick to it at equal distances all round. When that is done commence tying the stem of the plant to the nearest stick, very nearly close to the rim of the pot; tie it then to the next stick in a rather ascending line, and gradually go on round the sticks as far as the plant will reach, being careful not to injure a single leaf or the stem. The plant when brought into this form will probably send out other branches. Let these be tied in also between the circles of the main stem. By following on this training as the plant advances in growth the sticks will soon be quite hid, and the plant will form a beautiful pillar of richly-hued foliage, equal in shape to the figure.

By good management and frequent repottings such a specimen may be grown in two years, so quick a growing plant it is. Indeed, the quicker it is grown the finer will be the leaves, and the richer the colours.

*Watering.*—When the plant is growing rapidly it will require a liberal supply of water, which should always be in a tepid state—that is, heated to about 80° in summer. In winter it need not be supplied so warm, nor so freely. The plant should scarcely ever be syringed, for that has a tendency to tarnish the bright metallic lustre which is so richly developed on the surface. If the leaves become dusty, it must be, of course, washed off, but let the syringing be done just before air is given in the morning, in order that the moisture may dry up quickly.

*Shade.*—If this fine plant is fully exposed to a summer day's sun the rich hues on the leaves will be deteriorated: hence to keep it in perfect beauty let it be shaded from ten to three o'clock in the day. It is necessary, however, that every side of the plant should have an equal share of light, or the colours will not be so rich on the side that is short of light: therefore, if the plant is grown in a lean-to house it will be necessary to turn it round frequently. In a span-roofed house this is not needed.

*Propagation.*—This species is easily propagated by short side shoots inserted in sand and placed under a hand-glass on a heated surface, or plunged in bottom heat.

When the plant becomes old, naked at the bottom, or the leaves become old and faded, it should be thrown away; but a year previous to that let one or two young ones be started into growth, and trained to grow on to fill the place of the old faded one. Summer temperature 70° to 80°. Winter ditto, 60° to 65°. —T. APPEBY.

### GENERALLY USEFUL CULTIVATORS.

#### COW MANAGEMENT.

(Continued from page 397, Vol. II.)

WHERE two cows or more are kept we must suppose one to have already calved; but where one only is kept March or April will be time enough, as the cow would have the advantage of the summer's grass during her best milking period: therefore the present remarks will be applicable to such a case. And the cow having been dry seven or eight weeks—and we may reckon forty weeks from the time she was served—after this it will not be safe or wise for an inexperienced person to depend. Still, a person acquainted with those matters can tell to within twelve hours when a cow would calve; but the safest way is to put the cow at night in a roomy place and not tie her up, give her some hay, and a good bed of litter. I may just remark here that in this, as in many other matters, it would be well to have the opinion of some neighbour. I have met with plenty of people that have felt pleased to give their experience, often at no little inconvenience; and if the young beginner will pay attention to the remarks made he may pick out a good many grains of wheat from amongst the chaff that will fall in his way, but should they appear rather scanty he must begin to sift.

This leads a sensible man to think that you are in earnest, and are desirous of being taught.

Now, suppose a cow has gone several days beyond the fortieth week, and you are daily or hourly expecting to see signs of approaching calving, and are beginning to get nervous about it, you run across to Farmer Goodman's and ask his cowman to look in as he goes home in the evening, and just tell you whether he thinks your cow will calve before the morning; and when he has seen her and tells you she will not, "nor to-morrow night neither," then is the time and place to put in your "why?" If you think it a fact worth knowing and wish to be in possession of it, you have only to make a judicious use of the patent powers of persuasion, and you can glean a good many facts at a very trifling cost. But in the absence of any better judgment than your own it would be well to look at her two or three times during the day, and, if she has had one or two calves before, see her the last thing at night and again the first thing in the morning—that is, should all be going on well and no appearance of uneasiness exist. My own practice is with the first and second calves to see them once or twice during the night; but it is very rare that I see them more than one night. As a general rule, do not go near enough to disturb her until there are unmistakable symptoms of calving, and then do not interfere to render assistance unless you are fully acquainted with the assistance required; but if you think any help necessary, it would be better to run to Farmer Goodman's for it and take lesson No. 2.

But supposing there be no need of help or advice, and that so far all has gone on well, there is still danger, and attention is required. It is necessary the cow should lick the calf, as it is beneficial to the health of both; but sometimes young cows refuse to do so, but a little salt and oatmeal sprinkled over the calf will have the desired effect. Then get a bowl, and after rubbing the udder with the hand take a little of the milk from each quarter and give it to the calf, putting your finger in its mouth, then guiding it to the bowl: in this way the calf will gain strength and soon be able to stand. Then let it take from the cow as much as it will, but see that each of the teats is sucked equally; then milk the cow thoroughly and give her the milk to drink—I fancy it assists the cow to cleanse, for this generally takes place in an hour or so afterwards; afterwards give her half a bucket of warm water. Now this is farmers' treatment in nine cases out of ten; but your treatment must vary according to circumstances and the kind and character of the cow.

Cows kept by gentlemen are generally of the Alderney breed, or a cross between the Alderney and the Short-horn, good milkers, and better kept than farmers' cows. Now, in such cases it is advisable, as soon as the calf has sucked the cow, to give two quarts of gruel made with a quart of ale, a pound of treacle, and a little ground ginger; and, as soon as she has cleansed, a good warm bran mash. Cows often get eevie during calving time, and if she is a good milker and in good condition it often produces milk fever: the above treatment is to prevent this. If the calving has been some hours previous about half a pound of Epsom salts with the same quantity of treacle may be used. Two cases of milk fever have come under my notice this year, both of them Alderneys of the improved breed (which carries more flesh than the old breed). Both died within thirty hours after calving, and both were the property of gentlemen and young beginners. On inquiry I found neither of them had had either gruel or mash, and in each case the calf was taken from the cow immediately, and not permitted to suck till the usual time came for milking. Now this, to say the least of it, was bad management. I like to leave the cow loose and the calf with her, the mother is then more contented, and the calf will be frequently sucking, and thus keep down the milk. I know in Jersey it is a regular practice to take the calves away as soon as they are born, and are not allowed to suck the cow at all; but I have had the management of cows that have come direct from the island, and as a general rule there are some defects in the udder, which are increased by the better keep which they invariably get here, and they consequently give more milk than they do in their native island. They are, however, liable to disease, and require different treatment.

I make it a practice not to give a cow free access to the water for a week after calving. If the weather is fine and dry let her be turned out for an hour or two the third or fourth day, but by no means let her get wet, and after a week she may have cold water with the option of going in or out when the weather is

dry; but if the calf is kept in any portion of the house, there is little danger of her being out too much. It is too late to say anything about the putting dung on the grass land, and other work of the kind that should be done in the winter; but all land for mowing need be brushed and rolled, the stones and sticks all picked off, and nothing more turned in to nip the young grass, but reserve the whole of the growth for hay.—THE DOCTOR'S BOX.

### A PLANT WORTH MARKING SHOULD BE MARKED WELL.

THE importance of an effectual and simple mode of writing all kinds of plant-labels, must be acknowledged by every lover of gardening, and I trust my Solid Marking Ink Gardener's Pencil has contributed somewhat towards this desirable end. With all due deference, I beg to offer two or three suggestions for consideration.

First. Where wood tallies are used, the necessity of selecting wood most suitable for the purpose. Generally any bit of stick is taken which first comes to hand. Now, my experience leads me to believe that woods containing turpentine are the only ones really suitable for this purpose, and that known as yellow deal being pretty well charged with resinous matter, and at the same time being a good colour for showing up the marks, will be found to answer well. It also has the advantage of standing the weather without decaying. The white woods generally chosen on account of the facility with which they mark soon become discoloured and rot in the ground.

Second. Where paint is used to cover the part written on, when a common lead pencil is used, care should be taken to well cover such surface with good white lead paint. The wood tallies usually sold being merely partially covered with a little chalk or china clay.

Third. I would draw particular attention to the necessity of well covering the strokes. I believe the want of care in this particular to be one of the most common causes of the marks becoming illegible. I know it is so with my own Gardener's Pencil. Long exposure will change the colour of any wood, and if the marks are merely scribbled on, the colour of the wood (especially in the smoky atmosphere of a town) and the writing become nearly alike—the mark is not gone, but the tally has assumed a colour so closely resembling the writing, that it cannot be distinguished. I have tallies the marks on which were well covered in April, 1859, and they are perfectly legible now.

I know many gardeners will exclaim, "I have not time to take all this trouble." In reply I must refer them to the heading of this communication; and I am sure if they will only take the pains to well cover the strokes, so as to give my pencil a fair chance to cover and penetrate the pores of the tally, it will amply repay them for the trouble, and they will not be disappointed with its durability on any material.

Fourth. Where zinc tallies are used, I would say to all who can get it, Purchase some old zinc spouting or lining from water-tanks, of suitable thickness, and get it cut up into the shaped tallies required. This old zinc being oxidised on the surface, from exposure to the atmosphere, marks the best and blackest of any. When new zinc tallies are used, and time will not admit of allowing them to become oxidised from mere exposure, to free the surface from grease, with which newly-rolled zinc is always more or less impregnated, the best way is to throw them into an earthenware basin containing a mixture of about one part aquafortis, two parts spirits of salts, and fourteen parts of water, stir them well round for a minute or two with a piece of stick, so as to expose all the surfaces equally to the action of the dilute acid, pour off the liquid into another basin, well wash the tallies in water, and dry them in the air, and they are ready for use. Spirits of salts will do very well without the aquafortis.

In this way any number of tallies may be done at one operation, and the trouble is much less, and the tally made more efficient than by the old plan of rubbing each one with sand paper. The acid mixture may be kept in the basin, or put into a bottle for future use, and a little fresh acid may be added to it from time to time to keep up the original strength.

Fifth. I would suggest galvanised iron as a good material for tallies for open borders; but the iron must be galvanised or coated with the zinc after being cut into the shape and size required, so as to cover the edges as well as the surface, otherwise they rust at the edges, and the iron gradually oxidises throughout from the action of the atmosphere. The surface of

galvanised iron is quite bright and free from grease, and requires no preparation but damping with the wet finger to mark a beautiful black with my gardener's pencil.

The greatest objection to it is, the surface being rough and crystalline, small neat writing cannot be executed on it. I am now about to try some experiments with a view to render the surface smoother, and, perhaps, some of your scientific readers may be able to suggest some method of coating the iron with the zinc, so as to prevent the crystalline roughness it now presents. If this can be done I am satisfied that galvanised iron would be the most convenient, as well as the most durable material for garden tallies, and I see no reason why it should not also have the advantage of cheapness.—ARTHUR DUNN, 1, Dalston Terrace East, London.

## ENTOMOLOGICAL SOCIETY'S MEETING.

THE March Meeting of the Entomological Society was presided over by Mr. Smith, the newly-elected President, who announced that the Anniversary Address of the late President had been printed for circulation, as well as that delivered by Mr. Stainton at the last Meeting, which, it is much to be hoped, will have the effect, in conjunction with the steps since taken by the Council, of allaying the unpleasant feelings raised at the Anniversary Meeting. He also announced that the Council had taken into consideration the result of the experiments, which had for some time past been tried, of distributing the "Transactions" gratuitously to the members, and had come to the conclusion that it was no longer advisable to continue this plan; but that members resident within fifteen miles of London should be allowed the "Transactions" at one-half of the publication price, whilst those resident beyond that distance should be entitled to their copies gratuitously as heretofore; likewise that the forthcoming Part of the "Transactions" would form the commencement of a new series.

Mr. Newman exhibited a series of specimens belonging to the genus *Cabera*, a group of Moths, which had been reared by Mr. Hockett, with the view of proving that the transverse bars upon the wings are not sufficient to indicate distinct species. He considered, therefore, that the genus only comprised two species, each of which had varieties with two bars.

The President exhibited an extensive series of remarkable illustrations of insect architecture, consisting of the nests and combs of various kinds of insects, chiefly belonging to the order Hymenoptera, and including both British and exotic species. The elegance of many of these nests was greatly to be admired, and several of them showed modifications of instinct and habits heretofore unknown in the different families to which the insects belonged.

Mr. Plant exhibited some eggs of a species of Butterfly collected at Uruguay in South America. These eggs were of an elongated flattened form, and were attached to each other side by side; one at the base being fastened to a twig, and the others suspended laterally from it to the distance of an inch.

Dr. Wallace explained a very satisfactory method which he had invented of fixing small Lepidopterous insects in cabinets. The pins, instead of being fixed separately in the cork of the drawer, are placed in small slabs of flattened wax, each of a size sufficient to contain all the specimens of a species, which is then transfixed with a large pin, and thus the whole is easily moved at once.

W. W. Saunders, Esq., Treasurer to the Royal Horticultural Society, exhibited the stem of a *Passiflora*, which had been disfigured by the attacks of the Mealy Bug, which had formed warts on the stem, above which all the upper part of the plant died off. Also the larvæ, pupæ, and perfect insects of *Endomychus coccineus*, a pretty Beetle which feeds in the preparatory state upon a flocculent kind of byssus growing under the bark of Elm trees. Also some very curious species of Phasmidæ from the remote island of Aneiteum.

Mr. Stainton exhibited a new British Noctua, belonging to the genus *Toxocampa*—*T. cræcæ*, of which several specimens had been taken on the north coast of Devonshire by the Rev. E. Horton.

Mr. Kirby exhibited some of the proof sheets of Dr. Hagen's great work on entomological bibliography.

Dr. Knaggs exhibited a case of insects from Australia.

Dr. Power sent for exhibition a new British genus and species of Beetles—*Endophleus spinulosus*, captured in the New Forest

by C. Turner. This is a very interesting genus allied to *Bitoma*, and is a fine addition to our fauna.

Mr. Wailes communicated a note on the capture of *Bembidium nigricorne* near Newcastle.

Mr. F. Walker read a description of a new genus of North American Moths taken at Halifax.

Mr. Kirby read a notice of the different species of Butterflies hitherto captured in the county of Sussex.

Captain Cox stated that he had captured three specimens of *Pontia Delaplacei*; and he likewise made some remarks upon some letters which have lately appeared in the *Times* on the means of preventing the destruction of Elm trees by *Scolytus* destructor by disbarbing the trees, as practised in France by M. Eugène Robert; claiming the discovery for himself, he having, previous to M. Robert's experiments, gained the medal of the Royal Botanic Society for his successful experiments on the young Elms in the Regent's Park.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

As every important operation out of doors had been interrupted the greater part of the week by the incessant rains which have saturated the ground, reference had better be made to our last week's calendar, as the works there recommended have doubtless been delayed. *Beans*, *Broad*, earth-up growing crops, and continue sowing for succession. *Broccoli*, sow for a main crop. *Cabbage*, sow for a main autumn crop, fork-up the earth between those planted in the autumn as soon as the ground is in a fit state. *Cauliflowers*, stir the soil round those under hand-glasses, and earth them up. Sow for autumn crop if not already done. *Capsicums*, pot-off as soon as they are fit. *Celery*, that sown early in boxes will soon want pricking-out on 3 inches or 4 inches deep of very rotten and mellow dung on a hard bottom. If the plants are pricked out on this, about 3 inches apart, they will produce many fibres, and can be moved with a trowel with balls; it is an old but a very good plan. *Potatoes*, the main crop may now be got in. *Spinach*, sow small crops of the round in drills, but a little at a time, as it soon runs to seed. *Tomatoes*, these should now be potted-off. Sow seeds of herbs and other vegetables that may have been omitted during former weeks. Remove all litter and weeds. Earth-up early crops, sowing a little lime or soot about them to prevent the attacks of slugs. Protect recently-sown seeds from the attacks of birds.

### FLOWER GARDEN.

The stock of Neapolitan Violets for forcing to be propagated by cuttings or layers. Plant out the young stock of Pansies into the flower-beds or borders. The late heavy rains have been injurious to the roots of Tulips unless the beds were situated on a porous subsoil or were well drained. As soon as the beds are sufficiently dry the surface soil should be carefully and slightly stirred-up, and every cankered part of the foliage cut away with a sharp knife. When the seed of *Polyanthuses* was sown early and placed in heat to vegetate, the pans or boxes should be removed to a cooler situation to inure them gradually to the open air. To obtain fine trusses on the old plants, it is advisable to thin-out the pips according to the strength of the plant. Cuttings of Pansies to be now put in round the sides of small pots plunged in sand on a north border, and covered with a hand-glass. When the unfavourable state of the weather puts a stop to out-door operations, stakes for Dahlias could be got ready for use when required, and rods for tying-up plants in summer. Labels could also be prepared before the more busy season arrives. Climbers and plants against walls to be nailed when the weather is favourable.

### STOVE.

Pay due attention to the watering, shifting, and stopping of plants in general. Make cuttings as soon as they can be obtained of *Clerodendrons*, *Geissomerias*, *Eranthemums*, *Plumbagos*, *Justicias*, *Begonias*, &c., in order to keep up a stock of young plants. Supply growing *Oreliids* with plenty of atmospheric moisture and a liberal circulation of air in the forenoon, shutting up early in the afternoon. Be moderate in the application of fire heat, that a natural and pure atmosphere may be insured during the night. *Dendrobiums* making growth in pots to be liberally supplied with water, and those on blocks to be frequently syringed. Shake out and repot in succession those plants that have been previously recommended to be headed

back, and encourage a free growth; then a seasonal rest will secure a good bloom in due season, either by withholding water in moderation or by placing it for a time in a cooler atmosphere. *Plaius albus*, *P. grandifolius*, *Calanthe veratrifolia*, *Zygopetalum Mackayii*, *Neottia picta*, *N. elata*; and some varieties of *Stanhopea* that are now making their growth would be benefited by occasional applications of clear liquid manure. The shading to be in readiness in case of a sudden change.

#### GREENHOUSE AND CONSERVATORY.

Climbing plants beginning to grow should be frequently examined to regulate the shoots. *Kennedya*s, if crowded, to have their shoots thinned. *Ipomaeas* being subject to red spider, should be well syringed to prevent the increase of that pest. Put in cuttings of *Heaths* as soon as the young shoots are of sufficient length for that purpose. Cuttings of the free-blooming Hybrid *Rosea* struck last autumn and kept through the winter in store-pots, if potted now and treated with proper attention during the summer, will make pretty specimens for the autumn and spring, to be kept close after potting. All blossom-buds to be picked-off during the season if the plants should be wanted for winter or early-spring bloom. Cuttings of young wood struck now, will also by attention make flowering plants for autumn or early in the spring. The shrubs from the forcing-pit when done blooming in the conservatory, the best to be selected for blooming again next season, giving them some temporary shelter to mature their foliage gradually. Any that are cramped for room to be shifted into pots a size larger, and about the end of this month or the beginning of next to be plunged in an open situation to ripen their wood early. Plants from having been previously forced will bloom earlier than the new stock, of which a portion each year should be potted to replace such plants as become useless for further work.

#### FORCING-PIT.

This will now be found a useful structure for encouraging the growth of the young stock of various stove plants, such as *Poinsettias*, *Ixoras*, *Ardiasias*, *Euphorbias*, *Clerodendrons*, *Genenas*, *Gloxinias*, *Gardenias*, *Echites*, &c., the whole of which delight in a humid atmosphere with gentle bottom heat and syringings.

#### PITS AND FRAMES.

This being the season for the importation of *Tuberosa*s, they should be procured at once and potted in a mixture of sandy loam mixed with a very small portion of very rotten sheep or cow dung, to be then placed in a hotbed or forcing-pit; they require little or no water until they begin to grow. When advanced in growth to be removed to the conservatory to bloom. Look over the plants in the pits and frames, and attend carefully to the watering of any plants that are dry. Continue potting-off all cuttings. *Bouvardias* to be shaken out and re-potted in light sandy soil, and placed in a growing heat of about 65°.

W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

WET, wet, rain, sleet, and snow, ushering a warm muggy Monday morning with the barometer low, and showers still hovering have rendered the days, from the 20th to the 25th, almost useless for doing anything on the open ground, though, as soon as possible, Onions and Broccoli seed must be got in. Found that pea-sticks, branches laid along rows of Peas, kept the birds from them pretty well as nets would have done. Have kept forwarded Peas, Broad Beans, &c., still under protection, as the ground is too wet to plant them out, but exposed them fully during the day. The very change of planting will cause them to blossom earlier. Watered Potatoes in beds, and attended to seeds of many things lately sown. Sowed more Dwarf Kidney Beans, to come in under protection by-and-by, and planted more in pots for succession.

#### FRUIT GARDEN.

Much as the preceding weeks. Cleaned *Strawberries* coming into bloom from all appearance of fly. Smoked with Neal's Pastils, then with tobacco, avoiding excess and warm smoke to avoid injuring the plants, and sickened but did not destroy the fly. Had the pots down from the shelves, ran our fingers and thumbs through among the buds, and did for all that we saw; laid the pots on their broad sides, and syringed them well with sulphur water containing a little soap, and then with clear water heated, before setting them on the shelves, and none since have made

their appearance. With all that can be said and truly in favour of Gishurst Compound used in moderation, there is nothing after all like elbow grease where it can be used, and the remedy of kill them, and syringe afterwards in time. On examining with a microscope the mat on which the plants were thus turned and syringed, we could see moving dots that the naked eye could not discern. That lot of *Strawberries*, probably, will not want any more insect hunting until the fruit is gathered. There should be great care in smoking plants when the growth is tender and young—the smoke should neither be too strong nor at all hot, or the plants may be much injured as well as the insects. In large places this fumigating affair is an expensive one—as well keep smoking-rooms at once; and if taken in time, the fingers and the syringe, with a weak solution of Gishurst, sulphur water, or laurel water tea will often be more successful than repeated careful smokings.

Placed succession plants on a mild hotbed, not plunging them, just to give them a start. Watered carefully the plants in fruit, and have long found that in dull weather, especially at this season, to have the *Strawberries* with good flavour they should, if possible, be gathered in the sun, and when the plants are rather dry. Many a dish has been spoiled as to flavour by gathering an hour or so after a heavy watering.

Will finish attending to fruit trees outside as soon as possible. Some *Pears* against walls, that looked fine in autumn, are showing few flower-buds, though I expected it would have been otherwise. What with birds and frosts and other annoyances, the time is not far distant when we shall have miniature orchards of all our hardy trees; so grouped and roofed with rafters, as to permit of nets going over them at one time, and canvass at another, whilst top and roots will be equally under command and easy of access. Peach trees in glass-covered house are breaking strongly; and also a few *Apricots*, being quite as late as those out of doors, until we began to shut up the house lately.

#### FLOWER DEPARTMENT.

Weather permitting, regulated and lessened herbaceous plants out of doors. Planted out *Calceolarias* from the cutting-bed, giving them about 4 inches each, or at least 3 inches, and protecting them. Took off cuttings of a few sorts that are scarce, and gave them a little sweet bottom heat, as they will now strike in heat as fast in days as they required weeks in the cool autumn; though autumn, all things considered, is by far the best, as plants that never have had heat want but little hardening-off. Propagated *Lobelias*, *Salvias*, and *Cinerarias*, as they could be got and room could be obtained for them. Pulled up some *Cineraria maritima* that had been laid-in by the heels under protection to see how they were for cuttings. Found only a few scores fit for use, the others not being long enough yet, as we wish the short shoots that spring thickly from stem and roots near the collar to be about 2½ inches to 3 inches long before taking off, and not only do these strike surely and quickly now in a little heat, but for edgings are far superior to older plants, or to those raised from seed. We reared some four or five hundred plants last season from a sixpenny packet, but it was only at the end of the autumn that the leaves got their right silvery colour. These cuttings will have it at the first, and will give no trouble in showing their flower-stalks, as older plants are sure to do. Must wait until pots are emptied to pot a thicket of *Gazania splendens*, which in general kept open with us afternoon and evening pretty freely last year. Nothing can be more beautiful than such a bed edged, ringed, or crossed with *Nemophila insignis*, bnt, unfortunately, no coaxing or repeated sowing can make the latter lasting. *Lobelia speciosa* is just the thing for colour, but then the contrast between the flowers is that between a giant and a lilipt. As soon as the ground is a little drier will plant out *Scarlet Geraniums* into preparatory-beds, so as to give them more room, just placing a little sandy leaf mould, rough, round the roots so as to adhere to them when lifted. Propagated *Dahlias* and *Heliotropes* as they could be obtained, and kept an eye on the seeds sown the other week. Potted *Geraniums*, *Fuchsias*, and prepared for looking over greenhouse plants, &c.—R. F.

#### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All

communications should therefore be addressed *solely* to *The Editors of the "Journal of Horticulture, &c.,"* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**CORRESPONDENT'S ADOPTED NAMES.**—"Flora of the Orange Trees" writes to inform us that she is not "Flora of the Fansies," and that she thinks that "last week it rained Floras." It is true there were a good many who adopted the goddess for their patroness, but they were mere units in comparison with the hundreds who apply to our oracles as "Subscribers." We advise our correspondents to adopt their own initials, adding the name of their place of residence—thus, "P. L., Derby." Injurious mistakes might arise from one "Subscriber" accepting as an answer to his query, a reply intended for another "Subscriber."

**LEAVES OF CYCLAMENS (Inquirer).**—The leaf of *Cyclamen europæum*, "from the north of the Alps," is quite true, and the leaf "from the south of the Alps" plant may certainly be true, but it looks very far from it. But we have lost confidence altogether in the leaves of any one *Cyclamen* under cultivation, as marks of identity. The leaves and the flowers at the bottom of the box are very different indeed from the true verum, and from Mr. Gordon's description of it. Yours is coum with a dash of persicium, and there are scores just like it at the Wellington Road Nursery, from Mr. Atkinson's strain. We had a long talk with Mr. Gordon himself the other day about *Cyclamens* and *Crocuses*, in the office of this Journal, and he thinks the spur on the top of the bulbs is common to several sorts under certain conditions in a wild state, and that the spur would, or might disappear in cultivation—that is, seedlings from a spur-plant to give bulbs without spurs. Our own verum if it ripens the seed will soon prove the point.

**INSECTS (Rev. E. C.).**—Your minute insects belong to the order *Thysanura* or spring-tailed insects. They are the *L. fimitaria*, and are often found in such masses as you describe. As they differ greatly in size it is just possible for them to be young newly-hatched brood. They feed on decaying vegetable matter, and are not injurious.—W.

**VINES IN A HOT DAMP ATMOSPHERE (A Subscriber, Siston).**—We have seen Vines have their blossoms injured like yours by a hot steaming, such as causing a supply-cistern to boil furiously for want of water. Also, from too close and moist an atmosphere in dull weather as we have had lately; and now, after your second explanation of circumstances, we have no doubt the young fruit were parboiled by strong steam at night when the house was shut up. The evaporation or steam must be lessened, or air left on the top all night—say an inch all the way.

**BONE-CRASHING (Borax).**—We knew of no machine for doing this that is not large and expensive. If we wished to use the bones of an establishment for manure, we should adopt the American mode of putting the bones in alternate layers with caustic potash. This after a while renders them crumbly and in a fit state for manuring. An old cask with one head out would do thus to prepare the bones in.

**HEATING BY GAS (G. A. B., Basford).**—There is no difficulty whatever in heating a small greenhouse by gas. We employed it for years in one without injuring a plant. If you will buy our No. 424, you will there find a drawing and description of a very cheap and effective apparatus. It was constructed and used by Vincent Lichfield, Esq., surgeon, Twickenham, and we have no doubt he would courteously afford any further information. If you enclose four postage stamps with directions where it is to be sent, you can have the Number above named free by post.

**CRISUS DISCOLOR (G. G.).**—You will see notes upon its culture in another page of our Journal to-day.

**ROOT-PRUNING (W. Wood).**—The cuttings of the roots in November would rot influence the Pear trees against the wall for this season. Wait patiently for another year. If weak during the summer, you might assist them with liquid manure or new compost. If too strong you may have to prune more at the bottom. We would not think of watering either Cherries or Apricots out of doors, when in bloom, unless the ground was very dry, which it is not likely to be if exposed to the rains of winter. If the ground should get dryish, it will do them more good to receive a watering before they begin to skode.

**TWENTY-FOUR SHOW DALLIAS (A Seven Years' Subscriber).**—Beauty of Hilpertan, purple; Chairman, buff; Chernb, orange; Earl of Shaftesbury, shaded purple; George Eliet, deep purple; Golden Drop, yellow; Juno, rosy lilac; King, fawn, edged with purple; Lord Palmerston, scarlet; Marquis of Downton, rose, shaded with white; Mrs. W. Pigott, white; Perfection, orange; Midnight, dark maroon; Pioneer, bright crimson; Rosebud, rose; Triomphe de l'Éc, dark crimson; Umpire, white, edged; Lady Popham, white, tipped; Sir J. Douglas, yellow, edged with red; Jenny Austin, light, edged with lilac; Lady Franklin, rosy buff; Colonel Wyndham, deep rose; Disraeli, orange; Bravo, rosy crimson.

**WHITE EUPHONIA FOR BEDDING (A Subscriber).**—There is no such *Euphonia*. *Speciosa*, the best white among them, is very scarce and hardly fit for a bed. *Taraxacifolia* is the next and only next best; and that, too, is not at all a good subject for a bed, save a bed of mixtures; and there is no *Euphonia* of any sort that would do now to sow and be of the least help this season. But all the kinds of *Euphonias* might be sown out of doors about the middle of April to come into use that time next year.

**ITALIAN NAME OF CYCLAMEN (J. H. W.).**—The Italian name is *Pan porcino*, literally Pig's-bread, and synonymous with the old English name of the plant, Sowbread. Our correspondent intends having a sackful of the tubers from his friends in Sicily and Naples, where he has "seen them growing like the *Primroses* in our own hedges."

**PACKING CUT FLOWERS TO GO BY RAIL (Claud Royal).**—We shall give a full account of the process prominently next week. It is too serious to be pushed into a spare corner.

**TREATMENT OF WILD ROSE STOCKS (New Subscriber).**—The wild Rose stocks just planted from the woods should be pruned quite close—that is, to the bottom bud of all the side branches. They will hardly be fit to bud before the middle or end of August.

**GAZANIA SPLENDENS (Idem).**—This *Gazania* is best in a bed by itself without an edging, and it is not doing it justice to make an edging of it.

**VERBENAS WINTERED IN A BED (—).**—Begin to uncover by degrees a bed of *Verbenas* which has been covered with ashes to keep it through the winter, from the middle of April.

**CERASTIUM TOMENTOSUM TURNED GREEN (Idem).**—It will recover its colour if it is the true sort, which we never knew to turn green or anything like it.

**COCONUT FIBRE REFUSE FOR SEEDLINGS (Idem).**—It answers capitally, but mix one-half soil with it, and pass the whole through a coarse sieve. In that state all kinds of seedlings take to it better than any other soil we have ever tried. We have reared all sorts of seedlings in it by the tens of thousands.

**FLOWER GARDEN PLAN (C. E. Lucas).**—A most beautiful plan well planted—say a wheel with eight spokes, each spoke a bed; the beds planted in opposite pairs; a vase at the axle, and a nine-inch rim outside the outer walk to be planted with *Cerastium tomentosum* and *Lobelia speciosa* in alternate spaces—the width of the beds in *speciosa*, and the width of the space between the beds *tomentosum*. We would prefer two outside rows of *Cerastium* all round, and the *Lobelia* in a centre row the same. 8 and 4, Purple King *Verbena*, ought to have a band of white *Verbena* all round them, as Purple King in that style of arrangement is the most dull colour in the garden, and nothing brings it out so well as a white *Verbena*. The umbrella-stand would be out of place in that centre. Keep to the vase by all means; and nothing could be better round the bottom of it than *Perilla*, and a thin *Cerastium*-row outside of the *Perilla*.

**CYCLAMEN EUROPEUM (J. C.).**—We file every scrap of correspondence on *Cyclamens*. You are quite right. *Genova*, and not *Genoa*, is your word; and the Po, then, is still the southern boundary of *C. europæum*, as far as our information goes. You may not be aware of the fact, that the Italian botanist Tenore is the right authority for this the northern alpine summer-flowering *Cyclamen*, with the flowers shaped like those of *comu*, but less intensely red, and that he believed it to be the *europæum* of Linnaeus. Then what is your own knowledge of the plant called *europæum* which flowers in the spring? Have you ever seen yourself a true autumnal *europæum* blooming in the spring? It is known to bloom in Austria as early as July and August; but in the warmest locality on the Italian side of the Alps not till the 1st of September, and that only in the Trinli. Does your experience confirm this? Have you ever seen the *Cyclamen neapolitanum* growing wild to the west of Genoa? and have you ever seen the white variety of it in a wild state, or do you know if it is a garden seedling, and have you ever seen or heard of a wild white *Cyclamen* growing near Montpellier? Let us have all the facts and thoughts you spoke of without any arrangement—they will read all the fresher. It is all very well to arrange matters for such people as read, and let in at one ear and out at the other, and call themselves amateurs all the while. But true amateurs like the broken pitcher right fresh from the well just as well, if not better. You are quite right about a mistake in your seedlings. There could not be two opinions about the dash of persicum in the leaves you sent; but no amount of persicum pollen seems to have the slightest influence in altering the shape of the flowers of *comu*—that is, at the first cross. All such seedlings come exactly in the shape of *comu* flowers.

**EVERGREENS IN SOOT AND SMOKE (Terdans).**—The Royal Horticultural Society's new garden at South Kensington is just in the same fix—nothing seems to do well in it but *Rhododendrons*, *Bux*, and *Grass*, but all these are now doing most luxuriantly there. If you could get *Rhododendrons*, tree *Bux*, and *Aucubas*, some *Holly*, *Holly-leaved Barberry*, *Privet*, and *Yew* bushes, they stand the smoke better than most evergreens; and in your deep boggy earth, if you were to mulch them with some light rotten mixture from the framing-ground, it is all and the best you can do. All the old stunted evergreens you have ought to be cut back considerably about the middle of April, and be transplanted into the new border. The short grass from the lawn would be a better mulching than none.

**GRASS SEEDS FOR IMPROVING A LAWN (Idem).**—The creeping very small *Clover*-like plant called *Cow-grass*, *Trifolium medium*, is one of the very best seeds to sow on a bad lawn to improve the texture and give a fine bottom. The white *Clover*, *Trifolium repens*, is the next best; and the *Hard Fescue-grass*, *Festuca duriuscula*, is the best real Grass for such a lawn as yours. The patchy surface should be first well scratched with a strong iron rake, the sowing to be done with a liberal hand, then a thorough good rolling, and no time should now be lost in sowing. If you step the ground, and tell the seccoman the length and breadth thereof, he will be able to tell you the exact quantities. But the *Cow-grass*, or very small yellow *Trifolium*, will not assist you much the first season, although in the long run we have nothing at all like it for improving the bottom.

**USING A GREENHOUSE AS AN ORCHARD-HOUSE (R. M. C.).**—Although the floor of your greenhouse is tiled, you might grow in it fruit trees in pots. We should cover the portion on which the pots would be placed with cocoanut-fibre refuse for the sake of retaining moisture. If you used stages we should have the shelves of boards with a raised ledge all round, and the trays thus formed should be filled with the same refuse. For growing *Strawberries*, *Peaches*, *Nectarines*, and *Apricots*, you will require no shade, but abundant ventilation. To drive worms from your Carrot soil, sow salt, about 4 lbs. over every thirty square yards.

**GREEN GAGE SUCKER (An Amateur, Reading).**—There is little doubt that such a sucker is merely a Plum sucker from the stock on which the Green Gage was budded. There is no objection to your grafting or budding it from the parent tree; and insert a bud or scion on every branch.

**AMERICAN PLANTS (E. S.).**—Mr. Standish, Royal Nursery, Bagshot, could help you in the way you require.

**NEW CYCLAMEN (One of Flora's Devotees, Bath).**—Your seedling *Cyclamen* is worth ten guineas, perhaps ten times as much to some breeders. It is the first grand step we have seen towards the attainment of a long lost race of double ones. Pray be careful of it, and withhold nought from it that is good in goodness, and pleasant to the touch. Keep all foreign pollen from it by all means known in Bath, and never cease sowing seeds from it until you drive the stamens into ten more as effective "petals" as the ten white ones you now have with their cheerful deep lilac bottoms. Gardeners do not "decay" in Bath at all events.

**GEOMETRICAL GARDEN (*Devernia*).**—It would take our whole space for correspondence to answer properly one-half of what you want. In the first place, in the list you sent there is hardly a plant of the colour you give, and there is a complete middle of kinds. The only redeeming points in it are *Saponaria calabrica*, good; *Silene pendula*, good only in May from a September sowing; all Clarkias the same; Candytufts the same; *Portulacas*, dangerous to trust to; *Tom Thumb Nasturtiums*, just the thing. *Oenothera macrocarpa* will suit you well. All *Nemophilas*, all *Gillias*, and all *Collinsias* are very really good very early from autumn sowing or early spring sowing. Your place and the plan look beautiful—the flower garden is really well laid out, and a dial on a handsome pedestal would be good for the centre. But after all you may be a botanist, and if so, you have just hit upon the exact method of filling the beds; but we do not profess that line. A few kinds of *Geraniums*, and with all the kinds of hardy variegated, and plain white-leaved plants which we have recorded, and the few common *Calceolarias* and *Lobelias*, would make a better show than six times their value in seedlings such as you propose. Two plants shading, as shot-silk shades in the sun, make a shot-silk bed—say *Verbena venosa*, and any *Nosegay* variegated *Geranium*; but common variegated, as *Flower of the Day*, are not fit for shot-silking, and not one in fifty can do it properly even with the *Nosegay*.

**SOIL OF DESFONTAINIA SPINOSA (*P. P. P.*).**—You did not consult "all the books," for in *The Cottage Gardener's Dictionary* is this direction. "The soil should be one-third peat (two-thirds loam). It should be shaded from the mid-day sun, and have plenty of moisture."

**FAMM (*Inquire*).**—The best answer we can give you is from the part of "Chambers' Encyclopædia" just published. It is the native name of "an Orchid, *Angraecum fragrans*, native of India, &c., much prized in the east for the delightful fragrance of its leaves, which is owing to the presence of Coumarine, and resembles that of the Tonka Bean, and of Vernal Grass. In the Isle of Bourbon an infusion of Famm leaves is in great repute as a cure for pulmonary consumption and as a stomachic. In France it has been successfully employed under the name of *Isle of Bourbon Tea* as an expectorant, anti-spasmodic, and stomachic."

**VEGETABLES FOR THE AUTUMN IN THE SOUTH OF SCOTLAND (*P.*).**—As you say you only want vegetables from the 1st September up to Christmas, and complain of their being too early last year, it was some excuse of the cultivator attributing their forwardness to an unusually fine autumn—at least it was so in the south of England, and some little allowance must—at all times be made for such things. But if your gardener be not well versed in such matters the following details may be useful, assuming, as stated above, that vegetables for the autumn months only are wanted. Peas.—Sow Champion of England and Ne Plus Ultra from 10th May up to 20th June. If pea-stakes be not to be had sow *Pedman's Imperial* instead. Dwarf Kidney Beans.—Sow the *Victoria* or *Liver-coloured* on 20th May, and again 10th of June. Scarlet Runner Beans.—Sow 1st June. They will continue bearing until frost destroys them. Broad Beans.—Sow green or white Windsor 10th May and 1st June. Bovecole or Kale.—For autumn these may be dispensed with, as their uses are more for spring. Brussels Sprouts.—Sow as early in spring as you can, you cannot have them too early. Broccoli.—Sow white and pink Cape on 20th May and 1st June, and Walcheren on 1st May; the late sorts are not advisable. Beet.—Sow the best red Beet on 1st May. Cabbage.—Sow on 10th May, but generally an early plantation furnishes abundance of sprouts; if the latter exists this sowing may be dispensed with. Cauliflower.—Sow 1st May, 10th, 21st, and 1st and 10th of June. The last sowing, however, may be dispensed with if the situation be a cold late one. Celery.—Sow as early in spring as you can, and treat as described in other articles in THE JOURNAL OF HORTICULTURE. Cucumber.—Only the frame kinds will do in the locality you mention; and seed sown middle of June or later will be early enough. Endive.—Sow green and white Curled 10th June. Lettuce.—Sow Brown and White Cos on 15th and 25th May, and on 5th and 12th June, and one or two kinds of Cabbage Lettuce at the same time. Leek.—Sow early in spring, and cultivate as directed. Onion.—Sow as early in spring as ground will allow. Parsley.—Sow in April, and also in June. Potatoes.—Plant a few of the most useful kind in the neighbourhood. Parsnip.—Sow as early in spring as you can get the ground in order. Salsify and Scorzonera.—Sow middle of end of April. Sea-kale.—Assuming there is an established plantation you might have some by Christmas, but not well before that time. Spinach.—Sow middle of June and beginning of July. Turnips.—Sow 1st, 15th, and 30th June. The Early Stone is as good a variety as any. Herbs for general use, as Basil, Sweet Marjoram, Thyme, &c., may be sown early in the spring in a pan or box and planted out. Roots of Shallots, Garlic, and underground Onions may also be planted in very early spring if wanted. Mushrooms may also be had at the time you mention by preparing beds as directed in previous Numbers of THE JOURNAL OF HORTICULTURE.

**SOWING THE COMMON NASTURTIUM (*C. H.*).**—It always answers best, in all places, where Tropæolums do out of doors in summer, to have the seeds of annual ones sown in the very beds they are to occupy, only it is not the soonest way to have them in blossom.

**SINGLE BLUE and SINGLE LILAC VIOLETS (*Idem*).**—We can make out only that your Violets are very sweet, very large, and very handsome; the blue one has had at least twenty names. Oblige us by sending a root of No. 2 to Mr. Benton. That lilac ought to have a good name, and a good character, we think, and it is just in his way.

**COVERING A TRELLIS, &c. (*J. C. H., Ereter*).**—To have 60 feet or 90 feet of a four-feet-high of trellis work "look gay this summer," you must confine yourself entirely to annuals and half hardy trailers (not creepers) out of pots—say four good *Maurandias* a yard high at planting time, at four equal distances; four *Echincarpus*, the same but larger plants; four *Lophospermums* in four sorts, same size, and then fill in the panels between with the fancy and running race of *Tropæolums*. But what a sacrifice in such a place, instead of a whole fence of the very finest Tea Roses on their own roots. Your plant is probably *Iris variegata*, from Hungary and Dalmatia, but the specimen was bad. Do not apply "soapsuds and liquid manure" to any one of the Centers, and much more especially not to *Wellingtonias* and *Araucarias*. Conifers like rotten dung and plenty of it, if it is carefully mixed with the soil.

**TWELVE SUPERIOR LARGE CHRYSANTHEMUMS (*T. C., Huddersfield*).**—1, Jardin des Plantes; 2, Novelty; 3, Golden Hermione; 4, Lady Harding; 5, Little Harry; 6, Mrs. W. Holborn, the Annie Satter that was; 7, Rifleman; 8, Triomphe du Nord; 9, Wenderlin; 10, Alma; 11, Boudicca; 12, Prince Consort. As you did not ask for colours, consult our report of the shows last autumn.

**HUMUS, &c. (*Viridis*).**—Humus is decayed vegetable matter. Water is composed of hydrogen, oxygen, and caloric, or heat, the latter, we conclude Mr. Beaton means to be "half a thing." The decomposition of water takes place chiefly in the leaves. No seed has ever been detected in Mushrooms.

**ZINC LABELS (*L.*).**—No labels last out of doors so long as similar labels in-doors. How long they last depends upon seasons, extent of exposure, and care in preparing them.

**DOUBLE NARCISSUS (*P. Monypenny*).**—Many thanks: the specimen is very curious indeed, and the history of it more so. It is not of the same species or section as the *Polyanthus* group; but is a true species that has been in cultivation over three hundred years, and named *Narcissus biflorus*, *Bot. Mag.* 197.

**COCOA-NUT FIBRE REFUSE AS A MANURE (*T. Lincoln*).**—There is nothing we know which is a better dressing for all flower-beds, and all kinds of hedging plants, than this cocoa-nut fibre refuse. We have used it for the last seven years as such. The way we apply it now is to mulch with it, heavily as soon as every bed is planted, which, of itself, doubles the value of the appearance at once, and no plant requires to be watered under it, after the first watering, be the heat what it never has been with us. After the plants are housed in October, we fork this mulching into the beds and put on a fresh layer after the next planting. It is just as good for every plant that grows as it is for Ferns; but it will not keep off the Potato disease, although it is by far the best dressing for the Potato we ever tried.—D. B.

**CERASTIUM TOMENTOSUM (*Marguerite*).**—The plant you saw at Lord Stamford's, Enville Hall, is the very plant you inquire about—namely, the *Cerastium tomentosum*, and vast quantities of it they grow in that splendid flower garden. You might get a whole basketful of cuttings of it from his lordship, and every one of them would grow now if you were to put them in at once where you want it; and in future, when you want a thin nice-looking edging of it, it would need to be lifted out of the ground with a fork any time in April, be divided at the roots into little bits and replanted just as the cuttings were, or say about 3 inches apart along the line. On the other hand, if you required a bold, thick, massive edging of it, there would be no need to lift it oftener than once in four years. It is a charming flower of itself that way, and lasts so for six weeks. That is the way our clergyman has it; and all he finds necessary to do to it is to tell the gardener to run down his spade on each side of it any time in the spring, and then to fork out of the ground all the side roots and shoots, so as to make the edges of the row even on both sides, and we should think that would exactly suit you in some parts of the garden. Then, when a thick row of it had to be taken up for re-planting it, all the difference would be to plant larger pieces, or even lay it down in double rows 3 inches apart.

**RIDGE AND FURROW PLANTING (*Helena*).**—It is as the ridge of a house. A row of the highest plants in the very centre of a place, and the rows on each side lowering down successively like the front and back of a roof. Yours may do as well by having the highest row on one side next the low wall, without having pair rows.

**NAMES OF PLANTS (*Frome St. Quintin*).**—The smaller one is a form of *Polystichum angulare*, not mature. The larger is *P. aculeatum* v. *lobatum*. (*J. C., Hagley*).—1, *Nephrolepis tuberosa*; 2, *Polystichum angulare*, v. *plumiferum*. (*T. B.*)—1, Not recognised. What is the habit of the plant? What kind of flower? 2, *Adiantum reniforme*; 3, *Tecoma jasminoides*; 4, *Hibrolanum fasciculatus*, (*Jane*).—We happen to know it to be *Anemone pavonina*, but the specimens are incomplete.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY, &c., SHOWS.

MAY 14th and 15th. TAUNTON AND SOMERSET. *Sec.*, Charles Ballance, Esq., Taunton.

MAY 27th, 28th and 29th. BATH AND WEST OF ENGLAND (City of Wells). *Steward*, S. Pitman, Esq., Manor House, Taunton. Entries close May 1.

MAY 25th and 29th. HULL AND EAST RIDING OF YORKSHIRE. *Sec.*, Mr. J.

Hooton. Entries close May 11th.

JUNE 4th and 5th. BEVERLY AND EAST RIDING. *Sec.*, Mr. Harry Adams.

JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. *Secs.*, E. Holdsworth and J. Wade.

### KEEPING PHEASANTS IN A CONFINED SPACE.

It is a great point in their favour that Pheasants are not prone to disease, because there is no pleasure in confining birds if they suffer therefrom. The greatest part of the pleasure of keeping birds is to be able to show them to friends, and to be recognised by them. There are two objects in keeping such things: the first is the pleasure, the second is the profit. We have little difficulty in describing the first; we may have some in proving the second, at least, as far as London is concerned. Our publication tries hard to inculcate the great city with rural pursuits and luxuries—window-gardening, roof-conservatories, and now pheasantries and aviaries. The day will be too short. What with Ferns, Flowers, and Pheasants (three F's), the morning will not be long enough. It may be, however, the yard is not exactly suited for the erection of a pheasantry, or its other purposes and occupants render it unfit for a lady's morning visit. We must seek another place. Dry birds, or such as do not require open pans or other vessels to drink from, may be kept anywhere. The flooring, or rather the bottom of their cage or house, being covered with loose gravel, it is merely necessary to draw a broom, or rake very lightly over the surface now and then, to insure scrupulous cleanliness; and the use of a fountain will prevent a

drop of water from being spilled. Any little roof or the end of a balcony would answer the purpose for Pheasants or for other birds. A pleasing collection of song or feather birds may be kept almost anywhere; and they offer advantages, inasmuch as height is with them an available space that lessens the necessity of a large square at the base. Much may be learned on this subject by looking at the collections of small birds in the Crystal Palace. Provided with food, water, and moderate shelter, there is little fear of mortality, and less of that which may be rather called want of condition than illness, and which consists in squatting about with loose feathers, and looking twice as large as they are in reality.

Arrangements for nesting, such as were first made at the celebrated aviary at Knowsley, may be used anywhere. The stem of a tree put up in the cage, with the bark on, holes made in it fitting for nests, with perches projecting from each, often cause birds to breed when they would not but for these temptations. There is, then, no difficulty in dealing with the possibility of these things in any part of London. We need hardly say there is no profit in the small birds even if they reared their young. There would be in the Pheasants if they reared theirs, but that is impossible. The source of profit or the means of self support with them is in their eggs, and these are always saleable during the season at from 10*d.* to 1*s.* each. A hen Pheasant will lay from twenty to thirty eggs, and is not hindered by confinement. If they live long they will pay even their first cost, and it may be a profit; but they will always keep themselves. It is certain that breeding-birds are more interesting than others, and there is, therefore, one we would especially mention—a very handsome and remarkable bird, hardy, easily kept, very free layer, and by no means difficult to rear—we mean the Californian Quail. There is hardly a house in London where these may not be easily kept; and we are sure there is not one where they would not become favourites. In leaving London for a time, while we look at Pheasants in the country, we will only add two remarks—first, to insure cleanliness, do not let birds have water in open vessels; next, let the bottoms of the cages be covered with loose small gravel. It need not be always bright, level, and red on the surface. Dry hard dirt is no dirt; let, therefore, the bottom be kept dry, and there will be nothing to offend the most fastidious, even in close quarters.

A pheasantry in the country is a very different matter, and we know few things more attractive, or more amusing, than tame Pheasants in a pleasure garden. It is no longer necessary here to look for a spot or for room—in the way of place it is an *embarras de richesses*, and, therefore, we will choose such a one as we like. We dislike the easterly wind so much ourselves, that we never think anybody, or thing, can like it; we, therefore, will choose a southern or western aspect. There shall be a close shrubbery at the back. The house, a watchbox or very little larger, is in the centre; while the galvanised wire netting that forms the pen is stretched close up to the boughs, small branches work through, and the foliage gets thick till no wire is visible. The top is completely overhung, and the front being entirely covered with flowering creepers the Pheasants live in a little paradise.

These things are to be accomplished at so small a cost; and they are in reality, and to all persons, so humanising and so interesting, we have thought it worth while to show plainly they are within reach of most people. There are other birds of which we will treat hereafter.

**SILVER PHEASANTS.**—The first egg of our Silver Pheasants was laid Saturday, the 22nd ult.; the second by another hen on the following Tuesday. We have five hens, but have had but three eggs since March 27th.

#### DZIERZON'S REVIEW OF THE APIARIAN EVENTS OF THE YEAR 1861.

I HAVE much pleasure in laying before the readers of THE JOURNAL OF HORTICULTURE a review of the apiarian events of the past year, translated from a recent Number of the German "Bee Journal," and written by Herr Dzierzon, probably the most distinguished of modern apiarians.

Bearing in mind that the winters of Germany are far more severe and protracted than those of this country, "A DEVONSHIRE BEE-KEEPER" will probably not be displeased at finding

his views on the subject of premature breeding in cold climates so decisively confirmed by the highest living authority, whilst the statement that a queen bee cannot pass beyond the limits of the "brood-bed," except at the risk of her life, will, doubtless, surprise many. However extraordinary it may appear, my own observations tend to establish its probability, and the knowledge of the fact may save future experimentalists from a similar loss to that sustained by my friend, Mr. S. B. Fox, who in No. XV. of "Apiarian Notes," relates how a fine Ligurian queen mysteriously disappeared after some of his manipulations. At any rate no harm can result from a little extra care being taken in returning queens to those parts of their hives which happen to be the seat of breeding at the time they are examined.

Do extremes meet? and is the ignorant cottager who, whilst boasting the number of times his bees have swarmed, consigns three-fourths of his apiary to the murderous brimstone-pit, wiser in his generation than the scientific bee-keeper who with cunningly devised and expensive apparatus exults in the fact that he never purposely kills a bee? Such are the questions which arise in one's mind whilst perusing the axiom laid down by so great an authority, that from "divided hives" is got, on the whole, more than "double profit." If this be indeed the case, we may bid farewell alike to the palatial edifices of Nutt, and the ingenious storifiers of Taylor. Stewarton "bar-and-slides," and the more modern "frames," will be equally at a discount, except in the hands of experimentalists, and we may look forward to dome-shaped straw hives and their congenial hackles resuming undisputed sway. Natural swarming may, perhaps, be assisted by artificial means, and "driving" take the place of suffocation; but if the above axiom be correct, it would appear that beyond this there is little scope for the profitable application of science to bee-keeping.

The concluding observations on the impregnation of autumn-bred queens are, however, of unquestionable value, and are in perfect accordance with the experience of—A DEVONSHIRE BEE-KEEPER.

#### PRACTICAL CONCLUSIONS DEDUCED FROM THE EVENTS OF THE YEAR 1861.

Annual reports have but little interest for the reader if they contain only a statement of the bare results—whether there have been many or few swarms, much or little honey, &c. These reports would be much more instructive if the results which they describe were traced back to their causes, so that from them rules for future practice might be laid down. The year 1861 was on account of its unusual temperature particularly instructive, and affords many hints for our future guidance which ought not to be neglected.

The spring, as has been already reported, was here—and it appears also in most parts of Germany and beyond its boundaries—extremely destructive. And what was the reason of this destruction? Was it the great and continuous cold, or, to speak more correctly, the want of warmth alone? By no means. We have had winters when severe cold lasted a great deal longer, and yet the bees got much better through them into the spring than last year. The mischief lay in the repeated and great vicissitudes of temperature. Premature breeding was induced without any important results, owing to the severe cold which set in compelling the bees to contract their cluster and expose the brood to the cold.

Hence follows this practical rule:—"Keep the hives during winter and spring as long as possible in an equable temperature and in perfect quiet, thereby keeping them from breeding." This end is most perfectly obtained by placing them in some such locality as a cellar. The stocks which I had put in were brought out as populous and almost as heavy as when they were deposited—not one of them had sustained the least injury by the severe cold of January. But to my grief I was misled by the mild weather that set in to put them out too early. Had I, as soon as they had cleansed themselves, put them in again, I had done well. But the bee-friend rejoices at the humming and lively flights of his bees, believing when he sees them take wing that the spring is arrived, not considering that weeks or months of cold may follow, as was indeed the case. The bee-keeper, therefore, if his aim be profit rather than pleasure, should in the spring look on the dark side—always be prepared for a cold and destructive season, and keep his bees in perfect winter quiet as long as possible. This for the hives he had put in can be obtained by opening the *locale* at the coldest hour of the day—that is, early in the morning, and by lowering the temperature

by means of ice or snow when the weather becomes unseasonably warm. Should then a cold time ensue, as is often the case, that "the lame post comes after,"\* the bees would be safe, whilst those which have been prematurely set in motion, and in which breeding has commenced, are frequently destroyed. The loss of the queen is often the result of repeated interruptions in breeding, as was experienced here and in other places during the last spring. Herr Kaden, whose experience tallies with my own, thinks the queens have frequently been stung to death by the bees; and this may be possible, because the bees getting, after a long period of cold and quiet, into full life again find the brood-combs† empty, and the queen, therefore, as it were beyond them where she is always in danger of life. The frequent interruption of breeding, and the want of opportunity to relieve themselves of their eggs which have begun to increase in their ovaries, seem also the probable cause of the death of many weak queens. And lastly, many an old queen, having laid what eggs she was able, now reaches the natural end of her existence which would have happened at a later period, perhaps not until swarming time, if the early warmth had not occasioned premature breeding.

But, it may be asked, If no more cold should ensue, if the temperature should continue warm and the spring come unusually early, would not then the bees which have been treated as aforesaid, remain behind those which had begun betimes to breed? This is, however, not to be feared, as the experience of last year proves. It has been reported that when at last more favourable weather came, the bees recovered with extraordinary rapidity, and still distinguished themselves in working. The full pasture cannot appear suddenly as if by magic, but must be preceded by a warm period of several weeks, during which time the bees are able to gather strength so that they may avail themselves of the first load.

In the report which has been before referred to, I instanced what one stock did, as it increased to six good hives. Those which remained undivided had, of course, a larger stock of honey in the autumn, but the clear profit of each stood in no proportion. From the divided hives was got, on the whole, more than double profit, although the harvest time was very short owing to the season being so far advanced before warm weather set in: hence follows the rule that if the year bids fair to be a good one, and the bees have already gathered something in store, you must increase the number of stocks if you will not have a falling-off in the profits. In excellent years, as the last was in the latter part, the profit from undivided hives, even if the bees never want room, will not amount to so much as from those which have swarmed either naturally or artificially.

The fair weather, which is so exceedingly favourable to bees, lasted in the past summer until the middle of September, when it suffered an interruption, as from that time it rained daily for sixteen days. This was the time when I had taken a journey to Gratz, from thence further to Trieste, Venice, Verona, &c. It was raining when I left on the 12th of September, and the weather was dull when I came back on the 28th. During this time, as I learnt on my return, the bees had been able to work only about twice. On the honey-harvest the weather had no longer any influence, as the pasture was, of course, closed long ago; but to me it was unpleasant, because I had a number of young Italian queens which, at the time of my departure, were unimpregnated and which, of course, still remained so when I returned. As there was yet a tolerable number of drones, impregnation was still possible but became, at this advanced season, every day more improbable. On the 29th of September it cleared up, and the following days were also pleasant. Some of the young queens were seen flying off in the morning, but, for the most part, did not remain long in the air. If their excursions had been successful was very doubtful, and I was afraid of being left in this uncertainty, when the 9th of October—an unusually fine day for the season (20° Reaumur in the shade‡)—relieved me from it. At noon of this day I saw a queen, four weeks old, return with the sign of fecundation; and, when I examined the other hives, two hours later, I saw eight other queens in possession of this sign. On the preceding days the bees had played exceedingly—the number of drones had increased, whilst the number of workers decreased every day, and yet copulation had not taken place: hence it follows that a good warmth of the air, about 20° Reaumur, is necessary if the excursion of a young queen is to

be successful. The day may be light and pleasant, but if the air be cool copulation will not take place. From the before-mentioned circumstances, one may also learn how to ascertain whether late-bred queens are impregnated. Daily observations would be tiresome, and take up much time. All that is necessary is to open the hives and examine the queens about three o'clock on those warm days, during which only copulation can take place. If you cannot determine the point with any certainty, then you must feed the bees every day. Should the queen be impregnated her abdomen will soon begin to enlarge, and she will, even in October, lay at least some eggs. If on the contrary she turn out to be unimpregnated, she should not be kept till winter.—DIERZON.

## APIARIAN NOTES.—No. XVII.

MY APIARY IN 1861.

(Concluded from page 487, Vol. II.)

No. 13.—Early in the spring this stock (a common straw hive), was in good condition. On the 23rd of May, and also on the 28th, it was deprived of a considerable proportion of its bees for the purpose of strengthening, or rather peopling hives, from which all the bees had been driven to make artificial swarms. Nevertheless, on the 19th of June I obtained a splendid swarm from it by driving, transposing the old stock with No. 12. An artificial queen which had just commenced laying eggs was taken from No. 10 (the nucleus before described), and confined in a small queen-box inserted among the combs for twenty-four hours. When liberated she was received by the bees, and is still at the head of the colony. The hive is not again alluded to in my journal—no honey was taken from it; but in October, when all the stocks were either inspected or weighed, it was very heavy and full of bees.

No. 14 commenced its career on the 28th of May, as an artificial swarm expelled from No. 12 (described at page 487), hived in a Langstroth frame-box. The following day two combs had already been commenced, each of which contained a quantity of eggs. A brood-comb from No. 11 was given to strengthen the hive. On the 11th of July Mr. Woodbury was able to supply me with a pure Ligurian queen, for which I had been long anxiously waiting. The common queen was first captured, in truth a fine one, and vastly superior in size and appearance to the one to be substituted for her. This last was confined in a small wooden box, with some of her own bees, separated only by perforated zinc for nearly thirty hours, over the central hole in the cover of the stock. On the communication being opened, every Ligurian bee was quickly destroyed; and no doubt the queen shared the same fate, as on inspection a day or two after no queen was to be found, but many royal cells were in progress. On informing Mr. Woodbury of the failure, he very kindly offered me another fertile queen, also small and rather dark, one of a batch of young artificial queens which, about that time of the summer, all partook of the same character. On this occasion she was confined with a few subjects in a small zinc box, secured among the combs, and liberated about eighteen hours after. As in the former case, the worker Ligurians were immediately hustled out of the hive, and I greatly feared for the fate of the queen; but the next day I was gratified by finding her quite at home in her new domicile. By the 23rd, or four days after, she had laid a considerable number of eggs. As related in the case of No. 8, her offspring proved to be true; and the artificial queen raised from her brood was very superior in appearance to herself. From the failure reported above, together with several others which occurred about this time and prior to it, Mr. Woodbury wisely resolved to send out no more queens, unless in connection with stocks, at the head of which they should be fairly established.

No. 15.—This is an observatory-hive—a unicomb, in the shape of a Gothic window, made more for appearance sake than with any idea of superiority for working and observatory purposes. Its interior dimensions are 3 feet 3 inches in height, by about 17 inches in width to the spring of the arched portion; the space between the glass sides varies from 1½ inch at bottom, to 2 inches at the upper part. It was stocked on the 19th of June by a swarm driven from No. 13, as described at the beginning of this paper. The bees were first hived in a long, shallow box, furnished with bars, which fitted into the unicomb. Honey at this time was most abundant, so that this box was filled with combs, a great proportion of it sealed honey, in ten days.

\* German proverb.

† Literally "brood-bed" or "brood-camp."

‡ 20° Reaumur are equal to 77° Fahrenheit.

On the 2nd of July, combs and bees were easily transferred to the unicomb. Considering the length of the bars, and that no guide-combs were used, the combs were worked beautifully straight; and this I think may be attributed in a great measure to the use of the principle of the Woodbury-bar. On July the 5th this hive was exhibited at our horticultural show, the bees being confined creating a considerable degree of interest. The great object of attraction was, of course, the queen, which was easily seen all the time. The bees bore the confinement and prolonged exposure pretty quietly. For several years in succession have I exhibited observatory-hives with the bees confined in this way, occasionally with much injury to them. Once, in the case of a large globe-hive, the combs collapsed as if placed over a fire; and although the hive was removed the instant it was discovered that the temperature had risen to excess, the combs, with brood, bees, and honey were totally lost. To return to No. 15. At the end of autumn the combs and bees were transferred to the stock-box, where they still remain in good working order, ready to be reshifted at any time.

No. 16 is a flat-topped straw hive, from which a fine swarm was driven on the 23rd of May. Mr. Woodbury having presented me with some sealed royal cells, that same evening I fixed them as well as possible among the combs. Some bees were obtained by putting the hive on the stand of No. 13, removed to another part of the garden. In due time a queen was hatched out, and though most probably fertilised by a common drone, she is a magnificent breeder, and her offspring are the purest possible looking Ligurians. This spring, long before the other hives in the same garden showed much activity, these bees carried considerable quantities of pollen.

No. 17.—A Langstroth frame-hive, stocked with a natural swarm from No. 1, found by accident at nine o'clock in the evening of June the 20th, clustered round the stem of a standard rose tree. The swarm was not a large one, and the bees made poor progress in their over-sized habitation; but on July 1st a very fine cast issued from No. 1 which, in the evening, was safely united to the first. A good stock was the result.

No. 18 was a swarm from the adjuster No. 7, on the 2nd of July, hived in a large Stewarton-box. Owing to the unsettled weather which soon after set in, these bees did not succeed in their endeavours to establish a colony; but starvation and the wasps ended their inglorious career. The hive, being kept at a distance of nearly three miles from my house, could not receive the attention requisite to have saved it from destruction.

No. 19.—A second swarm from No. 7, which was found after the lapse of a week to have made no comb whatever; consequently, the bees were united to another colony.

This concludes the category of my hives in 1861. It will have been apparent to those who have perused these articles, that I was more desirous of transferring my stocks into Langstroth-boxes, or of peopling the same with artificial swarms, than of reaping a good honey harvest. Had the entire resources of my apiary been devoted to the object of obtaining honey, I believe the amount would have been very far beyond anything ever before experienced by me. I never remember honey to have been anything like so abundant as during the months of April, May, and June of last year; but in addition to the swarms obtained and stocks established, I was rewarded with about 175 lbs. of honeycomb, most of it of superior quality. This day I have melted and refined about 6 lbs. of prime wax, from the refuse of combs from last year's manipulations. This, as the price of wax is at present, is rather a valuable addition to the proceeds of an apiary.

One peculiarity in my experience with regard to supers last summer I must notice. I never remember any season where the queens ascended so much, or laid such a quantity of eggs in the supers, the chief proportion of which was drone. I turned up one of the largest of these—a box afterwards weighing 50 lbs., and excised many pounds' weight of drone brood. The space was filled up with new combs and sealed honey. The hive contained at that time many thousands of adult drones, and there must have been almost as great a number in embryo. For a thriving stock, it was the most overpowered with drones of any in all my experience.

I believe the cause of so much breeding in the supers, may be attributed to the early abundance of honey having deprived the queens of much of the proper breeding portion of the hives. In some of the frame-hives where combs of brood and honey were removed for the strengthening of other stocks, on empty combs being substituted they were immediately filled with brood,

and no breeding in the supers took place. Also in two flat-topped straw hives, where shallow ckes were added early in the summer, with the object of enlarging the breeding part of the hives, the supers of 23 lbs. and 32 lbs. respectively, were totally free from any trace of brood. By the adoption of the moveable frame-hives, I intend in future to remove the breeding-combs which may become too much the depositories of honey, to the sides or to other boxes, substituting empty combs. No one who has not tried this plan can imagine how it excites the bees to work, either how much combs they may be compelled to build, or how populous the hive will become, from the rapidity with which the queen avails herself of the new and empty space at her command.—S. BEVAN FOX, *Exeter*.

## THE CANARY AND THE BRITISH FINCHES.

(Continued from page 506, Vol. II.)

### AGE—DISEASES—PARASITES.

The Age to which Canaries live differs much, as birds that are used for breeding do not often live above six or eight years, while those that are kept single for singing only, if judiciously fed, have been known to survive for twenty years.

As I have been a fancier and breeder for many years, it will be expected that I should say something of the Diseases to which Canaries and other Finches are liable; but, in this respect, I fear I shall disappoint that expectation. It is not that my stock have enjoyed total immunity from the ailments incident to the feathered tribe, for, like most fanciers, I have had at times diseases among my pets, the cause and cure of which I have not always been successful in accounting for or relieving, yet, on the whole, my stock has generally been healthy, which I attribute to careful tending and judicious feeding, and I am of the opinion that more may be done as a preventive of disease than as a cure. My advice, therefore, is care, cleanliness, and wholesome food as nearly as possible adapted to the nature of the bird, and to rather underfeed than overdo it, or fatten a bird that is caged-up, and is, consequently, deprived of its natural exercise. Repletion or overfatness I regard as the origin of many diseases, while the indulgence in many pungent or exciting seeds, as rape and hemp, is liable to disarrange the delicate organisation of the prisoner. It is true that some birds may overcome the effects or get inured to the food and live to a long age; but how many die in the process! In the same way many men, though habitual drunkards, live to a good old age; yet, seeing how many die from that cause, no one, I should think, would argue that hard drinking was conducive to health; and yet we find bird-fanciers advocating the pungent rape and exciting hemp seed for the feeding of birds, because a few have lived long on those seeds, while numbers annually die of inflammation of the bowels, surfeit, or apoplexy, most certainly induced by the use of such food.

*Inflammation of the Bowels* may proceed from a cold, and is very common among young birds at the first moult, when they are only partially covered with feathers, and nature is under an extra tax to provide fresh ones; but I attribute it much more frequently to the use of rapeseed, and since I discarded the use of that seed I have scarcely been troubled with the disease. In this complaint the bird becomes thin and emaciated, the abdomen is swollen, and the intestines appear red, the bird sits with its head behind its wing, the feathers ruffled-up as if cold, and soon dies a mere skeleton. As I have before said, it has rarely appeared among my birds since I discontinued the use of rape seed, the pungency of which I consider too hot for the delicate digestive organs of young birds. My advice is at once to discontinue the feeding on rape, give bread and milk, and put a drop of sweet nitre in their water. If far gone I fear there is little hope of the bird's recovery: therefore, again I urge that prevention is better than cure.

*Husk, Asthma, and Consumption* are diseases of the respiratory organs, and generally proceed from colds caught by hanging in a draught, sudden changes of temperature, or a damp aviary. I have found great advantage by putting some tar in the water from which they drink, which has quite cured some cases if taken early, and before the lungs became seriously affected. Bread and milk, and plenty of chickweed and groundsel, are also beneficial. One gentleman strongly recommends the use of rice-water as a cure for asthma in Canaries.

*Decline* is a gradual loss of health and wasting-away of the bird—the constitution being undermined by some cause. The

feeding on hemsced, or other stimulating and fattening food, causes the bird to become unduly fat ; having arrived at ripeness, as the poulterer would say, they rapidly decline and lose flesh and die. Some tonic would, perhaps, be useful with less stimulating food, but I cannot advise what ; as a preventive I would say, Do not fatten them ready for the cook.

There are other causes that may destroy the health of the birds and induce decline, among which I class the continual worry and sucking they undergo from the mites or red bugs that often infest the cages, and until they are extirpated but little improvement can be expected in the health of the little patient.

*Obstruction of the Oil-gland* is another of the ailments of cage birds. Above the tail is a double gland from which oil is secreted, and with which the bird dresses its feathers. This sometimes becomes obstructed, and the oil thickens in the gland, the whole becoming inflamed, and the bird seems to suffer much pain, is dull, inactive, ruffles its feathers, and pants. To relieve it, take the bird in hand and lift up the rump feathers ; having found the swollen gland, gently press out the thickened matter with some smooth blunt instrument, and anoint the part with fresh butter or oil. Some advise the use of powdered sugar applied to the place to draw it gently. The bird is generally much relieved at once, but it may require to be pressed out a second time ; the bath and exercise are good for the patient.

*Dislocation of a Joint* may be reduced by gently stretching the limb and pushing the joint in place, and, if done before inflammation has set in, the cure is complete.

*Fractures of wings or legs* are best left to natura. If the bird is put in a cage by itself, liberally fed, and kept quiet, the broken bone soon joins. If the shank of the leg, or more properly speaking the foot is broken, it will be advisable to put it in place and bind it up, using small pieces of quill from Pigeons or fowls as splints, as from the absence of flesh on that part to form a natural ligature by swelling round the broken ends they do not so readily unite.

*Sore Feet* arise from dirt, or from fine hairs of wool, silk, or cotton getting round them and cutting to the bone (such materials are very objectionable for nest-building on that account, and should never be used). As a cure remove the offending substance, wash the feet, and anoint with butter, lard, oil, or some healing salve ; see that the perches do not cross, so that when the bird sits on an upper one, the dung does not lodge on the lower ; keep the cage clean, and allow the bird the occasional use of the bath in fine weather, which is very healthful to all birds.

*Tumours* may be opened and the matter pressed out, putting a little salve on the place.

*Apoplexy.*—When birds are in high condition, they sometimes are affected by a sudden fit of apoplexy. Any excitement or fright may bring it on ; a tendency of blood to the head, or rupture of a bloodvessel on the brain may cause sudden death.

*Partial Paralysis or Fits.*—When death does not immediately ensue, relief may be given by bleeding in cutting off the tip of the beak, or cutting the toe-nails till sufficient blood is drawn. A purgative should be administered, as sop of unboiled milk and bread with moist sugar, and treacle in their water ; all stimulating food should be avoided, and the bird kept cool and quiet. The pulling out of the tail will be found beneficial towards recovery, as the reproduction of the feathers draws a supply of blood to the opposite extremity of the bird's body. Rotten-feathered, or unnatural moulting, is often produced by the birds being too fat, or fed on too stimulating food and kept too warm : a cooling and lowering diet, a little flowers of sulphur in their food, and the frequent use of the bath with plenty of green food may be found useful.

*Egg-bound.*—In cold or backward springs, hen Canaries sometimes experience a difficulty in laying ; this is more particularly the case with maiden hens. A drop of castor oil put down the throat, and introduced into the vent by means of a feather, have been found to assist the sufferer. As a preventive, moist sugar should be given in the soft food, and plenty of green meat when the birds are expected to lay ; a lump of old mortar with a little salt in it, or a piece of cuttle-fish bone, are good for the birds to peck, and assist in the formation of the egg-shells.

It is, however, hardly necessary to state that breeding from birds too nearly related produces weakly offspring, which are more delicate and less able constitutionally to resist or overcome the attack of the various diseases to which caged birds are liable.

Of PARASITES, I am only aware of two that attack Canaries. A louse sometimes annoys them ; but this I should regard as an indication of dirt and neglect, and may easily be got rid of

by dusting powdered sulphur or brimstone among their feathers, and more attention to cleanliness.

The red mites or cage bugs are a species of *Acarus*, similar to what infest pigeon-houses and hen-roosts. They live in the cracks and joining of the cages, and at night sally forth to suck and annoy the birds ; they multiply in great numbers about the cage and in the nests, tormenting the poor birds, causing the death of the young, and frequently of the old birds likewise.

Some fanciers have recommended the use of the Persian insect-destroying powder ; but I have not tried it, finding that by thoroughly cleaning the cages, saturating the cracks with linseed oil, and then filling them with flowers of sulphur, and dusting sulphur among their feathers, also by cleaning the nest and sprinkling powdered sulphur in, that I can get rid of these pests. Wherever any floury or mouldy appearance is noticeable about the joins or crevices of the cage, these torments to the birds may be suspected, and no time should be lost in giving them notice to quit.—B. P. BRENT.

### OUR LETTER BOX.

**COCHIN-CHINA PULLETS NOT LAYING EARLY** (*D. Binny*).—We can only suggest and name some of the causes that would prevent your pullets from laying. We say "prevent," because in the ordinary course of things, laying birds must do so at the proper time. Some, like Pheasants, lay only in their season, the difference between young and old being but a few days. In fowls, a pullet lays at a certain age, a hen at a certain season : therefore, unless something prevented, your pullets must have laid. Correct registers have proved to us Cochins hatched in May ; generally lay in November, always in December. Many of ours have laid at seventeen weeks. It is the first and the inevitable law of Nature, and after these first eggs are laid, then the pullet settles into the hen, and the regular course of laying, sitting, and moulting goes on. Are you sure the pullets were hatched in March, and that they have never laid, because according to our theory they should have laid in August and September, and would have laid again in February or the present month. There is no such thing as a Cochin pullet being twelve months old before she begins to lay. Over-feeding and fat may prevent ; close confinement and poverty from bad feeding may prevent, but a fowl that breed must lay or die before twelve months. One might be an exception, but as yours were all alike you must find the cause.

**GAME COCK DROOPING** (*Idem*).—When a Game cock gets into the state you describe, the best, almost the only remedy, is to give him raw yolks of new-laid eggs. They will often drink them out of the half-shell, three or four at a meal. We cannot account for the Geese ; we have two, one old and one young, they have laid an unusual number. Have you rats ? Do the birds eat their eggs ? We believe eggs are laid.

**SPANISH FOWLS** (*B. S. H.*).—The very limited space is against them, and renders less food necessary. Do not give them peas. We cannot afford space to state their general management. You can have it in our "Poultry Book for the Many," free by post for seven penny postage stamps.

**VERTIGO IN FOWLS** (*G. II.*).—Fowls troubled with giddiness, partial blindness, want of power in the legs, and finally death, intimate that they are apoplectic, and that this arises, probably, from their being overfed. "Bread and barley" in excess are far too fattening for breeding fowls. A little bread mixed with boiled potatoes, barley meal and boiled potatoes, and a very little whole barley would be better given at different times. Give such fowls as are suffering as you describe a dessert-spoonful of castor oil, and no other food than a little bread mixed with boiled potatoes.

**GOATS** (*M. D.*).—We wish you would oblige us with full details, stating how you feed and manage them ; how long is gestation ; time for weaning kids ; and even the details which to you may seem the most trivial. No work gives such information. We believe Mr. Kidd still resides at Hammersmith.

**UNITING BEES.**—In reply to the inquiry made by my friend Mr. S. Bevan Fox, in the last Number of THE JOURNAL OF HORTICULTURE, I may state that my experience leads me to indorse his conclusion, that confining a queen during the operation of uniting bees is of very doubtful advantage. His concluding request has been anticipated in an article by me on the same subject, which appeared a few weeks ago.—A DEVONSHIRE BEE-KEEPER.

**SIZE OF SUPERS, &c.** (*S. A., Braintree*).—Your boxes are not too large for supers on strong stocks in a good season, but would be more generally useful if two or three of them were reduced to 7½ inches in depth. The use of adapters obviates any inconvenience from difference in size. Read the reply to "J. F." in another column.

**PRESERVING GINGER.**—We shall be obliged by an answer to the following from some experienced reader :—"I have succeeded in growing a good crop of green ginger roots ; but now, having 'caught my hare,' I am quite at a loss how to cook it, and should feel greatly obliged if some one of your correspondents could give me plain directions how to proceed in preserving it. The roots are at present in the dry earth in a state of rest, as they have remained since the commencement of winter, it is now full time to start them again ; but other business has prevented at present. From a book on "Tropical Fruits," I learn thus much—that the time to preserve it is when the roots are just started into growth, and the young shoots are 2 inches or 3 inches high. Of all else I am ignorant, and shall be most thankful for information.—A SUBSCRIBER."

### LONDON MARKETS.—MARCH 31.

#### POULTRY.

We have some difficulty in making quotations, the qualities of the birds being so variable.

	Each—s. d.	s. d.		Each—s. d.	s. d.
Large Fowls .....	4 0	to 4 6	Ducklings .....	3 0	to 3 6
Smaller do. ....	3 6	" 4 0	Pigeons .....	0 8	" 0 9
Chickens .....	3 0	" 3 6	Rabbits .....	1 3	" 1 4
Guinea Fowls .....	2 6	" 3 0	Wild do. ....	0 8	" 0 9
Goslings .....	7 0	" 7 6	Hares .....	0 0	" 0 0

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	APRIL 8—14, 1862.	WEATHER NEAR LONDON IN 1861.							Moon Rises and Sets	Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.					
8	TU	Arum crinitum.	30.405—30.333	deg. deg. 49—24	E.	—	m. h. 22 af 5	m. h. 42 af 6	m. h. 19 2	9	m. a. 1 55	98	
9	W	Athanasia tomentosa.	30.400—30.475	50—23	E.	—	20 5	41 6	46 2	10	1 38	99	
10	TH	Boronia latifolia.	30.500—30.391	55—22	E.	—	18 5	45 6	7 3	11	1 21	100	
11	F	Chorozema Henchmanii.	30.415—30.330	65—29	N.E.	—	15 5	47 6	26 3	12	1 5	101	
12	S	Chorozema macrophyllum.	30.316—34.235	63—40	N.E.	—	13 5	49 6	46 3	13	0 49	102	
13	SUN	PALM SUNDAY.	30.257—30.193	54—41	N.E.	—	11 5	50 6	7 4	14	0 33	103	
14	M	PRINCESS BEATRICE BORN, 1857.	30.267—30.184	51—40	N.E.	—	9 5	52 6	rises	○	0 17	104	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 55.6° and 35.6° respectively. The greatest heat, 73°, occurred on the 14th in 1852; and the lowest cold, 20°, on the 10th in 1860. During the period 124 days were fine, and on 121 rain fell.

THE GENUS CEANOTHUS.\*



THE different species and varieties of Ceanothus are all very ornamental free-growing shrubs, of moderate size, and mostly evergreen. Some are tolerably hardy, others quite so, and nearly all are suited for planting in small gardens, especially the Californian kinds, if trained against a

wall, in which situation many of them will produce a profusion of brilliant blue flowers during the whole summer and autumnal months, retaining their foliage all

the winter. They require but little care or pruning, and only a slight protection in very severe weather, and are never infested with insects like the Rose and other climbing plants in such situations.

SECTION.—BLUE-FLOWERED KINDS.

No. 1.—CEANOTHUS PAPILLOSUS. *Torrey.*  
(The Pimpled-leaved Ceanothus.)

This is a beautiful evergreen shrub growing from 6 feet to 10 feet high, with long slender shoots covered all over with coarse hairs, resinous tubercles, and narrow oblong or tongue-shaped leaves, rounded at the points, deep green above, and furnished with numerous lateral veins, on the under side covered with a downy substance. Flowers bright blue, and produced abundantly in rather small round terminal thyrsoïd or globular heads, on long slender footstalks.

This kind is found plentiful on the outskirts of woods in Upper California, flowering more or less from May to September.

No. 2.—CEANOTHUS DENTATUS. *Nuttall.*

SYNONYMES.—*C. floribundus. Hooker. C. dentatus angustifolius. Hort.*

(The Toothed-leaved Ceanothus.)

A handsome slender evergreen shrub growing about 4 feet high, thickly furnished with long slender shoots, and small more or less wedge-shaped leaves toothed at the ends, and full of glandular hairs, deep green above, and more or less downy below. Flowers deep blue, in small terminal globular heads, on short footstalks, and in great abundance.

This kind is found on the margins of woods in Upper California, flowering during the summer and autumn; but very much altered in stature and general appearance by soil and situation.

\* The name "Ceanothus" was originally given by Theophrastus, and is derived from "Keo," to prick or cleave, on account of the first species to which the name was applied being spiny or prickly shrubs; but all of which are now transferred by modern botanists to other genera, so that the plants to which the name is applied have nothing to do with the species first so named except in belonging to the same natural order.

No. 3.—CEANOTHUS VEITCHIANUS. *Hooker.*  
(Veitch's Ceanothus.)

A fine species closely allied to *C. dentatus*, papillosus, and some others of the blue-flowered Californian kinds; but easily distinguished from them all by its perfectly glabrous branchlets, glossy or almost varnished leaves, calyx, and footstalks, and its bright mazarine blue flowers, which are produced in close heads.

A fine evergreen shrub, found abundantly in Upper California, flowering during the summer and autumn months.

No. 4.—CEANOTHUS RIGIDUS. *Nuttall.*  
(The Stiff-branched Ceanothus.)

A dense-spreading evergreen shrub, with a much-divided head and rigid branchlets, growing from 2 feet to 3 feet high, and thickly covered with small wedge-shaped leaves; of a deep glossy green above, very pale and notched below, and spiny-toothed at the ends. Flowers in small close clusters or umbels, thickly placed along the branches on the ends of very short spurs, and of a deep purple or violet colour.

It is found in open places in the woods near Monterey in Upper California, and on the Sacramento Mountains forming scrubby thickets, flowering in May and June.

No. 5.—CEANOTHUS PROSTRATUS. *Bentham.*  
(The Prostrate Ceanothus.)

A prostrate and very branching evergreen shrub, with rigid smooth shoots trailing along the ground, and thickly clothed with foliage which is from six to nine lines long, wedge-shaped, trident (three-toothed) at the ends, thick, leathery, obscurely nerved, glabrous, and opposite. Flowers somewhat umbellate, or in short, thyrsoïd heads, and of a deep blue.

It is found on the Sacramento Mountains in Upper California, a prostrate creeping shrub covering large patches of ground.

No. 6.—CEANOTHUS THYRSIFLORUS. *Eschscholtz.*

SYNONYME.—*C. divaricatus. Lindley.*  
(The Thyrse-flowered Ceanothus.)

A large evergreen bush, or small tree, full of slender twigs, and growing from 10 feet to 20 feet high. Leaves oval, rather small, glossy, dark green, smooth on both sides, and crenated on the edges. Flowers in close globular or thyrsoïd heads, on long footstalks, or axillary along the last year's wood, and of a deep blue colour.

It is found plentiful in many parts of Upper California, particularly about Monterey and San Francisco, growing in woods sometimes 20 feet high, and flowering all the summer and autumn.

No. 7.—CEANOTHUS LOBBII. *Hooker.*

SYNONYME.—*C. Hartwegii. Hort.*  
(Lobb's Ceanothus.)

A large evergreen bush thickly furnished with bright green shoots, more or less angular and rather rigid. Leaves rounded, rather large, toothed on the margins,

bright glossy green on the upper surface, and thickly placed all round the shoots. Flowers bright blue, in close round or thyrsoid heads, on long footstalks, and mostly terminal.

It is found mostly intermixed with *Ceanothus rigidus* in open woods near Monterey and other parts of Upper California.

No. 8.—*CEANOTHUS AZUREUS*. *Desfontaine*.

SYNONYMES.—*C. bicolor*. *Willdenow*. *C. cœrulens*. *Loddiges*. (The Blue *Ceanothus*.)

A handsome shrub, growing 5 feet or 6 feet high, with long slender branchlets. Leaves ovate-oblong, smooth above, downy beneath, and acutely serrated on the margins. Flowers in large elongated thyrsoid heads, on long footstalks, and axillary on the young shoots; of a brilliant celestial blue, and produced from May to October.

It is found in the colder parts of Mexico, where its bark is used as a febrifuge.

There is the following variety—viz.,

*Ceanothus azureus albus*. *Masters*.

SYNONYMES.—*C. azureus intermedius*. *Loudon*. *C. azureus flora albo*. *Hort*.

A seedling variety with whitish flowers, raised by Mr. Masters, of the Canterbury Nursery.

No. 9.—*CEANOTHUS PALLIDUS*. *Lindley*.

SYNONYMES.—*C. ovatus cyanus*. *Baumann*. *C. tardiflorus*. *Horneman*. *C. Baumannianus*. *Spach*. *C. Delilianus*. *French Gardens*. *C. Dillinius*. *Rinz*.

(The Pallid-flowered *Ceanothus*.)

A fine evergreen shrub, somewhat resembling *Ceanothus azureus*, but with the leaves much smaller and more ovate. Flowers in close globular thyrsoid heads on long branching footstalks, axillary, placed along the shoots, of a very pale blue, and in great abundance.

It is supposed to be a native of the southern states of North America, and flowers freely during the autumnal months.

No. 10.—*CEANOTHUS VERRUCOSUS*. *Nuttall*.

(The Warted *Ceanothus*.)

A large evergreen shrub growing from 8 feet to 10 feet high, with long, stiff, rod-like, downy branches, covered in winter with numerous large oblong, or roundish brown buds. Leaves opposite, roundish-oblong, either slightly notched or entire at the ends, the larger ones being nearly 1 inch long, flat, deep green and shining above, but with grey hairy pits distributed over all the under surface, and with a pair of stipules at the base of each leaf, which gradually lose their thin extremities and change into soft fleshy conical prickles. Flowers very pale blue, and produced in great abundance in dense corymbs at the ends of very short stiff lateral branchlets.

It is found forming thickets on the Santa Cruz mountains, in California, flowering in June.

SECTION.—WHITE-FLOWERED KINDS.

No. 11.—*CEANOTHUS AMERICANUS*. *Linnaeus*.

(The New Jersey Tea Tree.)

A half-shrubby deciduous bush growing from 2 feet to 4 feet high, with ovate-acuminate leaves, serrated on the margins; pubescent beneath, and from 2 inches to 3 inches long. Flowers small, in dense thyrsoid heads on long footstalks, axillary on the branches and of a whitish colour.

It is found plentifully in the dry woods of North America, from Canada to Florida, flowering abundantly in June and July.

The Canadians use the plant for dyeing wool and nankin of a cinnamon colour, and the dried leaves were formerly used as a substitute for Chinese Tea by the inhabitants, and the plant is still known by the names of "New Jersey Tea" and "Red Root" in the States.

It is a very variable kind and has the following varieties, some of which are considered as distinct species by closet botanists.

*C. americanus intermedius*. *Torrey*.

SYNONYMES.—*C. americanus pallidus*. *Gordon*. *C. intermedius*. *Pursh*.

This variety has ovate-oblong deciduous leaves, pubescent beneath, and white flowers, in loose round heads, on long footstalks, and is readily distinguished from the species by its very much smaller foliage, which is not more than quarter the size of those of the species.

It is found plentifully in dry woods in the state of Tennessee, flowering in June and July.

*C. americanus perennis*. *Pursh*.

SYNONYMES.—*C. ovatus*. *Desfontaine*. *C. ovalis*. *Loudon*. *C. herbaceus*. *Torrey*.

A half-shrubby plant growing 2 feet high, but frequently with the shoots killed down to the ground in winter, and then little more than herbaceous. Leaves ovate or oval, smooth on both sides, serrated on the edges, and as large as those of the species. Flowers white, in close heads, and on rather short footstalks.

It is found plentifully in Carolina and the southern States, flowering in July.

*C. americanus sanguineus*. *Loudon*.

SYNONYMES.—*C. americanus Pitcheri*. *Torrey*. *C. sanguineus*. *Pursh*. *C. oreganus*. *Torrey*. *C. americanus oreganus*. *Loudon*.

A very variable variety, growing from 2 feet to 4 feet high, with the shoots of some plants deep blood red, while others are hardly stained. Leaves oblong, serrated on the margins, and more or less pubescent beneath. Flowers white, in close round heads, on rather short footstalks.

A variable shrub found along the banks of the Missouri River, near the Rocky Mountains, and in the Oregon country, blooming in May and June.

No. 12.—*CEANOTHUS COLLINUS*. *Douglas*.

SYNONYMES.—*C. Douglasii*. *Don*. *C. oreganus*. *Of some*. (The Hill *Ceanothus*.)

A decumbent evergreen shrub, never growing more than 1 foot high in its native state, with smooth roundish shoots. Leaves ovate, or egg-shaped, somewhat clammy and glandularly serrated on the edges, with the upper surface shining, and the under one covered with flattened or adpressed hairs and three-ribbed. Flowers white, and produced in numerous panicles in June and July.

It is found on the hill sides along the Columbia River, and on the north-west coast of North America.

No. 13.—*CEANOTHUS VELUTINUS*. *Douglas*.

SYNONYME.—*C. levigatus*. *Hooker*.

(The Velvety-leaved *Ceanothus*.)

A large sub-evergreen shrub growing from 6 feet to 8 feet high, with the branches somewhat pendulous. Leaves orbicular or elliptically ovate, obtuse at the points and somewhat heart-shaped at the base, glabrous and shining as if varnished on the upper surface, velvety or canescent and strongly three-ribbed below. Flowers in panicles, on long footstalks and axillary.

It is found on the north-west coast of North America on sub-alpine hills.

No. 14.—*CEANOTHUS MICROPHYLLUS*. *Michaux*.

SYNONYMES.—*C. hypericoides*. *L'Heritier*. *C. scryphillifolius*. *Nuttall*.

(The Small-leaved *Ceanothus*.)

A small, somewhat decumbent shrub, with straight shoots, seldom growing more than 2 feet high; with very small, oblong, obtuse-pointed, entire, smooth leaves, seldom more than three or four lines long. Flowers white, in loose terminal heads.

It is found in sandy woods from Carolina to Florida, flowering in May and June.

No. 15.—*CEANOTHUS INTEGERRIMUS*. *Hooker*.

SYNONYME.—*C. californicus*. *Hort*.

(The Entire-leaved *Ceanothus*.)

A large erect bush, growing 10 feet high, with long, slender, smooth shoots. Leaves ovate, bright green, quite entire on the margins and smooth. Flowers white, in large, loose, plume-like heads, on rather long footstalks, and in great abundance.

It is found in woods and along the banks of streams, particularly in the Sacramento Valley in upper California, flowering in June and July.

No. 16.—*CEANOTHUS INCANUS*. *Lobb*.

(The Hoary-leaved *Ceanothus*.)

A very distinct kind, with small, evergreen, Holly-like leaves, in opposite pairs, from six to eight lines long, and from four to five lines broad, more or less oval in outline, glossy green above, feather-nerved, downy, and snow-white below, with a few short, stout, spiny serratures round the margins, the larger ones pointing upwards. Flowers supposed to be white.

A kind found in northern California by Mr. Wm. Lobb, and introduced by Messrs. Low of the Clapton Nursery. It proves quite hardy.

NO. 17.—*Ceanothus cuneatus*. Nuttall.(The Wedge-leaved *Ceanothus*.)

An evergreen shrub, growing from 6 feet to 8 feet high, with somewhat thorny greyish shoots very closely interwoven. Leaves half an inch long, wedge-shaped or somewhat oval, and not unfrequently with two serratures near their extremities, and furnished with numerous elevated, simple, and oblique veins on the under side. Flowers white, in small axillary umbels.

It is found on the Sacramento Mountains in California, and on the dry gravelly islands and bars of the rivers in the Oregon country, flowering in May.—GEORGE GORDON.

## MANETTI ROSE STOCKS—PACKING OUT FLOWERS FOR TRAVELLING.

A BROOM-HANDLE article is just as useful at times as a change of subject, if only to sweep out the office, and turn over a new leaf. Well, when you go to bed of a Monday night this Journal goes to press, and by four in the morning it is on the road, and you ought to have it as early as you can get the *Times* and the morning penny papers from London of a Tuesday. If I had been as far from London as you are, I should have it at the same time; but in this part of the S.W. delivery we have nothing yet faster than a go-cart, and the day is well nigh over before I can see what they say about the "work of the week," so your crops may be so much the more early than mine, if you have a mind to have it so, and not forget this the first few strokes of my broomstick article. Brooming it, without raising a dust, however, would be out of the question, and I have and must use the broom though it raises a cloud.

First, however, I will rest on the broom-handle and talk a while, first thanking the Rev. W. F. Radclyffe, of Rushton, for his most excellent article on the Manetti; and, above all, for not having "kicked over a bee-hive" in writing it. That was a practical illustration of what I have always been so earnestly inculcating on young gardeners. Write with all the force of the old "grey goose quill," if you can, but never raise a dust in doing it, and you will gain your point in the long run, as I have done on the point of having all Roses on their own roots as the best way, and Manetti is but one way of doing it—not the easiest way for those who can grow them from cuttings, but a safe way for those who cannot; that is, if the Manetti is, or has been done as it should, if not it is ten times worse than losing your Rose cuttings, for nothing on earth, or under it, will save one single Rose on a Manetti stock, if the stock has not been done right in the first instance. Mr. W. F. Radclyffe very justly remarks of it that "it is remarkable what a mess propagators and cultivators have made of it between them." Most remarkable I should say to my cost, for I lost three sets of sixty kinds of the best Roses, three times running in the Experimental Garden through that very mess—a mess that three very popular nurserymen fell into in budding the Roses I bought of them on Manetti stocks, from which no eye was ever taken. All the mess that cultivators had their share in was the mess of losing their plants consequent on the mess of the propagators. I got into that mess deeply, and my conscience tells me to warn my readers, lest they, too, get into the same mess; and unless they are first-rate hands at Rose-culture, I have now the authority of one such, to tell them that they *shall* get into the same mess as I did. That one is candid enough to admit that he never met with one who approved of it but nurserymen and himself. My experience is different. Two of the first Rose-nurserymen in England told me Manetti was bosh, and nothing more, and that people would find it out sooner or later. I can testify myself that the best Rose-growers in the kingdom failed with Manetti in pots most completely, and most decidedly. I registered the battle of the Roses since they were grown in pots; and no Rose, or a collection of Roses on that stock have yet taken a first prize, nor yet a second, that is the test. Talk will not do, and Mr. Rivers had to give up Rose-showing altogether for no other reason more certain than that Roses on Manetti could never get over Roses on their own roots. But Manetti is one very good way of getting a collection of Roses on their own roots, and THE COTTAGE GARDENER looked upon it from the first in that light.

Now, with such authority as Mr. Radclyffe before me, I shall earnestly advise in future to work on Manetti, if you can make the cuttings of Manetti for stocks yourself; but if you cannot, you will as surely get into the "mess" as I did, from nursery

stocks, for not one of the stocks in ten thousand, at some nurseries, is ever made as it should.

The best Rose-grower in Surbiton is Mr. Walton, of the Waltonian Casc, and no matter what I say, he will not have a Rose on its own roots. So there is the other side of the question for you. He buys every new Rose as it comes out, if he is sure it is good, and he says he should soon have no room for Roses at all, if he had them on their own roots, for then they would grow twice the size, and never die!

There is one thing I should like to know to guide me in the matter for a portion of readers. How is the budding of Manetti done in the nursery so low as it is necessary? Do the men go on all fours? and has the blood ever been known to flow so much to the head the while as to endanger madness, or any cracking about the brain? And how would you set a lady to do it? They are the best budders when they try.

Every word that has been said in praise of Manetti applies with equal force to all kinds of Roses on their own roots; and it is now made as clear as the evidence of our senses that the Manetti stock is of no other use than as a safe and certain means of getting Roses on their own roots, even if you have the best soil, the very best experience and brains, together with the best climate in England; also that the muck-pie must not crust long together if you are getting a collection of Roses on their own roots by the help of Manetti stocks.

There is no other conclusion that I can come to, as a practical gardener, after reading Mr. Radclyffe's article. No Rose will grow on the Manetti for any length of time, if the whole stock and the union is not buried in the ground according to the evidence of its greatest advocates. No nurserymen in a hundred ever think of preparing Manetti stocks so as to relieve them of making suckers from above the collar. The consequence is that all such Roses become actual pests in the gardens of ordinary growers; and to suppose or support the idea of a benefit accruing to a Rose, or to any kind of plant under the sun, from having two sets of roots under it, as Roses on the Manetti will soon have, is an entire fallacy in scientific culture. I should not desire a more weak point in the argument of a physiologist against me than that; I should soon be able to shut his book for him, yet it is a prevailing idea notwithstanding. A runner from a Strawberry plant is fed by it till a new plant is rooted at the end; the new plant roots, and is then fed by its own roots exactly as is the case with a Rose rooting over the stock. The question then is, How much or what the value of the quantity of the nourishment the young Strawberry plant derives from the old one through the runner? Some say one thing, some another, the truth being that no one knows. But if you have two such runners and two new plants of equal size and strength at the ends, you will be able to judge pretty near the mark if you cut one of the runners and leave the other as it is. I know what would be the result to the turn of a shade, but shall not prejudge the question; try it and see. That is the lowest degree on the scale for calculating the force or the value of the nutriment derived by a plant on its own roots from the parent plant with which it is still attached.

The next degree upwards is also a familiar one to gardeners. A stout common Laurel in a dry shrubby puts out a weak shoot from near the bottom not bigger than a parasol-handle, and not able to support itself, and it rests on the loose ground at last and roots there, just as did the Strawberry. In six or seven years the young Laurel is as big as the old one; but how big is the parasol-handle-like shoot, which still exists as a connecting link between the two, as the Manetti is between its own roots and the roots on the Rose above it? Why, the little Laurel shoot is not one whit bigger than it was seven years back, although there is a strong Laurel at each end of it; and how is that? Or do you or I mean to say that if the old Laurel had been cut down in the first instance all the strength from the roots of it would have gone through the body of the little shoot into the new Laurel at the other end of it? There is just where I should like to have a smart physiologist in close argument, and if I could not shut his book or his mouth it would not be for want of more degrees on that scale to measure his skill against my practice; therefore, to question the benefit a Rose would derive from its own roots and the roots of a "Rhinceros" Rose-stock at the same time, would not be going beyond the bounds of fair argument.

But it is not fair argument, but a very unfair inference, to pit the practice of the best growers on the best soils, and in the best situation and climates, and muck to boot, against the

attempts of such people as know next to nothing of Roses, soils, stocks, and management, and whose back yards and front gardens are barren as the desert, or if just as good as goodness itself, but no good done to it for goodness knows how long. The latter class come to me for advice, and I give it conscientiously when I say, Avoid Manetti stocks, and never use them farther than as a convenient mode of putting your Roses on their own legs.

All this is merely to show up the folly of taking things for granted out of the column for private correspondence. You might just as well go about and tell it in Bath or Barnstaple that the British Parliament was just what it is, because you had seen something in the private letter of an old Scotch woman who took snuff and who had a son in New Zealand. Mr. Rivers and your humble servant decreed, by common consent, that Signor Manetti should be allowed a holiday for a good while; and when we met the other day at the March Show of the Royal Horticultural Society, after pawing as we always do for "Auld Lang Syne," we both of us regretted the indiscretion of that "NURSERYMAN" who made all this piece of work; and all that we could do in the matter was to wish with Burns that some power would give us both the gift to defend us from our friends, for if either of us ever had an enemy he or we well knew how to forgive him.

**PACKING CUT FLOWERS.**—The next corner which needs the broom is filled with cut flowers. Some one sent a box full of cut flowers, and no one ever saw such a mess of packing flowers before. The fact is, or rather was, the flowers crushed each other, and some of them turned some others heads and tails. They were all in a mess like Manetti and the propagators. When I was on that staff we used to have flowers on the rail every week the whole winter long, made nosegays, button-holes, and all manner of bundles, some on wire, some on "Spanish Grass," and some on their own stalks, when they have had them in lengths sufficient to enable us to bundle them; and without being in proper bundles no one thought, then, of sending them at all, much less to London.

Perhaps you may not remember the last wedding which was at Buckingham Palace, but I do, and I have reason for doing it. I had a medal, and a good medal it was too, for eight wedding nosegays which I sent to that wedding, fresh and fast as a lover's knot. I forget how long they were on the rail, but they were in the packing from four o'clock of the previous afternoon to after breakfast the next day in London, or say about eighteen hours, and if they had been going all the while, and as much more time to the bargain, I cannot see how they could take hurt.

I recollect at another time, when Her Majesty was far down in the country for nearly a week, at the baptism of an infant lady, who is now well nigh the age of thinking of something that way herself, and there one of the ladies of the grand party came down to breakfast every morning, and to dinner in the evenings, with a fresh nosegay each time, and no one in the establishment knew how that lady came by her nosegays, nor am I going to let the cat out of the bag, but so it was, as certain as I tell of it.

At another time I recollect starting from a Chiswick Show, with Mr. Fleming, of Trentham, to Stafford House, in London, to see how he packed all the flowers he sent to an evening party there of two thousand people. But all these things are now old-fashioned, and the packing of cut flowers may be very superior now to what it was then, yet such as it was; it would help a fellow now from making an April fool of himself by putting them heads and tails, and by allowing them to do that on the way to the office. Mr. Robson would be a likely man to know how ladies like their cut flowers to be sent in these latter days, if he had a mind to tell us, for had it not been for that box of spoilt flowers in our office, the very last thing I should think of would be to push old notions under new nostrils that way.

I had twenty-two boxes of different sizes for that purpose, and that number would last out a whole month, taking all chances of "returns;" but of all the chances in this world, that of getting a flower-box returned, if you sent a present in it, is the last chance on which I should be inclined to venture a stake. Of course, no one would be so rude, in times like these, as to keep back a flower packing-box, so you may send them to all your friends, if only to try if the experiment of packing will answer. The first way is a good way for short distances, as from Liverpool to London, the second is a better, and would do

between London and Vienna, or thereabouts. The first is a square basket, quite flat at the bottom, and from 10 inches to 16 inches deep, the length and breadth to be according to the quantities to be packed. The second is of three-quarters-of-an-inch deal box, same depth and width, well painted inside and out, and with iron binding at the four corners, and the lid hinged on, and a lock and two keys for boxes or baskets. All cut flowers to be in handfuls, or bundles, not big ones, but put up as close as for a hand nosegay, to put the stems in a ball of well-squeezed moss after wetting it, to tie a dried blade of Rhubarb leaf round the moss; but a fold of oiled paper would be best, and the same with care might last as long as needful. Round each ball envelope a piece of newspaper just as tea is put up by grocers, then you will see only the top side of each bundle of flowers, as when a truss of Narcissus bursts the spathe. Your paper represents the spathe of most flowers at that period, the peak of the spathe or envelope rises above the flowers behind, but not in front next to you. You put three or four or five of these balls in a row close to one end of the basket, with the paper-hood or spathe rising behind to save the flowers from the end of the basket. Then, with a packing-needle, you draw a stout thread through the side of the basket, then across the top of the ball and out on the other side of the basket; pull it tight as a drum, and make a knot on it outside to keep it on the pull. The balls are now "clipped," as in a vice, and nothing can move them from their position till that string is cut. Do so with each row till the box is full, or half-full, or three-quarters full, or with only one row all round the sides and the ends. You will need some broken newspaper to tighten in between the balls occasionally, and that will be all the packing-stuff you need. But recollect to send so many bundles of leaves with each basket; Lily leaves, or those of Irises, or of Grasses, and plants like Pampas Grass are the best to put into the glasses with cut flowers; for nothing can be more hungry-like than to see lots of naked flowers in a drawing-room without some such leaves. Then lock the basket, and you may throw it over the monument without hurting a petal, and throw it back without the smallest injury. Nothing can hurt the flowers now but the damp from their own perspiration; and their hoods, or spathe, or involucrems, if they be of any paper on which smart politics are printed, will keep the damp from spreading; but the basket itself being a self-ventilating contrivance, will keep down or let off the perspiration for a day or two.

The flower-box is more for carrying ready-made nosegays; and every nosegay that was in Covent Garden this spring might be sent to Galway, in the west of Ireland, and be as fresh as if only to Eaton Place on your way down to Fulham, and perhaps a deal more safely; but bunches of cut flowers would travel just as well; for what else is a nosegay after all? Well, the box is on the same principle as the boxes in which they take Dahlias and other cut flowers to the show, but the application of the principle is quite different. There is a half-inch deal made like a lid to fit just inside the flower-box; and, if you let it slip down into the box, it would fit in the four corners and on both sides, and you must turn the box upside down before you could get the flower-stand out again, for that is the name of it. Now, fasten four legs to the flower-stand, one at each corner, and let them be 6 inches long; and on the upper side, in the very centre, nail a bridge across the flower-stand. Now, take it by the bridge and put into the box again, and see if the lid of the box just presses on the top of the bridge, and if it does, can you not see almost through the lid that the flower-stand is fixed firm as London, first on its own lawful legs in the corners, and, secondly, by the pressure of the lid on the bridge—which, in fact, is the handle, only one does not like to squeeze a hand as he would a wooden bridge? Then there are four, or six, or eight, or more holes made in the flower-stand, each hole 2 inches or so across, and each hole will hold a bunch of flowers, with the stalks, in that diameter; and to fill the board or stand you put it on its side and put the bunch of flowers through the hole from above; you then gather the flower-stalks and pack a little damp moss round them, then with a little wooden wedge and a bit of cotton wadding wedge the flower-stalks in the hole, so that no jerk can shake them, and that bunch is finished; all the rest the same way. The Iris and grass-like leaves being laid flat in the bottom of the box in a fold of paper, put some dry moss over them, and put in the flower-stand, and you will find that the damp balls below the board will nestle in the dry moss, and the dry moss will suck any damp that way, and all above is as

dry as a bone, quite open between the different bunches of flowers. Now lock the box, and all within it is as safe as the Bank of England.

D. BEATON.

### THE ROYAL HORTICULTURAL SOCIETY.

THE April Number of the "Proceedings" of this now prosperous Society is just delivered to its Fellows, and contains one or two announcements which require from us some comment.

The waterworks being now completed, the Society are desirous of stocking the basins with fish, and for this purpose they ask for donations of gold fish and the common carp. Of the latter, "none but large specimens are desired."

We are very pleased to see that Sir Wentworth Dilke renews his prizes for dinner-table decorations the same as last year; and that Lady Dorothy Nevill, in the same liberal spirit, offers two prizes "of six guineas and four guineas, for the best arrangement of flowers for drawing-room decoration, to be competed for at the Great Show on the 21st of May."

For that Show we regret to see the announcement, that "immense tents are in preparation." We should have thought that the results of the shows under canvass at Chiswick would have been an unfaceable warning not to risk at Kensington a repetition of those signal defeats by wind and rain. We most emphatically warn the Council not to risk such disasters. That period of May is especially liable to heavy continuous rains, and, moreover, there is no need for risking such a frustration of the hopes, and such a destruction of the pleasure, both of exhibitors and visitors.

The great and telling advantage of the shows at the Crystal Palace is, that the purchaser of a ticket knows that be the weather whatever the most ill-tempered of the winds and seasons may devise, the Exhibition will be as enjoyable as if there were only zephyrs and sunbeams outside. So might it be at Kensington Gore, for there is ample space under the arcades. The Council admit the desirability of such weatherproof buildings for the purpose by announcing, as they have, that the Azalea Show on the 9th inst., "will be held partly in the council-room, and partly in the adjoining colonnade."

We have heard it objected, that the arcades are not quite light enough. We differ from that opinion, but, at all events, they are quite as well lighted as the council-room; but if not, the roof of a part of the arcade might be covered with glass, towards the payment for which the money proposed to be expended on "immense tents" might be diverted. For the summer shows the arcades would have the additional merit of being cool. Tents in blazing weather oppress the visitors and injure the flowers.

### MR. W. PAUL'S "ROSE ANNUAL FOR 1861-2."

A MAN who works for the public should receive the acknowledgments of the public. I, for one, thank him for his "Rose Annual." It is valuable, and, as far as I have proven the new Roses of 1861 out of doors, in a more limited way, and under more trying circumstances, his description of most of those that I have proven is exact and truthful.

The work commences with four beautiful plates, of which one Rose, Beauty of Waltham, belongs to 1862. They are:—1, Beauty of Waltham, a well-shaped, thick-petalled Rose, of good outline and with good foliage. 2, Marquise de Foucault, a lovely delicate-coloured Tea Rose, apparently the masterpiece of the four. 3, Souvenir de Comte Cavour (Margottin), a rich deep shaded crimson, lovely and effective. It is sure to please. A first-rate judge told me that it was the best new Rose that he saw in France last summer. It looks in the plate like a superior Jacqueminot in the colours of Victor Trouillard, and better shaped. 4, Catherine Guillot, perfect in shape, in the way of Louise Odier. It seems to defy criticism. I have three nice plants of it not yet bloomed. I see no fault in the two first and last, and only one in the third Rose—viz., the calices of the smaller expanded specimen are "reflexed." The large specimen does not show this. It is inferior to the other three in outline, and yet ninety-nine out of one hundred persons would prefer it.

With regard to the Marquise de Foucault, Mr. W. Paul observes—"Probably the plant is best suited for a pot Rose, or for placing against a wall or pillar in a conservatory, but it is also worthy of general cultivation."

In pages 121 and 122 there are descriptions of twenty-five

favourites of 1861. Eleven of them I do not possess. Two kinds, Catherine Guillot and Jean Bart (a nice shrubby plant with good foliage), are but just arrived. Of the remaining twelve, I will endorse Abd-el-Kader, Amiral Gravina, M. Melaine, Princesse Mathilde (four rich dark Roses, apparently with good constitutions and habits), General Washington, La Boule d'Or (for glass), Parmentier (small but very hardy and perfect), Madame Furtado, and Triomphe d'Aniclus.

The others require a word of comment. Reine des Violettes, a seedling from Pius IX., is a good grower and free bloomer, but it is inferior to its parent, being too small, unfixed, and clouded in colour, and quickly deciduous; Prairie de Terre Noir is all that Mr. W. Paul says of it, but out of doors it did not bloom so freely last cold summer as could be wished. It is hardy, of a fine purple crimson colour, but its peduncles are too long to show the foliage in a four-inch show-cup. It would be good as a corymb Rose shown on a long stem, so as to display the foliage. Duc de Cazes was very fine at the National; and if its habit is good, and its constitution equal to our climate, I think it will be worthy of a place. A Briar budded with it broke early this spring, and has stood severe weather. Two Furtados budded on Briars made wood after budding and are alive. Abd-el-Kader and M. Melaine are good dark Roses, and will stand some time. The first is much better than has been allowed. I have a high opinion of the dark Roses, Princesse Mathilde and Amiral Gravina. The plants of them (twelve), look well. The Princesse was beautiful at the National; and buds of the Amiral (not fully open), on the plants sent just before winter set in, were fine in form and colour. I fancy the Princesse will be A1 of the dark Roses of 1861. Your readers, however, will be pleased with and cannot hurt themselves with M. Melaine and Abd-el-Kader. They are rich dark colours, of good growth, and hardy constitutions, which very dark Roses are generally deficient in.

I pass over many interesting particulars and come to some instructive matter. Pages 131 and 132 give an account of the number of times summer and autumnal Roses were produced last July at the Crystal Palace and Kensington, at the grand Rose Shows; and I am glad to see that those Roses (with rare exceptions), which I have recommended so often in one periodical or another, are the Roses that appeared the greatest number of times. As a general rule (not "rule absolute"), you may assume, that the Roses which appear oftener in the pans at the National, are the best for the public to purchase. Gloire de Dijon appeared eighteen times; Général Jacqueminot sixteen times; Victor Verdier fifteen times. Of this last Rose I have many plants which have wintered well in a severe place. Their wood is of a firm character. The blooms are a thick-petalled and smoother-edged Jules Margottin. I had a beautiful shelly specimen of it at Langport, among my twenty-four winners. Nevertheless, though superior to Jules Margottin in these two points, Jules Margottin is still one of the most accomplished Roses in the world. I should think you might predicate more good and less evil of Gloire de Dijon, Baronne Prevost, Géant des Batailles, and Jules Margottin than of any other four. I have, I think, 225 plants of the four, and I never find them fail in any season, any soil, or position, or on any stock. Angletterre, Cambacères, M. Regnier, Mr. Griffiths, and La Ville de St. Denis are also very accomplished Roses. The three last are A1. As to bud and sepal, Jules Margottin has no equal. The sepal is beautifully "etched."

Page 134 brings me to the description of eighty of the forthcoming brood, with this noteworthy and proper prefix, "the descriptions are not ours, but the raiser's."

The descriptions would make your mouth water. I like to see the new term "Vermilion." Amongst these eighty there is only one pure white H.P., and that one is not full-sized. This I regret; but I am glad to see that there are some full-sized purple and crimson purple Roses of vigorous growth. These are wanted. Right or wrong, I have ordered twenty plants of the full-sized ones, leaving it to the nurseryman to substitute one Rose for another in the same line of colour; as, though he cannot on such short acquaintance be quite sure of them, yet he is more able to judge of them than the purchaser is by the raiser's descriptions. Be it remembered, that a Rose that is very suitable to France may be very unsuitable to England.

These are the Roses which I have ordered (subject to correction)—viz., 1 Adolphe Noblet, 3 Alexandre Dumas, 3 Comtesse de Seguier, 2 Souvenir de Comte Cavour (Margottin), 1 Duc de Rohan, 1 Gloire de Chatillon (a seedling from M. Massou),

1 L'Eblouissante, 1 Madame Boutin, 1 Madam C. Wood, 1 Maurice Bernardin, 1 Notre Dame de Fourvières, 1 Pourpré d'Orleans, 1 Robert Fortune, 1 Beauty of Waltham, 1 Triomphe de Caen, perhaps I ought to add Madame Julie Daran, as a northern amateur says he has been strongly advised to buy it. These are all H.P., and marked large, full, and vigorous, and the colours are tempting. Shall I get one good Rose worthy of being called "variety?" Will it be growable, hardy, free-blooming, and fit for exhibition? One only such plant will be worth the money that I am to pay for twenty plants!

For the colours and descriptions I must refer your readers to the "Annual," in which they will perceive at least one good feature—viz., that seventy-eight out of eighty are marked as vigorous, very vigorous, or more vigorous than its parent (Jaquemot). Two are not described as to growth.

Let me advise your readers, who wish to buy new Roses, to trust greatly to a respectable nurseryman to send what is best, describing what it is they want, and he will do better for them than they will do for themselves; but if they are determined to buy at all hazards by the raiser's description, and find disappointment, they must not turn round upon the English nurseryman, already "wounded himself," and call him hard names.

I have not forgotten what a horse-desler said to me years ago. A gentleman came into the yard while I was there, and had "a chop." After the deal, and the departure of the gentleman and new purchase, he said to me, "I dare say the 'gent' thinks he has 'done me;' but you see, sir, he learnt nothing from my man; but I happen to know the faults of his horse and mine too!" He added, with a pleasing smile, "I hope the horse will 'please' the 'gent.'"

May Mr. W. Paul be spared many years to reap the fruits of his new nurseries, and to benefit, by his exhibited Roses and accurate "Rose Annual," the purchasers and cultivators of the "Queen of Flowers."

Professor Blackie shall address him on our behalf—

"O thou first-rate Hertford man,  
Still be first in labour's van,  
'Tis the mission of the Highest given visible to thee,  
With the pickaxe and the spade,  
To ply thine earth-subduing trade;  
And thou shalt be a prince at home, and a king beyond the sea!"

—W. F. RADCLIFFE, *Rushdon*.

## CULTURE OF CYPRIPEDIUM INSIGNE AND CALCEOLUS.

I have a *Cypripedium insigne* which has just flowered and the bloom dropped, but the stem is still left. Ought this to be cut off? It has also two leaves springing from the base of the plant about 2 inches high, which I suppose will grow this year to flower next year. Should I therefore grow it on vigorously, or let it go to rest?

I have also a *Cypripedium calceolus*, which I am trying to grow this year. It has four reddish stems springing up about an inch high, with the leaves just visible. Ought it to have much water just now? and had it better be kept in a greenhouse or in the open air?

One more question. Is there more than one variety of the *Orchis maculata*? I have one with globose leaves spotted with violet; and another, which I suppose is *maculata*, with lanceolate leaves double the length of the other plant, and of a violet hue all over, except the edges and the base of the leaves where the light does not get much, and there it is spotted like the other.—ARTHUR COLE.

[*Cypripedium insigne* is a terrestrial evergreen herbaceous perennial Orchid from Nepal: it therefore requires stove heat all the year, but less in winter than when growing fast in summer. The old flower-stem is of no use, and should be cut off as soon as the flower fades. The two leaves springing at the base are forming a side offset, which in time will increase the size of your plant, or, when it has made roots, may be taken off to make you another plant. Grow the plant on vigorously this summer, and in winter give it a partial rest by a lower atmosphere and less water.

*Cypripedium calceolus* is, as no doubt you know, a British plant, though now it is becoming rare. The best place for it is a cold pit or frame. It is found in thickets, growing in loam and leaf mould; such a soil it ought to be potted in. Till it acquires strength and size you had better keep it in a pot, and

then you may, if you choose, plant it out in a shrubby border in similar soil. Properly managed it may be grown successfully; but hundreds of plants ruthlessly dragged out of their native wilds have perished for want of due care in attending to the conditions of growing them in a similar soil and situation to that in which they grow wild. We hope you will be more successful with your plant. As yours is now growing, it will be as well to keep it in your greenhouse, watering moderately till the leaves are more grown, and after that more freely. It is a deciduous herbaceous perennial, and therefore loses its leaves in the autumn. When the leaves begin to turn yellow give less water, and place the plant in a shady place in the open air till the autumn; then put into a cold frame or pit, sheltered from frost through the winter. Towards spring repot it into a larger pot, still keeping it sheltered, and when the hard frosts are gone plant it out of doors in the position above described.

Your *Orchis maculata* is the true species. What the coloured-leaved variety is cannot be told by your description; probably it is *Orchis mascula*. When the leaves are fully grown send us one, and also a flower: we may then be able to inform you what species it is.]

## INK FOR ZINC LABELS.

I HAVE just been at a druggist's here (Kilmarnock) with the recipe for ink for zinc labels given by you, but he informs me he has made up the same recipe several times, and the parties never renew it finding it not indestructible; but he wrote on a piece of zinc with a solution of the bichlorate of platinum, which he says is a perfectly indestructible ink for zinc labels; in fact, while the zinc decays the writing does not, but will stand out in relief. The price is the only objection. I got one drachm of it in a small phial for 1s., but it will write a great many labels. Use a quill in writing with the ink the same as in your recipe.—M. S.

[Bichlorate of platinum is an excellent fluid for writing on zinc, and very permanent. The same character, however, attaches to the ink for which we gave the recipe, if the zinc is freshly scoured bright before the ink is put on, and is allowed to dry thoroughly before being exposed to the weather.—EDS. J. OF H.]

## FORCING ROSES.

WILL you inform me the best mode of forcing Roses early? We have some in pots that have been placed in a bottom heat of leaves, and top heat of 60° by hot water; but they have not yet shown flower, although placed in that situation in October.—G. H.

[You have been too kind to your Roses, or in other words you have overforced them. You do not state the degree of your bottom heat; and a heat at first of 60° is too great for a shrub hardy enough to bear open-air culture in April and May. The bottom heat should not have been more than 60°, and the top heat 40° by night and 55° by day. In your case you had better lift the pots out of the bottom heat and give plenty of air in order to strengthen the shoots, and then if they are Hybrid Perpetuals they are sure to flower shortly; but if they are Provence including Moss Roses, or of the Gallica class, it is doubtful if they will flower this year at all.

You ask for general instructions in regard to the time of potting, cutting down, soil, and after-treatment. In addition to these heads of culture, to produce Roses in January, February, March, and April, you should know what kinds to pot for that purpose. There are a great number of varieties suitable for forcing, and out of that number we will select for you the following twenty-four sorts:—*Moss*: Common. *Provence*: Cabbage. *Hybrid Chinese*: Elizabeth Plantier and Paul Ricaut. *Hybrid Perpetual*: Edward Jesse, Général Jacqueminot, Géant des Batailles, Jules Margottin, Louis Buonaparte, Madame Laffay, Prince Albert, Reine des Fleurs, and William Jesse. *Bourbon*: Acidalic, Armosa, and Queen. *Chinese*: Cramoisie Superieure, Mrs. Bosanquet. *Tea-scented*: Comte de Paris, Devoniensis, Niphotos, Gloire de Dijon, and Triomphe de Luxembourg.

*Time of Potting*.—If good plants are taken up early in autumn, carefully, with all their roots entire, potted immediately and placed out of doors for a month and then pruned, they will flower pretty well the season following; but, unless in a case of

necessity, it is far better to grow them in pots twelve months previous to forcing them; they then become established in the pots, and are in a better state to bear a forced growth and earlier bloom. Roses that have been forced have attained a habit of blooming early, and are, therefore, to be preferred for that purpose. Every autumn following they should be repotted, disturbing the roots as little as possible, but yet picking out with a stick as much of the old soil as can be conveniently removed, and use fresh to fill up the pots. The best soil is two parts strong turfy loam, and two parts hotbed-dung; if a part of burnt rubbish can be had, mix it with the compost. For Chinese and Tea-scented varieties add a part of decayed leaf mould; and in potting take care that the pots are well drained, and cover the drainage with a thin layer of broken charcoal, and let the compost be used in a moderately dry state.

**Pruning.**—The time for this operation is early in November. Strong growers should have the weak shoots cut away close, and the strong shoots shortened-in a little only. If they are cut-in close the flowers will be few and far between; others that are weak growers should be cut-in rather severely, say to two, three, or, at the utmost, four buds. This latter rule applies chiefly to Hybrid Perpetuals, Chinese, and Tea-scented varieties. To obtain Roses at Christmas, the best plan is to choose all Hybrid Perpetuals for that purpose, and prevent them flowering at their due season by nipping-off their early buds, only mind to keep them growing and they will form a second crop of buds as late as November; then put them into a warm greenhouse and they will open their blooms admirably at the end of the year, coming in before such as are regularly cut down and brought into the forcing-house. After Roses for forcing have been potted and pruned, they should be placed in a cold pit till required to be removed into the forcing-house; here they will be protected from the heavy autumnal rains, which are very injurious to the young delicate roots of Roses, especially such as are intended to be forced into early flowering; in such a pit, too, the wood has a better chance of being well ripened: hence older plants should have that benefit, care being taken to give them plenty of air during the later summer months, and only just water enough to keep the soil moist. The last week in December or the first week in the new year is quite soon enough to commence forcing for the general crop. To keep up a succession take in a few every month afterwards up to April. Keep your plants as near the glass as you can, only leave room for the young shoots. At first let the heat be moderate—that is, 45° to 50° by day, and 40° by night. As growth goes on increase the heat to 10° higher by day, but not much higher during the night. It is very weakening to the Rose-shoots to keep up a high stimulating atmosphere during the time they are in darkness.

In giving air be careful that no draughts rush across the young and tender leaves, or they will suffer much from the cold. In warm weather, air, of course, may be given freely. If the air-openings are opposite the pipes or flues, so that the air in entering becomes softened and partially heated, it will be a very great advantage.

**Watering.**—As the leaves expand water may be given more liberally. Every third time give them some liquid manure. Gnano water is strongly recommended, but it must be given in a weak state: about 1 oz. to the gallon is quite strong enough. The syringe may be used freely till the buds begin to expand; but in dull cloudy weather refrain from syringing.

After they have bloomed place them in a cold pit or some other shelter, and as soon as the frosts are over plunge them in an open place in the garden to make summer growth; but if intended to be forced the next season allow no flowers to bloom on them. Roses in pots during the summer are too often placed in some back out-of-the-way place, and utterly neglected during the summer months. No wonder they do not flower the year following; whereas, with moderate care all the year round, the Rose will thrive and bear forcing annually for many years.]

## ROYAL HORTICULTURAL SOCIETY.

APRIL 1ST.

**FLORAL COMMITTEE.**—The subjects for examination by the Committee at this Meeting were not numerous. The most important was a new form of *Musa*, similar in growth to a *Canna*, and finely marked with a broad band and blotches of white, from which it had been named *Musa vittata* on the continent. It was considered a first-class plant of that stamp, and a First-

class Certificate was awarded for it to Messrs. Veitch. It will make a splendid exhibition plant. The same firm and Mr. Bull, of King's Road, sent two small Ferns, *Asplenium flabellatum* and *rachirhiuæ* to each of which a First-class Certificate was awarded.

The same merit was accorded to a new form of a double French White *Primula sinensis*, from the Messrs. Smith, of Dulwich. This was unanimously agreed upon to be a first-rate plant, with immense large flowers, in which the stigma, style, and germen are perfect, and it is, therefore, in a condition to continue itself by seeds, or be the parent of a new race of improved stamp. On this point Mr. Beaton congratulated the florist members of the Committee on their good sense and judgment in agreeing with the rest in giving a first-rate prize to a pin-eyed *Primula*, which he maintained was always the best of the two wild forms of these flowers on account of the facility it offered of crossing them.

There were two very superior varieties of *Lycaste Skinneri*, from Messrs. Veitch, making hard upon twenty kinds of that sportive Orchid known to one or other of the Committee, some of whom asserted that cut flowers of this beautiful Orchid kept longer in water than any other Orchid, and that with the exception of *Odontoglossum grande*, that this was the most easily-managed plant of them all in a cool house.

There was another improvement, and a marked one, on *Cypripedium barbatum*, from Mr. Williams, of the Paradise Nursery, for which a Certificate was granted; and a most promising Perpetual Moss Rose, called *Hortense Vernot*, a basketful of small plants of which was sent by Mr. W. Paul, and the Committee requested that it might be sent again in the autumn, considering it a very promising Rose, which could not be properly judged from forced specimens. Mr. Todman the successful raiser of many good seedlings, sent five kinds of new *Azaleas*, of which one called *Lord Canning* is a perfect "self" flower—that is, without a spot, or shade, or eye, and is of the most beautiful colour, the highest colour in the race. This, also, was desired to be seen when the plant was older.

There was two *Rhododendrons* sent up from the open ground, from Mr. Veitch, sen., of Exeter, one of them white and intensely spotted in the throat, which as a conservatory flower would be very handsome, but out of doors at this season all but lost; the other a deep self red.

There was a small specimen in bloom of the Paris fashionable *Wigandia caracasana*, an immense large-leaved plant for turning out in the summer, and to be kept as the *Indiarubber Plant* in winter. The flowers are not much, only they come circinate, or, in a twist, like those of *Forget-me-not*, and are of a violet blue tint. All circinate flowers like this might be cut as soon as the first of them opened, and if the twisted buds were thrown into water, they would unscrew and open successively in the drawing-room, some for days and some for weeks according to the kinds and time of year. Also, two samples of a Willow-leaved *Berberis aquifolium*, a sport not common among the seedlings, and which for a rock-garden or a Chinese one would be highly desirable.

Then, there was a *Hippeaster* of a long descent from *crocatum*, still maintaining a glow of that rare colour in bulbs—an orange yellow, but from injudicious crossing the flower itself was flimsy as could be, and not worth retaining in a select collection which one never sees near London; and a collection of *Cinerarias* from the Messrs. Smith, of Dulwich, of the same strain as they exhibited at the March Meeting of the crowds. And, finally, the gardeners at the Chiswick Gardens sent up two baskets of little pots of *Anætochilusæ* to show that they too fall in with the times, and instead of botany take more care of how to please the ladies by the sterling honesty of high cultivation as for prizes. On these a highly interesting discussion took place, the tendency of which was to show that the prevailing custom of keeping these *Anætochili* under glass in stew-pan treatment, was a highly unscientific mode of cultivation and altogether unnecessary in their case.

## SOWING LOBELIA SPECIOSA AND GRACILIS, AND MANAGING THE SEEDLINGS.

I SHOULD be very much obliged if you would inform me the best time of year for sowing the blue *Lobelia*; also, if the light blue kind can be raised from seed as well as the dark, and how they should be treated to bring them forward for bedding purposes.—C. B. W.

[Now is a good time to sow both the *Lobelia speciosa* and

the lighter blue grscilis, but there is not a moment to spare, the seedlings ought to have been up by this time. Have them in a hotbed till the seedlings are up a few days; then put them where they can get more air, and when they are big enough for you to handle them transplant them into little pots, three or four plants in each pot; after that keep them close for another week, and then they are fit to stand in any kind of cold pit, with the same treatment as young Verbenas; and at the time of planting them out, divide the balls into four pieces with a good plant in each, and plant them 6 inches apart.]

## A PLEA FOR PYRAMIDAL PELARGONIUMS.

BY THE LATE MR. GEORGE M'EVEN, OF THE HORTICULTURAL SOCIETY'S GARDEN AT OHISWICK.

PRESUMING that we shall have gained an important point, if we can satisfy our readers that the form of training which we recommend is worthy of imitation, we deem it expedient, before entering upon the practicality of the subject, to show that variety of form is desirable; not that we wish, or expect, to see the present dwarf form abandoned. No; but only that another form—viz., the pyramidal should be introduced. We are prepared to show that it is not less natural, practicable, nor is it less appropriate, than the dwarf, squat form; and that it will much increase the beauty and interest of a collection of these plants as a whole, and would add largely to the number of admirers and growers of the Pelargonium, if this form of growth were to be generally introduced.



Because of the delight which variety of form produces, pyramidal training is desirable. Who is not fond of variety? Let us go and look upon yon forest—scan the fields—glance at the wild flowers and plants by the highways and byways—take a grand survey of the vegetable creation; or, if you choose, let us confine our range, and take the same species or varieties, and have them each shorn of their now varied forms, and then say if they have not lost more than half their beauty and interest by the change. Now, all we plead for is, that we should not pay exclusive attention to one, the dwarf, form; but that we should grow the tall form also.

Another inducement we would urge in favour of the pyramidal training, is novelty. To tell gardeners that anything new gives increase of interest, and oftentimes pleasurable excitement, is to repeat what they must have constantly observed. Indeed, much of the success of gardening may be traced to, if it does not altogether depend upon, thus giving an agreeable excitement.

Another and yet more important inducement, we would urge, is their utility, or adaptation to almost any situation. Yes; you can place them with effect, whether in or out of bloom, on the centre or side stages, where the sun, light, and air may play freely upon them; or you can lodge them on circular

hoops of iron or brackets, in a hall or staircase, as represented in the woodcut. How much, too, would they enliven the tameness of the Pelargonium-house as it is; or, where they are still more at home, yet greater favourites, in those large conservatories, where you can walk past, and around them, and feel as if in a garden. Again: decorative objects are perchance wanted for special occasions. None will be found so suitable as the pyramids for centre-pins in the group of flower-stands or baskets; whilst as pillars in the entrance-hall, or by the corridor, or as beautiful plants for the table, they are equally appropriate.

Again: they will "fit in" to any style of gardening, whether geometrical or gardenesque; in rows by the straight walk, singly on the smooth lawn and in the dressed border at intervals, or as a centre plant in the mass of colour; by turns relieving, surprising, and always greatly pleasing. And who can doubt that, in the time coming, when a yet higher standard and a purer taste is exemplified in the arrangements of our exhibitions, our pyramidal-formed plants will be there, and so managed as to bear a thorough inspection, when no stakes nor glaring artificial props need be theirs—while the admitted dull uniformity of the collections in the Geranium-tents will have passed away, to be no longer tolerated.

If we have done justice to our subject, we have succeeded in showing that our pyramidal Pelargoniums are, or may be, objects of great beauty and interest, as well as great novelty and utility, and will largely compensate for the labour bestowed on them; we now proceed, therefore, to treat on the not least important part, the practicability, of the subject.

methinks I hear some one argue that the strength of the plant will be sure to go to its top, leaving the bottom and body of the plant naked. Another says that it will be so long before a Geranium is grown to the height and girth you require (say 6 feet by 3 feet, not more). And another will not think of it, because they occupy so much room. To the first objection it is replied, that the tendencies spoken of can be successfully counteracted, on the same principle that we train our wall trees wheresoever we will. To the second, we submit that one season is not long; and, when once the plant is trained, it lasts for years. And to the third objection we reply, that the stage room required is not more than that occupied at present, the extra height requisite being now unoccupied. It may, however, be well to remark here, that it is necessary to have in "the mind's eye" the model at which to aim in producing. We suggest that the height of the plant should be twice its diameter—that is, if the breadth of the plant at the base (which shall be just at the rim of the pot) is 3 feet, the height may be 6 feet, or thereabout. We must also remark, that in ordinary circumstances this height should not be exceeded; for this reason, amongst others which could be adduced: in this class of plants the flowers are so placed as to display themselves better when looked upon, than when looked up to; and, for a similar reason, there should be no swell on the body of the plant. With such plants as the Rose, Fuchsia, Scarlet Geranium, Heliotrope, &c., there need be no limit to the height, if due proportions are maintained. In a future paper we may give a few suggestions on the fitness and adaptability of these subjects for pyramidal training.

[We append to the above very suggestive remarks some notes on the same subject, showing the effect of pyramidal plants as ornaments to the hall and staircase; with the accompanying practically illustrative sketches, which are furnished by Mr. H. Noel Humphreys:—"When last in Paris," writes Mr. Humphreys, "I was much struck with a beautiful effect produced by plants placed outside the rich iron balustrade of a principal staircase, at the hotel of the Count Auguste de B—. In that instance, the pots containing the plants were lodged in circular loops of iron, connected by a strong bar fixed firmly to the exterior of the staircase, at and between each loop. By this inexpensive means the odour, the freshness, and the floral beauty of the plants accompanied the visitor to the very door of the principal saloon, without encumbering the staircase, or encroaching in any way on the space devoted to free ingress and egress, which is seldom, in modern buildings, sufficiently spacious to bear curtailment. Geraniums grown in the pyramidal form would be peculiarly suited to place in such a situation, as their height would bring them above the balustrade, and leave their best flowering portion to the unimpeded view of the visitor, while a plant grown in a lower form would not possess this advantage. But instead of the iron loops, which can only be regarded as a cheap temporary

contrivance, I would suggest a more decorative, and at the same time more permanent mode of placing flowering plants outside the balustrade of a staircase, and, at the same time, one which might be made subservient to other purposes. I propose making the principal moulding beneath the exterior of the balustrade jut out at certain distances, and by describing three-fourths of a projecting circle, form a series of brackets, upon which ornamental vases containing plants might be placed.

Thus, on other occasions, when a profusion of light might be more desirable than flowers, bronze candelabra, each surmounted by a single light, with a ground glass globe, might be substituted for the vases containing flowers, or they might alternate with them, which would produce a very rich and pleasing effect. In the accompanying sketch I have shown the Geraniums placed upon the circular brackets as described, and, in the hall beneath, I have arranged a row of vases exactly beneath the Geraniums,



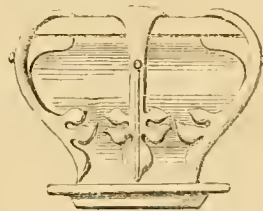
Staircase and Hall, with Geraniums in Vases and on Brackets.



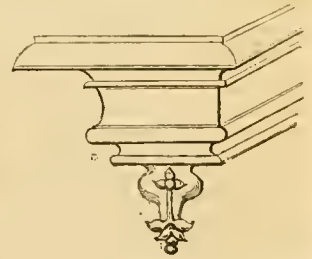
PEDESTAL.

which I suppose to contain finely-formed Hydrangeas, grown with a single stem like the Geraniums, but with bushy round

tops, in the Orange-tree form, to contrast with the pyramidal figure of the plants above. Between each Hydrangea I would



VASE.



BRACKET.

place a climbing plant, neatly trained to a tall rod; they might be *Maurandya Barclayana*, *Thunbergias*, or *Loasa lateritia*; but they should be all the same, and very trimly trained, as this symmetrical repetition is necessary wherever irregular forms have to be grouped with architecture."

In a future paper the management of pyramidal *Pelargoniums* will be explained; and accompanied by illustrations of their application to garden terraces, with some practical suggestions by Mr. Humphreys.]

### THE BIRMINGHAM ROSE SHOW.

THE first Meeting of the Committee of Management was held on Thursday last (3rd inst.), at the Committee-room of the Town Hall. The Mayor of Birmingham (H. Manton, Esq.), in the chair. Among the gentlemen present were Sir John Ratcliff, the Revs. S. Reynolds Hole, P. M. Smythe, W. K. R. Bedford, E. H. Kittoe, John Green, and Messrs. T. B. Wright, John Jaffray, John Lowe, John Shackel, J. B. Gansby, G. P. Tye, Job Cole, Samuel Evans, B. A. Hallam, and E. W. Badger. It was decided to hold the Show on Tuesday and Wednesday, July 1st and 2nd, which, coming midway between the Royal Horticultural and the Crystal Palace Shows, seems a very sensible arrangement, as it will enable the most important growers in all districts to exhibit at Birmingham, without in any way interfering with the metropolitan shows. A liberal prize list was framed, in which two divisions occur, to which we desire to give prominence. They are both in the open class C.—viz., No. 12. The best six varieties, cupped Roses, single trusses, with stem and foliage as cut from the tree, shown together as a bouquet, in a vase; and No. 13, the best six varieties, expanded Roses, single trusses, with stem and foliage as cut from the tree, shown in the same way as No. 12. The Committee will provide vases for these two divisions. Unless we are much mistaken, these will produce a very interesting and a most useful display of Roses, *au naturelle*. It will be observed that an attempt at classification has been made, separating cupped from expanded Roses, which we regard as a step in the right direction. It cannot be denied that hitherto, while by far the larger number of our best Roses are expanded ones, the palm of precedence has always been awarded to those pans in which "cupped" flowers have predominated. If the experiment at Birmingham successfully tests this question, a new era in Rose growing and exhibiting will most undoubtedly be inaugurated. A Sub-Committee to assist the Hon. Secs. was appointed, consisting of the most practical members of the General Committee. We wish this vigorous young Society all success, and think we may venture to assert, that the Committee, who are evidently regarding their work as a labour of love, will succeed in establishing an Exhibition of great and growing importance. The Committee comprises such a large body of practical and influential men, amateur and professional floriculturists, that the most sanguine expectations regarding the Show may be safely entertained. Of one thing exhibitors may rest quite assured—there will be on the part of the Committee every desire to conduct all the proceedings in such a spirit as will best answer the ends they have in view, the advancement of the interests of horticulture, and the supply of an additional source of refined and innocent enjoyment to the inhabitants of the midland counties.

We understand the prize list will be ready for issue in the course of a week or nine days.

### GARDEN INFESTED BY GRUBS—NEAL'S APHIS PASTILS—COTTON-SEED REFUSE.

LAST season, and again still worse this season, our vegetable garden, more particularly in the oldest part, is infested with a great number of blackish-looking grubs, three-quarters to an inch long, called in the district "botts," which eat off most of our Cauliflower, Cabbage, Lettuce, and other young plants. We have killed many by looking them out at the roots of the plants, but they still increase in number. We have tried to drive away or kill them by planting in soot, sprinkling lime, watering with manure water and ammonia water from our gas-works, but all to no permanent cure. Our neighbours are also similarly annoyed; as many as 150 were taken from the roots of a perennial plant in a garden near to us.

Whilst writing I may say, that seeing advertised in THE JOURNAL OF HORTICULTURE "Neal's Aphis Pastils," I was induced to purchase a two-shilling packet, and having used two at one time in a house 36 feet by 14 feet in which half a pound of tobacco paper answered, I find that after using the whole lot of six in three weeks the insects are still alive, especially on some Strawberry plants. We used them as directed. Have you had any complaint of them, or do you know whether they answer the purpose intended?

As at present cocoa-nut refuse, flax-refuse, &c., are much praised as fertilisers, may I ask if any of your correspondents (more especially from Lancashire) have tried the broken cotton

seed or refuse made in the first processes of cleaning cotton for spinning? Being of an oily, warm nature, I feel certain it would answer in the growth of many plants.—HARRY.

[Your kitchen garden wants but a thorough good and deep trenching. It is all vexation to attempt to rid old kitchen-garden soil of grubs and maggots, either by means of such trenching or by paring and burning. But all the trenching for this kind of reformation, if not for all others, is to be done when the ground is driest, and at the hottest point of the season—say in August. That is the right time to trench kitchen-garden ground if one could afford to do it, and if you can you must, or else these grubs will turn you out of possession altogether in the long run. When one is trenching a piece of ground is the right time to see to the drainage of the place. Nothing is more easy than turning the trenches in the direction of the fall of the ground; and at the bottom of so many trenches go a foot deeper and put in a drain, and say nothing about it till you come to where the next drain should be, and put that in also as quietly as you like, and you can then talk loudly of the vast improvement, and how you killed, &c., and that the draining was no expense at all—that you merely wanted to know the geology of the subsoil, and while it was open that you thought it was just as well to keep it so.]

### A FEW DAYS IN IRELAND.—No. 19.

(Continued from page 519, Vol. II.)

#### TEMPLE HILL.

THIS beautiful residence of Robert Gray, Esq., is, like Mr. Cowley's, also situated at Blackrock, near Dublin. The mansion is a handsome square building, built with dressed stone, and surrounded mostly by terraces, and about an acre of pleasure ground. There is also, we were told afterwards, on one side of it a handsome conservatory about 50 feet in length, and half as much in width. From the elevated position, the views obtained of the Hill of Howth, the Bay of Dublin, and the harbour of Kingston are not only interesting in themselves, but ever changing in the variety of the objects presented. We regret that from some inadvertence we saw nothing of this conservatory, and had only a glimpse of the pretty lawn. In passing from the gateway down a hollow to reach the glass houses on a bank just not so high as that on which the mansion stands on the opposite side, there was one object on the lawn at a considerable distance from the house which at once attracted our attention, and which must form a prominent feature from every window on that side of the mansion, and that was a good-sized mound of white flints standing alone in its glory. Now, though to our eye and sense of propriety such a huge heap in such an open spot was perfectly incongruous, yet not being near enough to examine what were its particular purposes, or what effects it had on the sense of fitness when seen from the mansion, we are not in a position to think, and far less to say, that our taste is superior to that which planned and constructed this heap of flints on an open lawn. The proprietors of Temple Hill have far more right to please their own taste and sense of what they deem suitable on their own ground, than we or any one else has to hint that it would have pleased better if some little thing or other had been different. Besides, so little is generally gained by taking exception to the doings of others in such a mere matter of taste and fitness, that but for the large liberal-heartedness of the proprietor, we would not humbly insinuate the wish that the flints might be removed to a more fitting position, such as the large rookery forming in the hollow on the way to the garden—that is, if there are not stronger reasons than any we know of for keeping it where it is. This might be of much more importance in fixing ideas of fitness and taste than at first meets the eye. There is, in many places at present a perfect craze about rookwork and rookeries, altogether irrespective of position. Only get a few loads of ugly stones thrown together, or as many crooked and twisted roots of trees—it matters little where, as in front of a splendid Gothic residence or a Grecian mansion, and you are expected to say, "Oh! how pretty!"

In front of such a mansion as the last mentioned, some twenty yards or so from it in a low, level position, is a huge mound of stumps of trees, roots, flints, and stones, with plants and Ferns, &c., stuck among them, so huge as for size to throw Mr. O'Brien's Fern rookwork into the shade, interfering with the beautiful rich scenery beyond, and costing many pounds in

money, and no end of labour to make and to keep, and the object attained—a huge deformity! We could speak, too, of rough root-heaps in front of the drawing-room windows of a beautiful Gothic mansion, wreathed with Ivy and other climbers. We do not deny but such masses may look tolerable in summer when the romantic roots, as the owner calls them, are concealed or nearly so; but would such a man of generally exquisite taste think for a moment of adorning his drawing-room with such proofs of retrogressive barbarism? Is it much better to have such ugly heaps on a fine lawn just outside the window? Must the truly beautiful within be enhanced by contrast with such so-called beautiful roughness without?

The large rootery in the hollow seemed to be in the process of forming; when planted with Ferns, alpines, &c., we have no doubt it will be constantly increasing in interest and importance. Shortly after passing it we met our new friend near the houses, Mr. Tobin, the very intelligent and successful gardener; and after premising that everything about the garden bore signs of being carefully attended to, having so far used the flint stones as a text for a practical discourse, we will confine ourselves to notice what was grown under glass and other protection.

The chief houses seemed to be placed something like a square in two principal ranges. The front range is 80 feet long, and in three divisions. The first compartment is 30 feet long, 14 feet wide, 14 feet in height at back, and 7 feet in front. The roof is a lean-to, with curved glass in front. This is devoted to Peaches. The front trellis is curved so as to occupy the greatest amount of space without shading any but the very bottom of the back wall. The front trellis is filled with a beautiful tree of the Noblesse Peach; the back is furnished with two trees, riders, of the Royal George Peach. The wood in this house was in fine condition. The middle division is a stove but span-roofed, 20 feet wide, 26 feet long, 14 feet high to ridge, and about 7 feet at the sides. There is a low pit in the centre 10 feet wide, so as to admit of tall plants being grown. A nice pathway all round 3 feet wide, and a broad shelf or stage 2 feet wide all round the sides. Many of the hardier plants of this house were ripening their wood in the greenhouse, &c., so that the house was set nice and thinly with Ferns, Mosses, Achimenes, and Begonias. Of the latter were nice plants of the following, which were rather strange to us, and looked very pretty—Count Alfred de Limminghe, Ebenezer Pike, Engène Guleno, Jas de Sibra Carvalho, Rex Fernandez, Victor Lemoine, &c. Among stove plants we noticed neat specimens of *Stephanotis floribunda*, *Echites crassinoda*, *Rondeletia speciosa*, *Allamanda Schottii*, *Rhopala corcoradensis*, *Pandanus utilis*, &c., ranging from 4 feet to 6 feet in height, and generally as much in diameter.

The third division is a Peach-house of the same size as the first. The back wall is filled with one tree of the early Grosse Mignonne, and one of the Double Montagne. The rounded front or roof-trellis is occupied, or will be, with a Royal George Peach, brought from the open wall in December, 1860, and which produced in 1861 eight dozen of very fine fruit. The wood seemed in capital order in September, but Mr. Tobin had made up his mind not to overcrop next season, nor yet to test it to the full until thoroughly established.

In what may be termed the back range is a span-roofed greenhouse 50 feet long, 18 feet wide, with a flat stage; from stage to ridge-board 10 feet; from shelf, height at sides, 6 feet. This house was chiefly supplied with Fuchsias well grown, some Ferns, a few Begonias, and the hardier stove plants. The great proportion of the usual plants and good specimens were rusticated under the slight shade of a wall, to be ere long introduced into the house. Among these we noticed fine plants of *Azaleas*—as *Gledstanessii*, 5 feet by 4 feet; *Triumphans superba*, 6 feet by 4 feet in diameter of head; *Tricolor*, 5½ feet by 3 feet; *Exquisita alba*, 5 feet by 4 feet; *Marie Louise*, nearly 6 feet by 4 feet; *Ardens*, 5 feet by 4 feet; *Duke of Devonshire*, 4 feet by 2 feet; *Lateritia punctata*, 5 feet by 3 feet; *Semiduplex maculata*, 5 feet by 3 feet; *Concinna*, 5 feet by 3 feet; *Perfecta elegans*, 3 feet by 2½ feet; and several standards from 3 feet to 5 feet in height, forming nice heads; with many plants of smaller size, all healthy and bristling with flower-buds on well-ripened wood.

Among nice compact plants of *Heaths* there were two *Erica Cavendishii*, 3 feet by 2½ feet in diameter; *tricolor elegans*, 4 feet by 3 feet; *tricolor Wilsonii*, 4 feet by 3 feet; *ferruginea*, 2 feet by 2 feet; *Irbyana*, 3 feet by 2 feet; *tricolor*, 3 feet by 2 feet; *depressa*, 2 feet by 2 feet; *aristata major*, 2 feet by 1½ feet.

Among varieties were nice plants of *Leschenaultia biloba major*, 1½ foot by 1 foot in diameter; *Diosma bucco*, 2 feet by 3 feet; *Eriostemon buxifolium*, 4 feet by 3 feet; *E. pulchellum*, 4 feet by 2½ feet; *E. neriifolium*, 3 feet by 2 feet; *Pimelea Niepergiana*, 2½ feet by 2 feet; *Hardenbergia monophylla*, 5 feet by 3½ feet; *Epacris grandiflora*, 5 feet by 3 feet; *Hovea purpurea*, 6 feet by 3 feet; *Gastrobium Brownii*, 4 feet by 1½ foot; *Acacia grandis*, 6 feet by 3 feet; *Araucaria excelsa*, a pretty plant, 7 feet by 4 feet; *Pimelea decussata*, 3 feet by 2 feet; *Clethra arborea*, 7 feet by 4 feet; and good handsome *Camellias*, from 4 feet to 7 feet in height.

Among the newer *Rhododendrons* standing here, and also in the orchard-house, we noticed good plants of *R. Bletinn*, 4 feet by 3 feet; *Elfrida*, 4 feet by 4 feet; *Griswoodiensis*, 4 feet by 4 feet; *Calophyllum*, 2 feet by 1½ foot, with six fine large-awelled flower-buds; *Boothii*, 4 feet, with several flower-buds; and a nice plant of *Dallousianum*, with six strong well-swelled flower-buds.

There were also some pretty *Rose* plants in pots looking strong and healthy—such as *Blairii*, *Paul Ferras*, *La Reine*, *Coupe d'Hébé*, &c., ranging from 2 feet to 5 feet in height and from 2 feet to 3 feet in diameter, with which Mr. Tobin had secured the honours at the horticultural competition for five years successively.

We mention these plants that will ever be increasing in interest year after year, not only as testifying to the unremitting attention and skill of Mr. Tobin, but also as showing the liberality with which his worthy employer fosters a taste for the higher departments of gardening. From what we have mentioned of other places, and hope still to do, it will be seen that Mr. Grey has many associates. Whatever may have been in the times of the past, it is evident there is no backwardness in this respect in Ireland now. We question if anywhere in a similar amount of time, except immediately around the metropolis, we could have seen equal signs of progress in England. With many honourable exceptions there is something of a retrogressive character obtaining among us, as to the highest department of ornamental gardening. In many places great blazes of colour in summer are the all-in-all as respects ornament; and to secure that the gardener with very limited means must contrive to rear and plant from twenty to a hundred thousand plants, and then when the frost has swept them off, contrive not only for space again, but how with old materials he can make fresh arrangements and combinations the following year. A few shillings or a pound or two for bedding plants being all that he can obtain in the way of direct novelty. In this land of free masters, and free servants, even in such cases there is no right to complain, as, so long as we continue to serve, the wishes of an employer should ever regulate the particular direction of our labours. Still it is nothing but fair to state that the bedding system has not only vastly increased the labours and the anxieties of the gardener, but when ever so successful it does not yield him such pleasurable interest in his work, as the getting and growing specimens of good new things. Perhaps this latter fact might be one reason why in all the places we visited, the gardeners uniformly spoke so highly of their employers. But few ladies and gentlemen have any idea of the more than zest and encouragement it is to an intelligent gardener to obtain possession of desirable novelties as soon as they are in the market.

R. FISHER.

(To be continued.)

## THE WEATHER.

THE weather is very inclement here at present, and has been since the 13th. At that date the wind changed from W. to N.E., and has continued to blow from the east for the last twelve days. On the 13th the earth at 1 foot deep had reached 40°; but since then the temperature has fallen to 35° on the 22nd, and that temperature has been registered the last five days, which is 7° below the corresponding period of 1861, 5° lower than that of 1860, and 6° below the average.

At 4 feet from the ground the temperature has ranged between 45° and 24°, and the mean temperature 36°·5. Thermometer in sun's rays was not affected excepting on the 22nd, when it registered 68°. On the other days its reading was the same as that at 4 feet.

Snow fell on the evening of the 23rd, covering the ground 9 inches deep; and rain followed on Monday, amounting (with melted snow) to 1.55 inch during the twenty-four hours. The

day (March 26th), .78 inch of rain has fallen, making a total fall for the last four days of 2.51 inches.

Just as a weather problem for your weatherwise readers, I give the state of meteorological observations here at 9 P.M. of the 26th.

Barometer 29.596 inch. Thermometer at 4 feet 38°, on grass 36°, earth 1 foot deep 35°. Hygrometer, dry bulb, 38°; wet bulb, 38°. Amount of cloud, 10. Wind, east, calm. Rain, and densely overcast.

What is the benefit derived from meteorology if we cannot foretell future events?

Thanks, my grandfather (and he had it from his grandfather), used to be able to tell what would follow the changes of the sun being at the equinoxes. Acting upon his weatherology, I respectfully but reluctantly prognosticate, "This year we shall have a cold and wet spring, a prevalence of easterly winds, and but little range of temperature."—GEORGE ABBEY, *Bradford*.

## KEW GARDENS.

### EXTRACTS FROM SIR W. J. HOOKER'S REPORT.

THE number of visitors to the Royal Gardens during the year 1861 was 480,070, being 54,656 in excess of the year 1860. They were distributed in the following proportions:—Number on Sundays, 189,462; number on week days, 290,608. This is exclusive of the increasing number of persons engaged in scientific or commercial pursuits, who have visited the Museum, Herbarium, and Library, for the purpose of obtaining special information.

### BOTANIC GARDEN.

The means adopted for introducing Cinchona (trees yielding quinine) into the East Indies and our tropical Colonies, rank first in point of interest and importance of the works of the past year. In my report for 1860 I mentioned the erection, at the desire of the Secretary of State for India in Council, of a forcing-house, especially for the cultivation of the Cinchona, with the view of establishing plantations of them in India. The operations of the several parties organised to proceed into the Andes and procure young plants and seeds have been described in detailed reports laid before the Secretary of State for India, by Clements R. Markham, Esq. Upon the Royal Gardens devolved the duties of receiving and transmitting the seeds and plants to India, of raising a large crop of seedlings, of nursing the young stock, lest those sent on should perish or the seeds lose their vitality, and of recommending competent gardeners to take charge of the living plants from their native forests to the hill country of India, and to have the care of the new plantations there. Farther, with the sanction of the Indian and Colonial Governments, it was arranged that our West Indian Colonies and Ceylon should be supplied with a portion of the seeds. The results hitherto obtained are the following:—

In the Nilgherrie Hills, I am informed by Sir W. Denison (Governor of Madras), that there are at this time flourishing 3477 plants of the Red Bark, *Cinchona succirubra* (one of the best kinds), many of which are from 3 feet to 3 feet 9 inches in height; and 2370 of other kinds, equally healthy.\* Many of these are ready to be planted out in sites already selected by Mr. Markham.

In the Royal Gardens we have 2170 healthy young plants, which will be ready for transmission to India at the proper season.

In Ceylon, under the management of Mr. Thwaites, Director of the Royal Gardens at Peradenia, the experiment has been equally successful, in proportion to the quantity of seeds received. A plantation of different kinds is flourishing at Nevra-Ellis.

In Jamaica the *C. succirubra* is succeeding admirably. A quantity of healthy seedlings have been transported to a locality 4000 feet above the sea, and are now ready for planting out.

Mr. Wilson, the Superintendent of the Botanic Gardens there, has made a requisition to Government for 50 acres of land to form a plantation therewith, and for an assistant to take charge of the plantations.

Seeds were sent to Trinidad at the same time as to Ceylon and Jamaica, but unfortunately not one has germinated.

THE WINTER GARDEN, OR NEW LARGE CONSERVATORY.—Great progress has been made in the construction of this edifice,

for which the designs were supplied by Mr. Decimus Burton in 1859, and the tender of Messrs. Cubitt & Co., for the construction of the grand centre and two octagons, was accepted in 1860. This building, which is intended to supply our main desideratum—a means of cultivating the trees and shrubs of temperate climates, especially of our colonial possessions, and which will afford to the public an attractive and instructive resort during the winter months, will consist of—

	Length.	Breadth.	Height.
1. A grand centre .....	212.6	137.6	60 feet.
2. Two octagons .....	50	50	25 feet.
3. Two wings .....	112.6	62.6	37 feet 9 in.

These several portions communicate with each other by a long central vista.

The superficies will be 48,392 feet, or about 1 $\frac{1}{4}$  acre.\* Total length, including the vestibules, 583 feet.

Of these portions, the two octagons were completed during last autumn, and immediately filled from the overflowing contents of the conservatories in the Botanic Gardens. Workmen are now engaged on the grand centre, which is to be finished in the course of the ensuing autumn. The arrangements are completed for planting the trees, &c., in the ground of the main area, and the heating apparatus for the centre and octagons is fixed.

The erection of the magnificent spar of Douglas's Pine was also effected. This superb pole is unrivalled in Europe for height, symmetry, and excellence of material; it was presented to the Royal Gardens by Edward Stamp, Esq., and was erected not less on account of its ornamental character, than because, towering as it does to nearly twice the height of the fine trees around it, it is admirably calculated to exhibit to the public the relative size and bulk of the timber trees of one of our own colonies, British Columbia, where the forests, from which it was obtained, mainly consist of this kind of tree (*Abies Douglasii*), and where it often attains a height of 300 feet. For the erection of this spar, the services of a party of mast-makers from the Dockyard at Woolwich were liberally accorded by his Grace the Duke of Somerset; and the operation was successfully accomplished in May last, under the superintendence of Mr. Isaacs, the Inspector of that department. The following are its dimensions:—total length, 159 feet; diameter at heel, 1 foot 7 inches; cubic contents, 160 feet; weight, 4 tons 8 cwt. 2 qrs.; age, about 250 years. Total length of the original tree, about 220 feet.†

### SCIENTIFIC DEPARTMENT.—MUSEUMS.

These receive constant additions of objects of interest and value, and are annually more resorted to by persons in search of information regarding woods, drugs, dye-stuffs, textile materials, &c. During the last year the inquiries relating to timber have largely increased, and some valuable specimens have been received, especially from the Oak forests of the South of Europe and from West Africa; both procured by officers despatched by the Admiralty for the purpose. A large and very beautiful collection of specimens has been bequeathed to the Museum by the late Rev. Professor Henslow, of Cambridge.

HERBARIUM AND LIBRARY.—Large additions have been made to these, and especially to the Herbarium. Amongst these I would especially mention admirable collections from Western Tropical Africa, by Mr. Mann, particularly from the hitherto wholly unexplored high mountain regions of Fernando Po, Cameroons, &c.; from Eastern Tropical Africa, by Dr. Kirk, the energetic and accomplished companion of Dr. Livingstone; and by Dr. Seeman, whose mission to the Fiji Islands was mentioned in my report of 1859; also from the Secretary of State for India, who has made over to the Royal Gardens the enormous collection of plants that had been accumulating at the India House during the last thirty years; together with the whole of the MSS. and drawings of the late eminent botanist, Dr. Griffith.

I have also to announce the mission of a collector to Japan, under the joint auspices of our own Board and the Admiralty.

The most important step, however, taken in this department, has been the commencement of a uniform series of inexpensive Colonial Floras, which are urgently required by colonists, manufacturers, and travellers, as well as by scientific botanists, horticulturists, and amateurs, but which, owing to the labour and expense of compiling them, and the necessity of doing this in

\* A more recent letter from Governor Denison, dated 9th January, 1862, informs me that they have now upwards of 8000 plants in most vigorous growth.—W. J. H.

† Our Palm-house contains 24,000 feet superficies; the conservatory at Chatsworth, 15,276 feet; and that at Syon, 7785 feet.

† This will be exceeded by the Pine spar coming to the International Exhibition from Vancouver's Island, and which is to be erected in the Royal Horticultural Society's Garden at Kensington Gore. This gigantic spar is 230 feet long.

such an establishment as the Herbarium at Kew alone affords, can never be undertaken by private individuals unaided by Government.—W. J. HOOKER, *Director*.

### LATE GRAPES.

THERE are some men who may be called "Vine Tamers." They seem to do with that apparently pliant plant just as they will—cramping it into pots, twisting it into all sorts of odd shapes, pruning it this way and that way, and finally decreeing that it shall produce fruit just at the time they desiderate. Of these men Mr. Hill, gardener to Ralph Sneyd, Esq., of Keele Hall, is one. We have received from that gentleman a bunch of Lady Downe's Seedling on this 2nd of April as fine as it is possible for it to be produced. It has been ripe ever since last August, and by Mr. Hill's skill has been preserved all the time without a shrivel or a blemish upon it. We sometimes hear it said, "There is nothing new in gardening." "Old Miller knew quite as much as we do." Such observations may refer to Cabbage gardening, but horticulture is a science, and must progress. What would "old Miller" have said to new Grapes on New Year's-day, like Mr. Thomson's, or to these old Grapes on the 2nd of April of Mr. Hill's?

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

As the opportunities of proceeding with work here have been but occasional owing to the frequent occurrence of rain, every opportunity should be embraced for completing the important operations which belong to this period. *Basil*, a warm sheltered spot may now be chosen to sow in the open ground; but to insure success it is a better plan to sow in pans on a slight hotbed, and afterwards to plant it out. *Beans*, earth-up the early crops, but before doing so lay a little soot close to the stems; timely earthing will also prevent the wind damaging them. *Cabbage*, pull up any of the plants that are running to seed in the autumn plantations, and fill up from the reserve-bed; at the same time stir the soil between the plants and earth them up. *Carrots*, thin-out those in frames, and sow the main crop if not already done. *Celery*, the main sowing for the winter crop should now be made. Continue to prick out from the early sowings. *Gherkins*, an early sowing of them, and also of *Nasturtium*, may now be made, they will require a gentle heat and to be gradually hardened-off before transplanting. *Kidney Beans*, a sowing may now be made in early localities. The early sowing of this useful vegetable is sometimes cut off above the ground by late spring frosts, but the portion beneath the surface of the soil occasionally throws up shoots, from which a crop will be produced nearly as soon as if the leaders had remained uninjured. *Lettuce*, give air to the plants in frames night and day in mild weather. Loosen the soil about those planted in the open ground. *Sea-kale*, remove the covering immediately it is done with; if there is any yet to be covered, let it be done before it grows much. Box-edgings should be clipped immediately.

#### FLOWER GARDEN.

If not already done patches of some of the most showy hardy annuals should now be sown in vacant places, which usually exist in the herbaceous-beds and in the edges of clumps and borders in the shrubbery. A sufficient quantity of cuttings and seedlings of half-hardy climbers should now be potted for planting out in May, Cobæas, Maurandyas, Lophospermums, Tropæolums, and other such plants would be found useful for covering bare places on walls, fences, and trellises, which otherwise would give an unsightly and unfinished appearance to the place. Pot-off Carnations and Picotees as soon as the weather will permit. Have the turf swept, well rolled, and made thoroughly firm without loss of time, and remember if the first mowing is deferred till the grass gets long it will require much time and labour to get the turf into proper order. I called a few days ago on my friend Mr. Marcham, Nurseryman, Earl's Court, Kensington; he was then busily engaged arranging his flower garden with Daisies and Heartsease of various distinct colours, Cerastium tomentosum, Forget-me-not, London Pride, and other such spring-flowering plants; and as an experiment he had marked out several devices, such as V.R., the Prince of Wales's Feather, and others separately on the beds, each device to be distinctly defined by the arrangement of the colours in each bed. Persevere in stirring the surface of the beds of Pinks, Pansies, &c., after rains,

Propagate Pansies for succession, and fill up vacancies that occur in the beds. The Chrysanthemums will now be well rooted; pot them off singly into small pots, to be occasionally stopped as they progress in growth, to have dwarf sturdy plants.

#### FRUIT GARDEN.

Disbud Peach and Apricot trees: this should not be done severely at once, it is better to go over trees three or four times for this purpose, removing a certain proportion each time.

#### GREENHOUSE AND CONSERVATORY.

Continue to shift the greenhouse plants which require it. Pelargoniums and Calceolarias for early blooming to be kept comparatively close and frequently syringed. Take care before potting that the old balls of Heath and other hard-wooded plants are sufficiently moist, as it will be impossible afterwards to moisten them properly without saturating and souring the fresh soil. A succession of Achimenes to flower late in the autumn to be placed in heat. Climbers, both in pots and borders, to have due attention, retaining no more shoots than will be required for the allotted space. The leading shoots of Epacris, Heaths, Chorozemas, Correas, together with as many others as produce the best effect in a bushy condition, to be frequently pinched back or stopped to produce good specimens.

#### FORCING-PIT.

As the season for forcing flowers is now drawing to a close, this structure will be useful to give additional encouragement to Clerodendrons and other such free-growing plants which require plenty of room. Some of the plants may also be removed from the dung-frames to this pit to make room for Balsams, Cockscombs, Globe Amaranths, and other plants for the summer and autumn decoration of the greenhouse and conservatory.

#### PITS AND FRAMES.

Scarlet Geraniums, Petunias, Verbenas, Calceolarias, and other plants for bedding-out may be removed to cold pits or frames, that a hardy habit may be induced preparatory to being planted out. If plunged in old tan, ashes, or other light material, much of the labour of watering will be saved, and the plants will be in a better state when the planting-out season arrives. Calceolarias, Verbenas and other young stock intended either for decorating the flower-beds, or for succession in pots, to be pinched back to make them bushy. If no plan has been formed for the arrangement of gay masses of flowers, it should be done forthwith in order that sufficient stock may be got together without delay. Not a moment's time should be lost in propagating extra things for the purpose. Choice Carnations and Picotees may soon be turned out into the beds or borders; three in a group, in rich soil, produce a fine effect. The Mimulus family may soon be planted in fresh patches in a moist soil and situation, not forgetting the Musk, which should be removed in large patches.

W. KEANE.

### DOINGS OF THE LAST WEEK.

THESE doings out of doors have been but few, as the rains and Scotch mists still continue, and with but little signs of intermission. On Tuesday, the 1st of April, the glass rose, and having been rather dry on Monday, we hoped to be able to sow Onions; but the showers came down in torrents in the afternoon, and on Wednesday continued without intermission. In our heavy soil there has not been a chance of Onion-sowing; for I have long proved that the middle of March is quite early enough for us, and for early Onions it is better to depend upon autumn sowing, and transplant these early in spring, merely fastening the roots, and leaving the bottom of the stem just on rather than in the ground. No thinning of autumn-sown Onions will be equal for bulbing to transplanted ones. If not clearing up soon we will sow a bed thick, and transplant them likewise. We got out a portion of what is intended for the first Peas and Beans from under a slight protection; but we could not finish even that. Pea-sticks have been prepared under shed-covering, and stakes and tallies of all kinds made, and every dirty pot washed as soon as emptied. Planted out more Dwarf Kidney Beans, and removed the early Potatoes in pots to the orchard-house, now of a nice size and the skins firm. Pricked-off Capsicums, Tomatoes, and many other seedlings, Celery, &c., finding difficulty to hold them all.

#### FRUIT GARDEN.

Chiefly confined to work of routine. Changed Strawberry-pots, and brought in fresh gently started a little under glass;

there could scarcely be worse weather for *Éac*-flavoured fruit, and a few hours' sun would do much service to orchard-houses now in full bloom. Find there is a black beetle on the Peach trees this season that never troubled us before—a lazy, inert rascal that seems to multiply by myriads, and pastils, tobacco, and other things seem next to powerless against it.\* We have been forced to squeeze and wash. I never saw one of the gentry before this season, and now even some of the young trees are clustered with them near the buds. What a fine thing for the spontaneous-production theorist! Of course, the old ones must have come across us, and deposited their eggs last season. Our Muscats do not break so kindly this season as usual—partly owing, we think, to extra heavy crops for many years, the extreme hardness of the wood last season though not strong, and the not protecting the borders from wet so much as we used to do. We fear the crop will not be so regular as usual, and that there will not be so many bunches to cut off for tarts, which when used shortly after setting would puzzle an epicure to distinguish from young Gooseberries. It is just likely we may leave too many after all; but it is more pleasant to cut off half a dozen bunches for every one left than to have to wish that there had been more of them. A little sun would be a great help to everything under glass, and out of doors too.

#### FLOWER DEPARTMENT.

Rolled the lawn when possible, the grass growing amazingly. Planted out Pinks and Carnations; divided herbaceous plants, and forked over the beds when possible. Propagated Neapolitan and other Violets under a hand-light, though dividing the plants into little bits does very well; the great thing in the Neapolitan is to encourage the crown, but never allow a runner to grow all the summer without being nipped off. Pricked-off Primulas, Polyanthus, and Hearts-ease. Made cuttings of Dahlias, chiefly those intended for bedding, and will divide the roots ere long. Pricked-off Lobelias. Made cuttings of *Cineraria maritima* as detailed last week, and though we got some four hundred—the young shoots not coming fast enough to our mind—we took the old roots, packed them thickly in soil in moveable boxes, and set them in a Peach-house at work, so as to hasten them on a little. We consider no old plant or part of an old plant is safe for edgings because so liable to spindle into flower-stems. These young plants raised from little slips scarcely ever show a flower-stem the first year afterwards. Singularly enough many plants stood out last winter twelve months ago here uninjured. A row of some five hundred seedlings last year left to see what the winter would do are almost entirely gone. The wet seemed to have done for them what the frosts of the preceding winter failed to accomplish. Potted *Primula sinensis* for late-flowering, Geraniums, &c. Cut down Begonias, Poinsettias, Eranthemums, &c. Put a few cuttings in. Potted-off *Fuchsias* just struck and older plants growing, and stopped the oldest in large pots, to make them bushy. Removed fading *Cinerarias*, and introduced fresh, and potted more. Looked after Orchids beginning to grow. Regulated climbers. Picked-off decaying blooms of Camellias; none are yet fit for more heat, and that is as well, as I have not a corner to give them the chance. Potted Roses just struck, and put in more cuttings, cutting to a joint, and leaving part of the shoot there, moving the leaves, if any, from the joint and bud above. Potted *Gloxinias* and fine-leaved Begonias, the latter disliking too much room, but glorying in open rich soil. The weather has put a stop to our *Calceolaria*-planting, though the plants want moving badly. Some of the earth-pits got so wet that we dug a deep hole in a corner to collect and thus get rid of the extra water. We must go ahead in this work as soon as the soil becomes moderately mellow.

#### BOILERS.

To add to our trouble in such weather, a boiler gave way that heats three pits filled to overflowing with many things—as Cucumbers, &c., too tender to depend upon atmospheric heat. I mention this chiefly because, as I am not in a particular hurry about a boiler, I should like some evidence from friends and correspondents, as to the relative endurance of cast metal and wrought-iron. I chronicled how a boiler that heated a conservatory gave way in the severe weather, at Christmas, a twelve-month ago. That was wrought-iron from an eminent country firm. The present is a large-saddle-back, from a then-celebrated metropolitan firm. The first lasted some eighteen years, the second about fifteen or sixteen years. In the first case the iron

over the fire was worn to the thickness of a mere film. In this last case the fault was not over the fireplace, but on the outside next to the smoke-flue on the side. The water poured out at the soot-plate. The boiler is about 3 feet in length. On putting a candle on the end of a stick we could see the water issuing in several streams. It took us the most of that day to get down to it by removing the brickwork. We could put our fingers through the iron for a space of several inches, and on clearing the boiler of scales, two other places were found where a child's hand could go through. Now, we make it a rule to clear out these flues very frequently with a wooden hoe and stiff brush. Yet, nevertheless, the smoke and the soot had thus perished the iron. There are two small metal boilers on the place, that I should suppose have not been emptied for a score of years, and nobody seems to know anything about their age. Now, these two series of facts would seem to be in favour of metal boilers, though as I have seen them crack within a few hours of the fire being lighted, the subject is one well deserving elucidation by facts. No doubt some will say it was time they were burned out, but that is not to the purpose. I have known boilers taken out before they had done half as much service; but then the owner of a garden does not like these mischances too often, and most generally such things happen in the very worst time.

"How coolly 'R. F.' takes it in being in no such hurry for a boiler." Well, by removing about half the pile of brickwork which people will insist on having round and above boilers, we managed to make it waterproof again in a very simple way, and with little or nothing in the shape of tinkering—the how we might leave at least for a time for our young friends to decide. So that now I feel pretty secure, but should not like to trust long, lest the other side should give way in the same manner.—R. F.

#### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

CUTTING-DOWN *CLEMATIS VITICELLA VENOSA* (*Amateur*).—This *Clematis* on a south wall, and all the new *Clematises* from Japan and the Continent, ought most certainly to be cut down to the ground annually for the first three years.

ANEMONE APENNINA (*Idem*).—This, and *Anemone ranunculoides* with us, require to be lifted and divided every year, else they will not bloom freely; but where they bloom they need not be lifted often than once in four or five years. We do not dry them, but separate the roots, and plant the biggest of them the same day. We have them both now just going out of bloom, and pretty spring flowers they are too; with such plants as *Hepaticas*, *Anemone amplexicaulis*, *Triteleja uniflora*, and *Ajox minor* all in bloom together.

CALAMPÉLIS SCABER (*Idem*).—This, the good old *Eceremocarpus*, has been so often cut down by the frost, that close cutting is now unnecessary for it—that is to say, the roots must have come to that state by this time, that they can send up stems of sufficient capacity to receive all the sap as it comes and look for more; whereas, without such cutting, the spindly growth of the first few years is not able to pass up one fourth part of the quantity of sap in the roots. The consequence is they, the bottom part of the shoots, get as hide-bound as *Manetti*, and the space allotted for the climber is not filled up in one-half the time it might be.

VALLOTA PURPUREA (*Idem*).—It would stand out with you in Tyrone as well as *Agapanthus*; but then the question is, would it also bear to lose the leaves with impunity like *Agapanthus*? Just try, and let us hear. The great English experimenter of the geothermal system of growing all such plants with bottom heat in the open air, told us the other day that of all the hundreds of plants he tried that way *Vallota purpurea* did the best, and seemed to approve of the plan the most.

VARIEGATED ONONIS (*Somebody*).—Your seeds, for which we are thankful, may be those of the *Ononis variegata*, which is not a true variegation, but a natural striation, and comes from seeds as the hairiness of *Cineraria maritima*, which is not a variegated plant, neither is *Cerastium tomentosum*.

COCOA-NUT FIBRE REFUSE (*An Irish Amateur*).—If sifted, so as to take away the fibres, the brown powder is the correct refuse.

TURKISH-ROOTED CELERY (*Old Deer*).—It is also called *Celeriac* (*Apium graveolens rapaceum*), and full particulars of its culture are given in *The Cottage Gardener's Dictionary*. Celery is much preferable. *Carter's Champion* is a very good smooth-skinned *Cucumber*.

\* Larvæ of *Aphis persicæ*.—Eds.

**PHENOCOMA (H. H.).**—It has been starved for want of water, and then been glutted. Let it alone as it shows flower-buds. Give it, when dry, a little manure water of a cool kind, and when done flowering prune back, and set in a close, warmer place, and whenever there are signs of growth repeat in the same size pot, getting rid of a good deal of the old soil.

**LIQUID MANURE (C. R. B.).**—This, which you require for greenhouse plants, may be made of sheep's-dung, a peck to thirty gallons of water. Cowdung may be used, a peck to twenty gallons, but the water should be boiling, as this dung is liable to contain the larvæ of injurious insects. Five ounces of guano to ten gallons of water is also a good liquid manure. Superphosphate of lime, one pound to twelve gallons of water, will benefit your Pelargoniums. All the preparation required by any of these liquid manures, is to let them remain undisturbed until quite clear, and then to pour off the clear portion for use.

**LIME WATER (A Subscriber, St. Nicholas).**—One peck of lime to forty gallons of water makes the lime water required for killing worms on lawns.

**INDICES (G. D.).**—That for Vol. XIV. can be had free by post for three penny postage stamps. That for Vol. XV. is out of print.

**HIPPEASTRUMS AND DISA GRANDIFLORA (S. S. S.).**—Your means and your practice would only increase your trouble were you to attempt these flowers. You say that you cannot have Mignonette or force a *Deutzia gracilis*: therefore, your money and your patience too, would be lost were you to embark in the higher flights in gardening. Buy our "In-door Gardening for the Many," and master the directions there given. Next week we shall give a chapter on Hippeastrums, if only to assist the Royal Horticultural Society, who now make them a standing number in their schedule of prizes.

**NOTCHING FRUIT TREES (G. K., Subscriber).**—You are just in time to notch. Now is as good a time as any in all the year.

**ANNUALS FOR BORDERING GERANIUM-BEDS (R. I. D.).**—The most lasting annuals to plant round an oval of Scarlet Geraniums are *Saponaria calabrica*, *Sanvitalia procumbens*, the dwarf French Marigold, and the tall botanical Marigold called *Tagetes tenuifolia*. These four will last out the whole season till the frost comes, from seeds sown just now. The first is a bright pink; the rest are yellow.

**LAURELS DYING (Idem).**—These, failing after two years in front of that wall, die entirely by inches for want of food. Nobody ever planted Laurels in such a scorching place without first trenching and improving the ground, and yours has not been even trenched, nor yet dug one-half the depth to keep Mignonette alive. Just try and prove the fact. But the fact is, not one out of one hundred ever does justice to ground for Laurels, and some few do too much to it as we now know to our cost. We have loads of it to cut out every year to keep it at all within bounds.

**GLASS STRUCTURES (Tokay).**—We would have a hipped roof for conservatory or greenhouse, which would give the advantage of the north wall, and then take a span-house north and south from it, like the leg of the letter T. If you wished a wide house make a double span. We prefer such a house for your purpose to one facing the south. We do not equally approve of a span running east and west, as there is only one side for direct sun. We find as respects glass that fifteen-ounce, called sixteen-ounce—in fact, ranging from 13½ to 16½, will yield and bend when a hailstone or other missile will break twenty-one-ounce. However, on the whole we think twenty-one-ounce the cheapest in the end. See notice of a new style of houses at p. 6. Yours from the position should be elegant.

**WORMS (A Subscriber).**—You will see a recipe for lime water in answer to another correspondent. It is quite as effectual as any other application, and not dangerous. The chemical mixture you allude to probably is corrosive sublimate, but it is a deadly poison. London's "Hortus Britannicus" will suit you better than his "Encyclopædia of Plants."

**COCOA-NUT FIBRE REFUSE (Swansea).**—The sample has not the slightest resemblance to the refuse useful for garden purposes. We have said that the true is like brown rappee snuff, but yours are bristles.

**RIBBON-BORDERS (F. A. Martineau).**—All your plants will do except *Petunia* between the two Geraniums, *Petunias* being bad in any part of a ribbon by the bother they give to keep them in their places. We had seventy-five yards of the *nyctaginiflora* to keep in form in the fourth row of a nine-row border for some years, and that *Petunia* occasioned more trouble than the eight other rows put together. Nevertheless, when one can manage them, some *Petunias* make grand rows.

**STOVE FERNS (J. L., Yorkshire).**—By plunging the pots in a hotbed of tan they will grow faster, but unless the tan is kept fresh you will be apt to be troubled with worms in the pots, which will more than neutralise the advantage. All things considered, the stand will be best. The north aspect will be best for most Ferns; but where the light is too strong, the glass may be shaded or muffled.

**WATERING VINES WHEN STONING (Idem).**—The Vines may be watered if dry, which we can only conceive of them from being planted inside the house. The manure water we fear would be rather strong if not diluted. We suppose the chill was taken off it. We suspect the honeydew is the result of too much watering in dull weather. The leaves cannot evaporate the moisture—you had better sponge it off.

**STOVE FOR A GREENHOUSE (Tyro, Blackpool).**—No stove without a chimney can be used among plants without injuring them. As you cannot have a chimney, we recommend you to have a small gas-stove constructed like Mr. Lichfield's, as mentioned at page 15 of our last Number.

**PINE APPLE SOIL (R. E.).**—The cocoa-nut fibre refuse is not for Pine Apples at all, unless you had very sickly ones, which the refuse would soon put on their legs again—fit for the very best strong, well-pulverised, but knotty loam. Brick earth, like yours, is altogether unfitted for growing Pines in; but Mr. Beaton tells us that if one-third the quantity of the refuse were to be added to any sort of clay, and kept in a ridge for full two years, and to be turned four times a year in very dry weather, he thinks it would make an excellent soil for Melons, Pine Apples, Palms, and Musas. No garden plant will flourish in your soil. We would pare and burn it. The burnt soil mixed with the top spit would much improve the staple.

**EARLY GRAPE (Viator).**—We have never yet seen or heard of Grapes so early, or at all like those of Mr. Thomson's, of Falkcith. The earliest besides we ever saw were produced in the second week of February, and were little scraggy bunches, and the fruit, though coloured, unripe. Mr. Thomson's are bunches worthy of August, and in flavour not to be surpassed.

**TURF PITS (Edith).**—Turf pits are made by laying the turves say a foot wide longitudinally on each other. Mr. Fish's Calceolaria-pits are from 4½ feet to 5 feet wide, 6 inches in front above the level, and 15 inches at back, and from 6 inches to 9 inches below the level. The earth taken out forms the chief part of the walls, with a layer of turf here and there to keep it firmer; a layer of turf covers all outside for neatness. He prefers turf altogether when it can be had, and the bed to be as high as the surrounding surface; those so raised have been little affected by the late continuous rains. Those sunk, required a hole 2 feet or 3 feet deep to be sunk at the lowest corner to receive the excess of water; but such a season rarely happens in March. When much larger than the above a few posts—say 5 feet apart, are driven in the line of the turf, and a rail placed along the top. We have turf walls thus formed from 2 feet to 4 feet in height, and a sloping grass bank has kept the turf dry for years. Mr. Fish also uses four-foot Celery-beds for similar purposes; the Celery comes in after the plants are removed. If you get some fresh tan and throw it in a heap until it ferments, about 2 feet of that will be deep enough for the purposes you want.

**CENTRE BED (H. B.).**—As you have "most of Beaton's Nosegays at command," put a thick row of his *Carmine Nosegay* round the Golden Hollies and inside the Variegated Mint, and you will never regret it. If you have not got that Nosegay put in Christina instead.

**VARIOUS (Tyro).**—The "Osage Orange" is not an Orange, but belongs to the Natural Order Moraceæ. Its botanical name is *Maclura aurantiaca*. The Citrus fruit you enclosed is some kind of Lime. The plant you enclosed a spray of is *Kuscus hypoglossum*, it has the same properties as the common Butcher's Broom, *R. aculeatus*. Your *Eucharis amazonica* having one spike with three flower-buds, and another spike with four, is a good specimen. After they have flowered part the bulbs and grow them singly in small pots.

**INSECTS (G. C. C.).**—The Caterpillar which has gnawed out the interior of young Ash branches, is that of the Wood Leopard Moth (*Zenzera Esculi*). (*Aron*).—The Beetle which has been so injurious to Vines this spring is the *Othiorhynchus sulcatus*, or Striped-back Weevil. It should be hunted for with a lantern after nightfall, when it will be found on the leaves and twigs. (*R. F.*)—You Peach blooms and twigs are infested with the young black larvæ of the Aphides attached to that tree, *A. persicæ*, upon which there is an excellent memoir by Morrens.—W. W.

**BACK NUMBERS (C. B.).**—You can have from our office, from No. 2 to No. 12, both inclusive, of Vol. XXIII.; but No. 1 of that Vol. is out of print. We can let you have Vol. XXIII. complete, and in its cloth cover.

**WALTONIAN CASES (M. H.).**—The boiler must have been allowed to become dry while the lamp continued to burn. Zinc, we should think, must be employed to mend it; but you had better consult the maker.

**GOOSEBERRY CATERPILLAR (A Subscriber, Te'worth Hall).**—We know of no other preventive than tan, as we recommended; unless taking off the surface soil 3 inches deep and burning it might be effectual. If the Caterpillars come there is no mode of destroying them but by hand-picking, or dredging with white hellebore powder.

**RUSSIAN AND OTHER VIOLETS (B. Westy).**—To grow these plants to perfection, a rather deep loamy soil is necessary, stiff rather than light, the situation quite open. It may, however, be sheltered from the north and other cold winds. Trench and prepare the ground some time before planting, but if it be in good condition dug is not wanted, as that causes the plants to run too much to leaf. Take off rooted layers or offsets as early in the season as they are to be had, and plant them out on the ground so prepared. Rows about 15 inches apart, and the plants about a foot from each other in the row will do very well, and if the weather be moist at the time of planting they will in general start at once and grow; but in long periods of dry weather red spider is apt to attack them. Dusting the plants with sulphur underneath the leaves as well as above will, to a certain extent, check it, giving them at the same time a good watering with weak liquid manure; but one of the great secrets in obtaining good well-formed plants loaded with bloom, is to pick off all runners as they appear. Attention to these matters, and with a soil suitable to their growth, success is certain; and if you want to force *Violets*, the same course must be adopted, only endeavour to get them matured as early in the preceding season as possible, and do not hasten them on too fast, as the plant will only produce leaves if hurried on at improper speed.

**LOBELIA SPECIOSA—PERILLA AND AGERATUM (J. T., Tadcaster).**—The seedlings now up on a gentle hotbed ought to make good bedding plants and flower this summer. No public journalists ought to say where such and such plants or seeds are to be bought; that would be recommending one dealer at the expense of others, and would be most unfair. Any nurseryman who advertises in our columns can obtain any plant or packet of seeds that is on sale in Europe for any one who orders and pays for them.

**CUTTING DOWN ORANGE TREES (E. C.).**—If your Orange trees were in an unhealthy condition, your gardener did not act unwisely in cutting them down, although by your sketch he may have cut them lower than we should have been inclined to do, as we would only have cut them in severely, much in the same way as an old standard Apple or Pear tree is cut down to graft afresh, the limbs being cut off a short distance from the main bole. If, in addition to this, the roots were thoroughly examined, and dead and useless ones cut away, and the tree reotted in fresh soil with plenty of drainage, and the plants set in a warm close house, it is likely they will break and make fine heads by autumn. It is also good practice to tie moss loosely around the stems and branches, and to keep it always moist by syringing, taking care to remove it by degrees when the small shoots appear. But the moist atmosphere of an ordinaryinery in the course of forcing will usually suffice for this, taking care, however, that the roots do not get saturated with superfluous water at a time when there is no foliage to absorb it. In repotting it is not unlikely but smaller pots will do when the roots are pruned.

**NARCISSUS (M. B.).**—The upper half of a leaf ought to be sent with the flowers of all sorts of bulbs if they have them. No class of bulbs is more difficult to determine from single flowers than Narcissus. Yours is the good old "Butter and Eggs," *Narcissus aurantiaca flore pleno* of old books, and the *Quetta aurantiaca* of modern classification, one of the richest of all yellow Narcissus. Pray can you spare a root or two of it when the leaves die down? Pray also make us a memorandum on the posture of the seed-pods after the flowers are past—now they are horizontal from the scape. Some do and some do not turn up the seed-pods quite erect as the seeds advance to maturity; but we are not certain which of the postures the "Butter and Eggs" take to at last.

**CAREX FRASERI** (*A. R., Fromley*).—This, the finest of all that rigid race, is a native of sedge places in North America, and requires much about the same kind of soil and treatment in every respect as *Disa grandiflora*—that is to say, as an evergreen bog plant, requiring to be kept out of the sun in very hot weather, and not to be exposed to the vicissitudes of a variable climate like ours in winter. The snow keeps it warm at home.

**SOWING COCKSCOMBS AND BALSAMS** (*A Subscriber, Bath*).—No time must be lost in sowing Cockscombs to obtain good large heads for August; and when the plants are fit to handle, prick them off into a pan or box for a time, as it saves the watering of so many small pots; but they ought never to be allowed to stand so as to get a check, but pot off as soon as you see they require it, and continue to repot afterwards until they are placed in the pots you intend them to permanently remain in. A close frame or hotbed is the best place for them, with frequent syringings and a rich soil. Balsams require more air and arrive sooner at maturity: therefore, about the 1st May will be soon enough to sow for what you want. A good bottom heat and plenty of top air, amounting in fine weather to total exposure, is what they do best in, as by that means good bushy short-jointed plants are obtained. We presume you have a good variety, as much depends on that. Balsams from the first must have separate pots, but ought never to get pot-bound.

**NAMES OF PLANTS** (*Warwickshire*).—1. *Siphocampylus bicolor*; 2. *Origanum siveolum*.—(*R. E., Monmouth*).—A large frond of *Polystichum angulare lobatum*. We found no other. (*B. W.*).—Sphagnum is a kind of pale-coloured Moss found abundantly in wet boggy places. The *Cystopteris* is nothing but *C. fragilis*. The other frond appears to be a narrow and somewhat revolute variety of *Blechnum spicant*, but we do not recognise it as a named variety.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY, &c., SHOWS.

MAY 14th and 16th. TAUNTON and SOMERSET. *Sec.*, Charles Ballance, Esq., Taunton.

MAY 27th, 28th and 29th. BATH AND WEST OF ENGLAND (City of Wells). *Steward*, S. Pitman, Esq., Manor House, Taunton. Entries close May 1. MAY 25th and 29th. HULL AND EAST RIDING OF YORKSHIRE. *Sec.*, Mr. J. Hooton. Entries close May 14th.

JUNE 3rd. ESSEX AGRICULTURAL ASSOCIATION. *Sec.*, R. Emson, Slough House, Halstead. Entries close May 10th.

JUNE 4th and 5th. BEVERLEY AND EAST RIDING. *Sec.*, Mr. Harry Adams. JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. *Secs.*, E. Holdsworth and J. Wade.

### WILD FOWL.

AMONG other erroneous notions that have prevented many from indulging a taste for keeping aquatic birds, is one that a "piece of water" is necessary. Now, this implies nothing less than a lake or very large pond; and, in the mind's eye, it is studded with islands, and peopled with flocks of fowl. Like many other notions this is a wrong one. On such a piece of water, if there be hundreds of birds, many of them large, of the Goose tribe, and by far the greater number of the common Wild Ducks, some will always be visible; but the amateur of beauty of plumage, or one who seeks to have really tame and familiar birds will be disappointed; they will be hiding away—rendered shy by the space granted to them, and by the facility for concealment. He who has lakes at his disposal must, if he will enjoy tame wild fowl, resort to the limits imposed by necessity on those for whom we write these papers. As in those that treated on Pheasants, our aim is to show (and we write from experience) how easily and inexpensively these tastes may be encouraged. It is not impossible to keep wild fowl in London, but it would be difficult except where there are gardens. Our remarks, then, are addressed to those who have these luxuries, and this will include most of those who live in country towns and their suburbs. In these and similar papers we may publish from time to time, it must be borne in mind when we give limits or measurement, it is not because such are in any way necessary, but to show how little is essentially required to indulge the pursuit, and to enable the birds to be properly kept.

Many descriptions of wild fowl are in keeping with a flower garden: they are things of beauty, colour, and contrast. Most persons are acquainted with the marvellously-beautiful plumage of the Mandarin and Carolina Ducks: they are also very hardy, more so than many of the commoner sorts; but they are expensive, and we will, therefore, pass them by. We will speak of others that have beauty, and are yet easy of attainment at a moderate cost. The Dun bird, or red-headed Pochard, with his red head and neck, grey breast, and bright red eye; the Tufted Duck with his rich purple black head, neck, and back, his white side and breast, his falling crest and golden eye; the merry whistling Widgeon with his varied plumage; the spotted-breasted Teal with his green face, chestnut head, bright streaming saddle-feathers and lustrous wing; the Garganey with its white-striped face, beautiful breast, blue wing, and white and blue streaming feathers; the elegant Pintail with its long taper neck, blue and black striped bill, and brown and white striped neck, its long

tail giving it the name of the Lea Pheasant; the Gadwall with its maroon-patched wing and curiously waved breast; and the Shoveller with its rich variety of colour. All these are to be purchased for small sums, often only a few shillings per pair.

They have been bred wild, and so long as they can indulge the instincts of such a state they do so; but it is astonishing how soon they become tame after they have discovered they cannot get out of their new place. As they will not be convinced till after thorough inspection, care must be taken to make all secure, and this will bring us to describe such a place as is necessary wherein to keep four or five pairs of these beautiful birds, a piece of water 8 feet long by 4 feet wide, and 18 inches deep; a rough pollard stem put in the middle of it adds to the appearance, and is pleasing to the birds. The water should be surrounded by from 3 feet to 4 feet of grass, and this should be planted with small shrubs, and such as have branches close to the ground. It is well the water should not be level with the grass; but there should be three or four places as far apart as can be, where the bank should be cut through to afford landing-places for the Ducks: these should be paved with large pebbles. This enclosure should be made secure by means of wire netting stretched around it. It should be from 3 feet to 4 feet high, and must be close to the ground all round: this is absolutely necessary.

(To be continued.)

### POINTS IN GOLDEN-SPANGLED HAMBURGH COCK.

POOR "YORKSHIREMAN!" When will he learn the points required in the above breed? or how much longer must he keep and breed them before his judgment equals those who reside in other counties?

It is quite new "to me" to hear that Yorkshiremen love, or prefer a black breast to a spangled one. I thought all fanciers concurred the latter was essential.

In a correspondence which took place about twelve months ago, what I believe to be the true characteristics of the breed were then stated—viz., "a well-serrated comb not too broad, firmly fixed and straight on the head, and good spike behind; ear-lobes white; hackle deep gold, striped down the centre with black; saddle to match; breast well mooned with green black moons; back and upper part of wing a good maroon, with two distinct bars across, separating the flight-feathers; tail green-black, and ample; legs blue."

Should my judgment be at fault I shall be glad to be put right; as the nearest approach to the above are what I send out as good specimens, and think I am not far from the mark, as I was breeder of birds which took prizes at the late shows—Birmingham, York, Crystal Palace, Manchester, and Liverpool. But a black-breasted hollow-combed bird I never keep to breed from; as to the ear-lobe being lightly flushed with pink it should not mar the bird's success, being superior in other points. Ear-lobe alone should not rule entirely, and black breasts will only be loved by some jolly old Yorkshiremen. Mr. Dixon, Mr. Berwick, and several others, never show black-breasted birds, and the way the question was answered in your Journal of March 4th I thought cast a slur upon all Yorkshire breeders, exhibitors, and judges. And as I only get the Journal monthly, it came in on April 1st—a day that all fools meddle, this is my apology for interfering.—YORKSHIREMAN, Ripon.

**HEN WITH MALE PLUMAGE.**—There is belonging to a person close to my house a Silver Hamburgh, three years old. In the second year she laid two sets of eggs, which were hatched under another hen. In her third year she moulted, and she has now the plumage of the cock, the hackles on the head, and neck, and rump, and the long tail-feathers. She does not lay now, and is sickly.—A SUBSCRIBER.

[It is not at all unusual for old hens to acquire the plumage of the male bird. They lose their productive power at the same time.—EDS.]

### STINGING BY LIGURIAN BEES.

I CAN fully endorse the statement of your correspondent Mr. Barrell, as to the comparative innocuousness of the sting of the Ligurian bee. A few days since, whilst engaged in changing

the floor-board of my Ligurian stock, I accidentally jarred the hive: this apparently irritated the bees very much, for they instantly poured out and covered me. Two of them left their stings in my hand and wrist. The pain and swelling, however, yielded to the speedy application of a little tincture of arnica, and in a few minutes had entirely subsided.

Upon several previous occasions I have experienced a similar slight inconvenience from the sting of the Ligurian bee, although upon many occasions I have suffered most acutely when I have been stung by the common black bee. A pinch of tobacco soaked in water, and applied instantly, seems to be the best remedy, and generally subdues the swelling and irritation.—RECTOR.

**BOTTLE-FEEDERS—FLAT-TOPPED HIVES—  
VENTILATION AND FUMIGATION.**

THE London feeding-bottle will do very well if you have the hives in a bee-house, but it is very awkward if outside, as you cannot put a milk-pan or anything on; I would therefore suggest that they should be made of a low flat shape, the neck going into the hole of a straw hive or standing on top of a box-hive, and this would not expose the top to the cold and wet weather.

Can any of your correspondents inform me what advantage flat-topped hives have over the conical ones? as I fancy the conical are best for winter and keep the bees warmer, for I find in my flat-topped that the bees hang down a good way, and those at the bottom nearest the mouth drop from the cold and die.

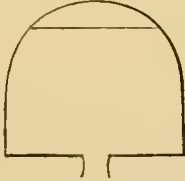
If bees require ventilating, how is it that by nature they stop up every little hole but the one they go in and out at, and are not ventilated when in a state of nature?

Can any of your correspondents inform me who first found out fumigation for bees, and if any other nation besides ourselves used brimstone for destroying them?

Are bees natives of England? and, if not, where were they introduced from?—A. W.

[We have been favoured by Mr. J. E. Briscoe, of Albrighton, near Wolverhampton, with a sketch and description of a feeding-bottle, which he has invented and practically tested, and which we think will answer your purpose.

The annexed woodcut represents a section of the bottle, which is 6 inches in diameter, and 5 inches high, and contains above five half-pints of liquid food. The neck is short, 1½ inch in diameter, and is meant to be inserted in an aperture in the top of any kind of hive. Mr. Briscoe has experienced an inconvenience from these bottles not standing steadily whilst being filled, but this might easily be remedied by altering the shape as indicated by the dotted line. The bottle-mouth when in use is tied over with a small bit of tiffany, which is better than cap-net where perforated zinc cannot be interposed, as bees soon gnaw the net through if left unprotected.



The only advantage of flat-topped hives is the facility they afford for supering.

The subject of ventilation is being itself "ventilated" by some of our most able correspondents, and the circumstance you mention has not been lost sight of by them.

Fumigation by means of puff-balls was recommended by the Rev. John Thorley in 1743, but we do not know if he was the originator of the process.

If bees are not actually indigenous to Great Britain, they became naturalised at so early a period that no record remains of their first introduction.]

**UNITING BEES—CHANGING SUGAR INTO  
HONEY.**

I OFFER you my mite of practical experience upon this subject, if it has not already got too stale. Having fed up all stocks that required it by the end of October last, I expected that all was safe for the winter, but to my disappointment one cold morning in November, one of my stocks was thrown from its stand (but by what agency I know not, neither do I wish; but I suspect foul play, as it was close to one whose doings may appear in your pages at some future day), and every comb broken out. Of course, it was hopeless to attempt refitting and

keeping it together at this late season, so I swept off all the bees into the hive, and made the queen a prisoner, as I wanted to keep the adopted one of the other hive that the bees must be put to all safe. I must confess that I had some doubts about uniting the bees so late in the season, as destroying them was out of the question. I made ready for the evening, and united them in my usual way, and I believe without a single combat, an occurrence not unusual with me. As the season advances I shall see the results and compare notes with some of the crotchets upon this subject. I made twelve unions with the same results as above last season. As the subject has been so ably explained, I forbear at present making any remarks upon it, only I hope those who have not done so will try, and be their own judges, as I am sure it will well repay the trouble.

What next? Chemistry again! some will say; and well they may, if they have ever given it a practical test. In the stock referred to there was pure honey gathered upon the moors, and syrup also as pure as could be made, given a month previous to its downfall. I was able to see the difference distinctly, so as to keep the two separate; but the great test was still to come, the syrup had not undergone any change in its passage from the bottle to the cell, nor had its month's stay in the hive given it any perceptible change, and I have some of it in the comb at the present time unaltered. But I am now speaking of the labours of the black bee.

There may be some magic power possessed by the yellow Italians, which none but their owner is acquainted with. If this be so the seasons will make little difference to him, if he can convert sugar into honey.

One thing more, and I have done. If the honey undergoes a change in the stomach of the bee, how is it that we have all the different flavours; of course depending on what flowers it has been gathered from? I have a few hives in one locality, the honey of which (like counting chickens before they are hatched) is sold before it is gathered, on account of its fine flavour. I think it is gathered from the white clover and the bramble, of the latter there is a great quantity.—A NORTH LANCASHIRE BEE-KEEPER.

**RESULT OF "A. W.'s" EXPERIMENT IN  
SUPER-POSING.**

THE other day being fine I looked at the two hives I joined last autumn, and found the bees had gone into the lower hive, and I therefore took the top one away; but from this last cold weather I find very many dead, and am afraid there are very few left, but will look the first fine day. We have lately had nothing but cold, wet, and snow.—A. W.

[Never were opinions more completely verified by subsequent events than have been those which were promulgated by us in reply to the original inquiry of "A. W." in page 38 of our last volume, and to which so many objections have been made. Not only has the massacre at which we then hinted actually taken place, as has been already related by our correspondent in page 429 of the same volume, but we now learn that the bees have, as we predicted, "ultimately descended into the lower hive."]

**BEE'S DYING OF DYSENTERY—"VAGABOND  
SWARMS," AND VENTILATION.**

THIS morning (24th March) I found the young virgin queen spoken of in page 488 of the last volume, turned out of the hive, her death having, doubtless, been occasioned by the same fell disease which had already proved fatal to so many of her working sisters. As this event puts a stop to all chance of my observing by her means a new phase of parthenogenesis, exemplified in a queen bee bred so early in the spring as of necessity to remain unfeucundated, I shall lose no time in uniting the remaining bees to the colony to which their parent was introduced in the manner already related. On the whole, perhaps, I have little reason to complain, having lost but two stocks by dysentery out of a total of twenty-six—no great per-centage when it is considered that nearly all were artificial swarms formed late in the season.

I regret to state, that in a letter recently received from Mr. E. Wyndham Jones, of Nantwich, Cheshire, who is the distant correspondent mentioned in the latter part of the article above referred to, he says—"The bees in my box have ceased to exist,

having gone during the sharp frost which followed the January mild weather." Speaking of internal moisture, he also says, "I imagine it brings on dysentery. What magnifies the difficulty is, that two hives fail and two escape—viz., one straw and one wood gone, one straw and one wood saved, a swarm and an old stock in each case, all being subject to the same temperature, the room in which they are placed being dry and well ventilated."

My own experience is of exactly the same contradictory character, but the novel and unwelcome appearance of dysentery among my stocks this winter has pretty well determined me in future to follow the advice of our Renfrewshire friend, and fly to ventilation during winter, as, at any rate, the least of the two evils.

In a former letter Mr. Jones informs me "that above the south porch of Acton church, about a mile from Nantwich (a place that was once made a prison by Cromwell's 'ironsides,' when a desperate battle was fought), there is a strong colony of bees which were there twenty-five years ago, and the parish clerk says he has seen them there ever since, having taken an interest in their welfare. I was curious enough when there last summer to get some workmen to erect a ladder close to the entrance, and after a careful inspection, I do not see there is the slightest chance of any escape of air, &c., otherwise than through a small aperture in the wall, which serves as an entrance for the little rascals. In Combermere, Chiondeley, and several other parks in this neighbourhood, there are some colonies of bees which throw off swarms annually, and I am assured that persons who have fortunately met with what Richardson calls 'vagabond swarms,' have the best of luck, boasting of the superiority of their favourites."

In a more recent letter my esteemed correspondent says, "I was at Acton church some days since, and noticed the bees were then alive. I intend taking a regular tour through the different noblemen's parks this summer, for the purpose of making inquiries on the subject of bees and their movements in the trees, the result of which I shall in due time communicate to you."

With regard to ventilation during winter in the case of swarms which have taken possession of hollow trees, &c., it is very probable that in most instances the cavity is too large to be completely filled with combs, and that if this be so the vacant space underneath serves the same purpose as the cke used in Ayrshire, and successfully adopted by "A RENFREWSHIRE BEE-KEEPER." In conclusion I may state that if Mr. Wyndham Jones will fulfil the promise he has given of reporting the result of his observations, he will confer a favour on many others as well as on—  
A DEVONSHIRE BEE-KEEPER.

### PRESERVING GINGER.

PARE it nicely with a sharp knife and throw into cold water. Then set it on the fire (in cold water), and boil till tender, throw it into cold water again until quite cold, then drain the ginger and put into a china bowl. Clarify the sugar in the proportions of 8 lbs. to 7 lbs. of ginger. Let the sugar become cold, then pour over the ginger enough to cover it. Let it stand two days, then strain the syrup from the ginger and boil it with the remainder of the sugar, let them boil together twenty minutes. When cold again pour over the ginger, and let it stand three or four days. If the ginger is nicely swollen and the syrup rich, nothing more is necessary; but if not, boil it again at the interval of three or four days. Wide-mouthed bottles are best for keeping it in. Divide the syrup to each; cork and seal, or dip in bottle-cement.—REBECCA.

### LARGE YIELD OF BUTTER BY ONE COW.

AS you have given the management of a cow, I now send you the weekly butter produced by our cow if you think it worth your notice. She is a small one, particularly handsome, bred between the Ayrshire and Alderney, but not showing the slightest appearance of the latter. The custom in this county is to put butter up in half-pounds: therefore, in 14 lbs. there would be twenty-eight draughts. This, if considered, would add considerably to the quantity, as my servant places a penny-piece on the scale in addition to the half-pound weight; also cream used for the table, which, during fruit time, is no little.

During winter the butter is as yellow as a buttercup. The cow has nothing but grass and hay, no roots of any kind. Her time of calving was yesterday. My man has not succeeded in drying her, although kept up and nothing but hay given her. She gives

at all times a very small quantity of milk, but so rich that the third skimming is like leather. The cow I had before the present one gave pails of milk, and the most butter she produced in the week was 5½ lbs.

The cow calved 2nd March, 1861.

March 15, first day of churning, the calf with her seven days .....	18 lbs.
March 22, 14 lbs.; 29, 13½ lbs. April 5, 14 lbs.; 12, 14 lbs.;	
19, 14 lbs.; 26, 15 lbs. ....	84½
May 3, 14 lbs.; 10, 13½ lbs.; 17, 14 lbs.; 24, 13½ lbs.; 31, 13½ lbs.	
June 7, 13 lbs.; 14, 12 lbs.; 21, 11½ lbs.; 28, 10½ lbs. ....	116
July 5, 10 lbs.; 12, 10 lbs.; 19, 9½ lbs.; 26, 9½ lbs. August 2, 8½ lbs.;	
9, 9½ lbs.; 16, 8½ lbs.; 23, 8½ lbs.; 30, 8½ lbs. ....	82½
September 6, 7½ lbs.; 13, 7½ lbs.; 20, 7 lbs.; 27, 7 lbs. October	
4, 7 lbs.; 11, 7 lbs.; 18, 6½ lbs.; 25, 5½ lbs. ....	55
November 1, 6½ lbs.; 8, 6½ lbs.; 15, 6½ lbs.; 22, 6½ lbs.; 29, 6½ lbs.	
December 6, 6 lbs.; 13, 5 lbs.; 20, 6 lbs.; 27, 5 lbs. ....	54½
January 3, 1862, 5 lbs.; 10, 4 lbs.; 20, 4½ lbs.; 31, 5½ lbs. ....	19½
February 14, 5½ lbs.; 28, milked once a-day, 5½ lbs. ....	11½

Total produce in year .....

In addition to the above account there are sundry pats of butter not accounted for.—H. S. S.

### OUR LETTER BOX.

AFRICAN DUCKS (*R. C.*).—We have little doubt from your description the Ducks are Muscovics. The plumage tallies with them. If, however, they are drakes, they will easily be known by the dipping motion of the head, the swaying to and fro of the tail, and the hoarse hissing noise they make.

SPANGLED POLANDS (*C. F. S.*).—It would occupy too much space to go into detail of all the points of Spangled Poland. You will find them in the poultry books. The feathers of the top-knots should be laced, not spangled. A whole colour is 'a defect. The tail-feathers of the Silver cock should be spangled with black at the ends. The Golden should be streaked and made up of rich golden and lustrous black shades.

BRAHMA FOOTRES (*Hypnum*).—We consider Brahma Footres quite as good layers as Cochins. We cannot say whether they may average 150 eggs the second year—that is, an egg every day for five months of thirty days each. They do not eat as much as Cochins, and they have more meat on the breast The best cross (if any cross be a good one) would be between a Brahma cock and a Dorking hen. In sitting and rearing Cochins and Brahmans are pretty much alike.

GAME COCK HAVING DIARRHEA (*Fowl Faucier*).—The Game cock must be thoroughly purged, as the craving for drink is entirely caused by a disordered inside. He may be allowed to drink a little four times every day, but each time the water must be removed as soon as he has drunk. It is an excellent thing to put chamomile flowers in the water. He must have a table-spoonful of castor oil every day, and be fed on stale bread steeped in ale. This must be continued till the evacuations are firm, and brown or dull green tipped with white. The hen requires the same treatment. Discontinue the Indian corn, and feed simply, as with oats or barley ground. Something disagrees with them.

BREEDING POWTER PIGEONS.—*A. H.* inquires the probable result of mating a blue Powter cock with a red or yellow hen. The young would not come mixed in colour, but would take after the parents respectively. The arrangement, however, is not a good one, as the reds so bred would probably be somewhat slaty in colour. A preferable arrangement would be a blue cock with a mealy hen, as that colour readily yields to the blue; or a red and yellow may be mated together, or either with a mealy. Powters generally bring up their young very well for about three weeks or a month; when, if they neglect them, the young should be fed once or twice a-day with whole beans until they feed themselves freely, or the eggs or young may be shifted under other birds. But the most successful Powter-breeder in the kingdom does not keep feeders, but the young Powters are fed by hand for about a week or so after the old ones leave them.

REMOVING BEES TO GREAT DISTANCES (*Bee-keeper, Ulverston*).—Bees, when accompanied by their owners, will travel safely by rail at almost any time (very hot weather is perhaps the most dangerous) if ample ventilation be secured. When trusted to the tender mercies of railway guards and porters the risks are, of course, infinitely increased, and in this case we should think the spring the best time—say April, or even May, according to the season. The bees should be perfectly recovered from the effects of winter, and sufficiently numerous to repair an accident to their combs, if any such should happen, whilst these latter must be well secured and not very heavy. If a long voyage be contemplated, such as that to Australia or New Zealand, the latter end of October or beginning of November is, probably, the best time for commencing it.

FATTING CALVES (*A Subscriber*).—We have no particulars as to the proportions of the ingredients, but you will find a fuller statement, we believe, in "Dickson's Practical Agriculture," vol. ii. One of the most experienced men says that the best substitute for new milk is made by mixing two bushels of linseed with one bushel of wheat, grinding them, boiling them in water to a gruel of moderate thickness, and then giving the calf a mixture of half gruel and half skimmed milk.

PARROT EATING ITS FEATHERS (*Fanny Fern*).—Let the bird have a bath daily—that is, fill a soup-plate with water, and let the bird get into it and wash.

SELLING CANARIES—MORTALITY AMONG THEM (*A Subscriber*).—The price you mention is a very fair price to the trade for ordinary class of birds, but from the description which you give of your birds they should command from 4s. 6d. a-pair, or 3s. 6d. each cock bird. For fine good birds in London, the dealers ask for Jonques, 10s. to 20s. a-pair, Mealy and Pied, 6s. 6d., and upwards. Write to some respectable bird-dealer (see "Post-office Directory"). They usually contract for a quantity at a certain price, taking one with the other. If only a few are to be disposed of, would it not be more advisable to sell them in the country at a less profit than to risk sending them to town? We should fancy Newrick would be as good a place as London for the disposal of a few pairs. Your birds which died were starved, owing to the stronger birds not allowing them to feed. The cock birds should be separated, or while together there should be several feeding-boxes in the cage. The usual method of sending birds a long distance is to cover the cage with coarse canvass, taking care that they are fed just before leaving.

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	APRIL 15—21, 1862.	WEATHER NEAR LONDON IN 1861.							Clock after Sun.	Day of Year.	
			Barometer.	Thermom. deg. deg.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon Rises and Sets.			Moon's Age.
15	Tu	<i>Dielsia spectabilis.</i>	30.263—30.249	55—34	N.E.	—	7 af 5	51 af 6	49 a 8	16	0 2	105
16	W	<i>Daviesia angulata.</i>	30.327—30.301	62—33	N.E.	—	4 5	55 6	13 10	17	0 13	106
17	Th	<i>Daviesia juniperina.</i>	30.313—30.218	60—40	E.	—	2 5	57 6	25 11	18	0 27	107
18	F	GOOD FRIDAY.	30.199—30.110	59—38	E.	—	0 5	59 6	morn.	19	0 41	108
19	S	<i>Myrsine africana.</i>	30.170—30.146	55—29	N.E.	—	IV	VII	24 6	20	0 55	109
20	SUN	EASTER SUNDAY.	30.220—30.036	51—20	S.E.	—	56 4	2 7	9 1	21	1 8	110
21	M	EASTER MONDAY.	29.909—29.822	56—24	N.	—	54 4	4 7	42 1	22	1 21	111

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 58.1° and 36.2° respectively. The greatest heat, 77°, occurred on the 19th in 1851; and the lowest cold, 20°, on the 16th in 1847, and 19th, 1852. During the period 147 days were fine, and on 98 rain fell.

NOTES ON CYCLAMENS, ESPECIALLY ON C. VERNUM AND C. EUROPEUM.



SEVERAL parties having addressed inquiries to me on the subject of Cyclamens (more especially as regards *C. vernum* and *C. europæum*) since the reply in THE JOURNAL OF HORTICULTURE to "HALESLEIGH," February 4th, and later notices therein of that tribe; and presuming your object is to clear up any doubtful points relating to

this sadly-confused genus, I cannot do better, perhaps, than reply through the columns of your Journal, more especially as my experience varies in some particulars from that of Mr. Beaton.

I speak from long and close observation, Cyclamens having been pet plants of mine for a very long period, more especially during the last sixteen or eighteen years; and I have not spared time, trouble, nor a little expense in collecting all the kinds I could find likely to prove anything distinct, both in this country and on the Continent, so that a large number of so-called species have passed through my hands, and for many years past I have bloomed several hundreds of Cyclamens annually.

First, as regards *C. vernum*. I take Mr. Gordon's description of that species (*Gardeners' Chronicle*, 1843, page 660) as quoted by Mr. Beaton, to be very good, with one or two slight exceptions noticed below, mostly to be accounted for by different modes of culture. I copy his description at length, as many of your readers may not have an opportunity of referring to it. He says, "*C. vernum* (the round-leaved winter-flowering Sowbread). This species has leaves double the size of those of *coum*, and nearly four times those of *C. europæum*; they are quite round and entire, with the lobes at the base overlapping the stalk, and marked on the upper surface with an irregular band of white, which is not the case with the leaves of *C. coum*. The flowers are like those of the two preceding kinds (that is, *C. coum* and *C. europæum*) in form and colour, but a little larger, and produced from November to January. The roots are rather larger than those of the two preceding kinds, and the plant is frequently confounded with *coum* in collections. The name *hyemale* (winter) would be far more appropriate for this very distinct species, for it has done flowering before spring commences; this may account in a great measure for its always being confounded with *C. coum*, the spring-flowering kind, but it may be distinguished at first sight by its larger leaves having a very conspicuous white band on their upper surface. I have raised this species from seed, and the plants have always retained this character, and that of flowering during the winter if

protected from the wet. It has the leaves of *C. persicum*, and the flowers of *C. coum*."

The leaves of *vernum* with me are not much, if any, larger than *C. coum*, and certainly but little above the average size of *europæum*. The latter species varies so exceedingly in size and markings in its natural habitats (noticed further on), that it is by no means a safe rule to be guided by.

The flower in colour Mr. Gordon gives as being like *C. coum*, which he calls "reddish-purple"; Mr. Sweet, in "British Flower Garden," Vol. I., page 10, says "It is rosy red, darker near the mouth, where there is a white circle, inside striped with red." My experience confirms both of these, the shades varying from one to the other. Neither of them says a word about lilac; but when pressed and dried for the herbarium they do become a direct lilac, with the dark markings very much increased in intensity. This probably may have misled Mr. Beaton.

In size of flower, Mr. Gordon says "a little larger than *C. coum*." Mr. Sweet, "nearly the same size as *coum*," and his figure represents it as such. I believe them correct in this. As regards the time of blooming, Mr. Gordon says, "November to January." Sweet says, "beginning of March;" but Mr. Beaton says, "October to the beginning of November." With me it comes sparingly in November and December, but fully from the middle of January to the end of February. These variations in a great measure depend on the mode of culture there can be little doubt—a fact I think pretty well established at once by an accident which happened to one of my pans of *C. vernum* the last summer. For many years previously they had bloomed with the rest of my stock in January and February; but a pan of it was unintentionally subjected to earlier rest, and for a time greater drought than usual. These commenced blooming in October—their fellows not so treated, as usual in January and February. I am confident Mr. Beaton lays too much stress on what he terms "the family crest of *vernum*," which, in fact, by no means exclusively belongs to that species, neither is it so fully developed in some specimens of that as in others. It equally belongs to the whole of that section of the tribe, consisting of *C. coum*, *vernum*, *ibericum*, and *Atkinsii*. There can be little doubt but Mr. Beaton's conjecture that the "crest" in the one from which Sweet drew his description was the result of extreme age of the tuber.

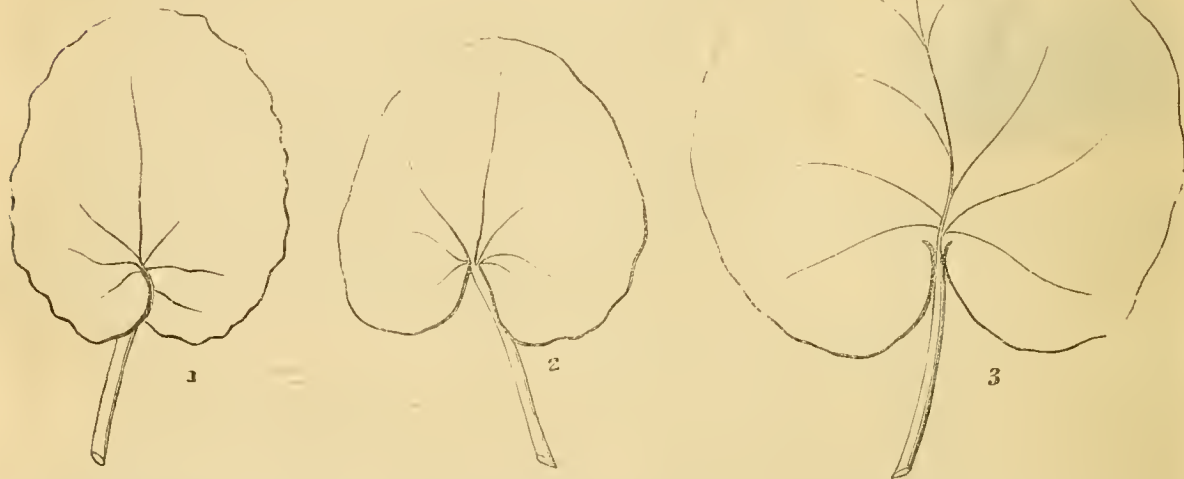
I have very lately, in company with a friend equally interested in the culture of Cyclamens as myself, gone over a large number, including all of the above sorts, and find the "crest" present in all in some stage of growth; though, in young roots especially, it is frequently found simply in the shape of a cluster of buds or nodules, yet these are easily removed altogether with the point of a knife. From this the leaves and flowers arise, and this, as the tuber attains age or other local circumstances, elongates, and eventually becomes a very prominent stem. When from age or other circumstance the top becomes blind, or is removed, it will send out one or more new stems from the sides or base. We found one fine old *C. coum*

tuber with no less than eight of considerable length shooting from the sides of the old one, which was decayed at top. A venerable old tuber of *C. ibiricum album* (which has this year treated me with no less than 145 blooms) has a cluster of stems  $1\frac{1}{2}$  inch in diameter; and one of the original bulbs of *C. Atkinsii* has a cluster of equal dimensions, and both of good length. It evidently does not altogether depend on age for the development of the leaf and flower-stem, as we found a small tuber of *C. coum* not much larger than a horsebean, with a stem half an inch in length.

I cannot see any reason for supposing *C. vernum* to be a hybrid. Mr. Gordon speaks of it as "a very distinct species." I have cultivated it nearly, if not quite, thirty years, and have found it much more constant from seed, both in leaf and flower, than most of this genus, when grown by itself. The Hon. W. F. Strangways, when speaking of it in his paper on *Cyclamens* (see "Botanical Register," and *Gardeners' Chronicle*, 1842, page 383) says, "*C. vernum* seems intermediate between *C. coum* and neapolitanum; but I judge only from the figure, not knowing its history." But whether he means to convey

an opinion that it is a hybrid, or only that it is a connecting link between the species, does not appear clear; at any rate, not having seen the plant, his testimony is not of much weight.

With respect to *C. europæum*, not the one still too frequently sold for it, which is only neapolitanum, the autumn bloomer, but the true summer-flowering sweet-scented one, I believe all botanists are now agreed; but it varies so extensively in leaf, root, and flower in its different natural habitats, as at first to puzzle many; and it is at times difficult to be convinced until brought home and grown together, that they can be all of one species. In the more northern localities the leaves are thicker, more decidedly toothed, and with comparatively slight marbling on their upper surface; whilst in those south of the Alps and in Northern Italy, the leaves are much smaller, rounder, finer in texture, with marbling of white on their upper surface, sometimes almost equal to *C. persicum*, and in other localities they are intermediate between the two. I send you leaves to illustrate what I mean (though most of mine being grown in the open garden have now nearly died down, and leaves, therefore, very inferior) No. 1, the northern variety; No. 2, the southern and No. 3,



intermediate. These are from tubers collected myself from their natural habitats, and not changed by cultivation. The flowers also vary considerably from a short petal with a somewhat square-shaped eye, not much larger than *C. coum*, to a delicate long petal approaching *C. persicum*, and colours vary from deep red purple to a delicate rose pink; white are rarely met with, but I possess three roots collected in my rambles in their native habitats.

The roots vary exceedingly both in size, shape, and colour. On rocky stony ground they are often mis-shaped, knotty, and covered with gouty excrescences, altogether very irregular; but in other places well shaped, round, flat tubers, but always more or less inclined to throw up a stem (and that at times from different parts of the tuber), from which the leaves and flowers arise; in some cases they are of considerable length and numerous. I have occasionally dug *C. europæum* out of the mountain *détris*, consisting of shattered stones, mixed with a little vegetable soil amongst it, as clean as a washed Turnip, sometimes brown, and at others of a creamy yellow, with stems from 6 inches to 9 inches long, and swollen into gouty knots. These, broken up, will grow and produce leaves and flowers for years; but not, as far as my experience goes, proper tubers. On my showing some of these to the late Mr. Loddiges, he at once recognised them as being what in former times they had been in the habit of purchasing from the Dutch florists as *C. anemonoides*, but added that for many years they had not been able to procure them. So much for *C. anemonoides*! Is it not probable that this was the sort alluded to by your corre-

spondent "H. N. E.," page 497, as *Anemone radice*? and I have very little doubt but the "evergreen *Cyclamen*" shown by Mr. Holland at Kensington, and so well described by him in your *Journal* of March 25, page 514, is one of the North Italian varieties of *C. europæum*. I have them answering the description well. It is one of the varieties called by some "littorale," a very bad name by-the-by, as it is not a littoral species, at any rate exclusively, for it is found with other varieties in the country bordering on the Lake of Como, but is equally abundant in other parts very far removed from any shore as I have frequently found. It is not inclined to die down so completely as the more northern varieties, and I have frequently had them bloom for many months together; but I have found them bloom more abundantly and stronger by giving them a moderate rest. When strongly and well grown it is a very good variety. Those of them I have under shelter are now just throwing up their flower-buds; but the others out in the open garden only now losing their leaves partially and at rest. I potted one to-day having two stems, one erect, the other stolon under the surface, issuing from opposite sides of the tuber, measuring  $3\frac{1}{4}$  inches and  $2\frac{1}{2}$  inches in length respectively. By my notes I see I found these with others in North Italy as thick as Violets on our banks in spring, as early as July 22nd and August 10th in different years, which does not quite agree with Mr. Beaton's account.

As regards the culture of *C. europæum*, about which many inquiries are made, I may say I lost plants of it repeatedly until I studied them in their different habitats. They are found in

various situations—rough rocky ground, amongst mountain *débris*, moss-grown banks, under the shade of woods, but generally the finest in some snug nook where, by a rock or friendly bush they are protected from rough winds and mid-day sun, at the same time enjoying free air and full light, with complete drainage at all times. If these conditions be secured, with a little friable loam, decayed leaf mould, or peat and sharp sand, there need be no fear of success; but they must have none of that extreme drying process too many *Cyclamens* are subjected to.

As to double *Cyclamen persicum*, I have a note of a fine one having been shown at the Norwich and Norfolk Horticultural Show in April, 1830. Semi-double are not unfrequent with me. I have one now with thirteen petals, and had one of *C. Atkinsii* here this season also semi-double; but not considering them any improvement, have hitherto paid no attention to them.

Permit me to call the attention of the admirers of *Cyclamens* to the vast advantage of growing them in masses. Without seeing them in this way, no one can form an adequate idea of their beauty, more especially the section comprising *C. cornu-vernium*, *ibericum*, and *Atkinsii*. I have grown very few singly in pots for some years; but either in pans, or planted out in pits or frames. I have one of the latter measuring 8 feet by 5½ feet, with the above varieties mixed, this season one mass of bloom during the whole of January and February; and in order to form some estimate of the number of flowers, I measured off, in company with a friend, a fair sample of 18 inches square, and found it contained the remains of upwards of 450 flowers in that space.—J. A. P.

#### ROYAL HORTICULTURAL SOCIETY'S EXHIBITION.—APRIL 9TH.

THIS was chiefly intended for Azaleas, and they were the chief plants there; but, in addition to them, there was an excellent spring show of greenhouse, stove, and conservatory decoration plants, some good novelties, and some very good old notions which, when put all together, made a very pleasing exhibition. The arrangements were fully up to the occasion this time.

The Azaleas had the whole side of one of the wings of the arcades next to the council-room, and they extended 36 yards in three rows on the slope against the back wall of the arcade, with the light from the front only, which is a disadvantage. The best was made of the council-room by the absence of the centre stage down the middle of it; the sides and both ends were quite full of choice things, of which the *Cinerarias* were the gayest. The Tulips, the Roses, the Hyacinths, the immense number of cut *Rhododendron* hybrids between arboreum and cinnamomum, sent up from Devonshire by J. Luscombe, Esq., of Combe Royal, Kingsbridge, together with *Auriculas*, new *Primroses*, new seedlings, both of crossed *Rhododendrons* and of Azaleas, *Begonias*, with collections of rare or new plants, collections of forced flowers, and collections of April flowers not forced—just such another assemblage of various classes as many of the great families enjoy now down in the provinces during the holidays in their own conservatories.

But how different the effect from the difference of the arrangements! Effect must, necessarily, be so far sacrificed at the very best arrangement that can be made for the best of shows. Next May we shall have effect marred from a different cause—from too much green and no flowers in the forests of fine-foliaged plants by the hundreds. Now, it is from all flower and too little space for green, or brown, or variegated-leaved plants. Thus, people, or say, in plain English, critics, who must take their ideas from assemblages of flowering plants at London shows, because they can see no others, are sure guides to direct in the way of selections—they cannot help it, and it is not their fault, but the inevitable consequence of a bad school for teaching which is, or is not, the best style of plants for this or that purpose, for the grand conservatory or the more ambitious flower garden. Your London critic can at best but put his thumb in his mouth, and if he would keep it there, instead of often making a fool of himself, he would be thought the wiser man. You cannot judge from a show how Mr. Henderson, or Mr. Spencer, or all the rest of them can give such magic effect with the very selfsame kinds of plants in their conservatories at home. I knew I never could, and I have seen as many shows as most of my own age: therefore, the wisest thing would be never to expect magic effect from a show, nor hold up your own notions of effect from all you could collect of it that way.

The greatest want we had at this April gathering was want of foliage below and behind vast masses of varied flowers. Greenhouse collections generally supply green sufficient for their effect on the eye: they did so on the present occasion in a very remarkable manner. The whole end-breadth of the wing, in which the Azaleas stood in need of back-foliaged plants, was covered with all sorts of greenhouse plants in all styles of training, from tight lacing to the natural curvature of the shoots of the *Sindryana Heath*, the best-trained plant there, though it never had any training at all. The effect along that end, as contrasted with that of the finest kinds of Azaleas that ever were staged together on one occasion, was most remarkable when the place was all but empty. When the eager crowd fill in, all ideas of effect are squeezed out of the question, if not out of the critic himself if he has to undergo the ordeal.

I said 36 yards of Azaleas in three rows—the miscellany of greenhouse kinds across that wing, 27 yards of prime stuff. Then in front, as if you said front stage of a greenhouse, 12 yards of low plants, among which were half a dozen splendid *Hippeasters*, at last, from Mr. Williams, of the Paradise Nursery. Also a fine variety of Wood *Anemone* in a collection of hardy spring flowers from Mr. Young, of Highgate; a lot of fancy *Begonias* from Mr. Cutbush, on the top of Highgate; forcing Pinks and others from Mr. Turner, of Slough; and a profusion of most beautiful and mostly hardy variegated plants from Mr. Salter, of the Versailles Nursery. Among them were *Veronica chamaedrys variegata*; *Symphytum asperimmm variegatum*, fit for an empress, a grand specimen; Lilies; *Arum italicum*; *Cheiranthus*, most unwallflower-looking in its variegation, and yet the true thing, and many things like it; and one thing like *Luzula sylvestris*, and just as like a *Cyperus vestitus* as that.

In the council-room were 12 yards of *Cinerarias*, fine specimen plants, three deep; 4 yards of one collection of rarities and fine-foliaged plants from Mr. Bull, five rows deep; 6 yards of Hyacinths, three or four deep; 10 yards of Tulips, with a dozen of Roses in pots in the centre from Mr. W. Paul; 6 yards of *Auriculas* in three rows. Then the whole end farthest from the entrance was filled with collections from the Messrs. Veitch, Fraser, Cutbush, and Williams; while the Messrs. Henderson, of Pine Apple Place Nursery, Messrs. Veitch, Williams, Parker, and Smith (of Dulwich), occupied the stands at the end next the door with quaint things, fine crosses and most extraordinary-looking somethings as nothing ever looked before.

I allude to three most-out-of-the-question plants, from the Pine Apple Nursery, and if you were in London, or within twenty miles of it, nothing would pay so well as a visit on purpose to see them. They belong to the acid order of Arads, as our Arums do. Their name is *Arisæna ringens*, and they look very much like *Arisema Pythonium*, of Dr. Martens' Brazilian "Materia Medica," and no one ever saw a plant look like them in flower, or look more like an Arum without the flowers. The curious part is the hood, which is of rhinoceros substance, and comes forward in a bend, and falls over the front of the flowers, so that you can see very little of the inside at all.

By these stood *Rhododendron Falconeri* with twenty-three blooms in one truss. This is your florists' flower, or what will some day turn the wavy and wavering of this race into Tulip-shape and form, they are so prim and so mathematical already. Then a fine, large, white Sikkim hybrid *Rhododendron*, called *Denisoni*, from Mr. Bousie, of Stoke, and another more in the way of Princess Royal, more wavy and more pink in the white, like all the hybrids from *ciliatum*. It was named *Magnalia*.

Here stood a splendid *Grevillea Hillii*, from Messrs. Veitch, which might put one in mind of the old *Agnostis sinuata*, with longer and much narrower leaves. *Alalia leptophylla* from the same firm will also make a very genteel-looking plant for a collection. Also, two plants of *Passoqueria undulata* in full bloom, and a basketful of their lovely little *Stenogaster concinna*, which seems to be never out of flower, and which all the boys and girls who were at the last July Show in the great conservatory never seemed tired of talking about.

Robert Warner, Esq., had another of those new lovely forms of *Lycaste Skinneri*, at this point; and some fine Ferns and foliage plants from Mr. Williams, of the Paradise Nursery; also, a fine plant of the Countess of Haddington *Rhododendron* from Mr. Parker, a fine white blush, as if with the blood of *ciliatum*; and Azalea *Barclayana superba* from Mr. Ivery; and a *Duc d'Artemberg*, pretty Azalea seedling, from the Messrs. Smith, of Dulwich. Some called it a sporting gentleman, as one of the flowers came plain; some *occulatum*, on account of the most beau-

tiful eye, which is different from all the eyes of all the Azaleas. It is a charming little thing—the Duc d'Areberg Azalea. Their first-class Primula with pin eye was there too, and called Delicata, and a more dwarf one called the Fairy, and some others. That was a rich corner, and one of the best in it was a new colour and style of Auricula from Mr. Jas. Holland, of Isleworth, and called Mrs. Eyles.

On the opposite side of the entrance began a collection of Cinerarias; then a collection of fine-leaved plants from the Messrs. Smith aforesaid, of which *Cyperus aternifolius variegatus* was the prettiest; then three or four collections of Cinerarias in succession; then a large collection from Mr. Bull of real good things in thorough good style; then another collection of Cinerarias; then fifty Hyacinths from Mr. Cutbush; and then at the farthest end of the room and the farthest corner, the first collection of forced flowers, from the Messrs. Fraser, in which the Snowball Gueldres Rose was even better than it was in March. Then the centre was filled up with a collection of spring forcees, from the Messrs. Veitch, good Pinks and good Lilies of the Valley, showing as good management in the forcing as the best Rhododendrons and Azaleas; then Mr. Cutbush with forced flowers, in which the old Solomon's Seal, *Polygonatum vulgare*, was as good-looking as you ever saw it out in the borders, and no bother to have it so. The same as for *Dielytra* will do it. Then a large collection of mixed stove plants from Mr. Williams.

There were two forcing Geraniums at this end which some of my friends down the country will be glad to hear of. The Reine Hortense, from Messrs. Fraser, is of the French streaked, very showy, and capital to force: the other is called Albion, and a great improvement on *Alba Multiflora*, from Mr. Cutbush. I am asked more about forcing Geraniums than any other of the race, and by people whom you would be astonished to hear if I were to tell they have better gardeners of their own, only they have too much to attend to for seeing what is done about London.

There was a fine specimen of *Hymenocallis fulva* in two collections—that of Mr. Sulter, and in one of Messrs. Smith's groups; and in the latter was a plant, a climber of the *Desmodium* looks and habit, called *Rhynchosia albobitens*, with spikes of botanical flowers, of no other merit. Three plants of the best telling Heaths there were of *Sindryana*, from Mr. Tegg. A collection of tall *Cacti*, including two plants of *crenatus*, were very early and well done. One of the best specimen Rhododendrons was a plant of *Gibsonii* from the Messrs. Veitch. *Acacia Drummondii*, *grandis*, and *longifolia*, in three different collections from Messrs. Veitch, Lee, and Fraser, and a *Hedera tulpifera* from the former, were particularly fine. *Erica elegans*, *Beronia*, *Eriostemons*, *Epacris*, *Leschenaultia*, *Polygala*, *Pultenaea bicolor*, *Chorozema Lavraenciana*, *Rhododendrons*, *Azaleas*, and *Camellias* were the chief plants in exhibition.

The new Azaleas were exquisitely grown. Mr. Turner was particularly fortunate, in kinds, in setting and in style of growth. His Duc and Duchesse de Nassau were grand; Brilliant and Gem ditto; Bride and Gledstanesii, Variegata and Eulalie, with Grand Monarch were amongst the best kinds there.

But selecting sorts and colours out of all the mass I put them thus: Brilliant the richest there, deep orange scarlet; then Gem in the same tint; then Roi Leopold ditto; Grand Monarch ditto, and Rubens. The best and the only purplish there was *Constantia Rosea*, a fine showy kind; the hose-in-hose *Arcana* is the next tint to *Constantia Rosea*. The best light Rose is Duc de Nassau, a noble flower; *Coronata*, the old *Coronata*, was yet the highest coloured, and Mr. Dodman's new seedling self is in that tint. Of the variegated kinds the best were *Criterion*, *Baron Vriere*, *Eulalie*, *Vittata Rosea*; and of pure Whites the Bride was the best there; then *Leana*, *Magnifica*, *Virgin Queen*, and *Iveryana* all but white. There are too many whites with flakes and spots not very constant. Of peculiar tints, *Rosy Circle* is a good example; and of this unique breed there was a fine one from Mr. Todman after *Petunioflora*. And, in a collection of small plants of very varied aspect from the Messrs. Veitch, there were several kinds of peculiar tints, such as *Etoile du Gand*; *Hortense Verraene*, light straw cast; *Ramentacea*, a white botanical plant; *Prince of Wales* and *Princess Alice*; and *Rubens*, aforesaid, a very good kind.

The prize list will show the winners; and if I were to repeat all the names it would only be like counting the fingers over again. Besides, we all expect next May will eclipse everything that ever was seen or heard of in Azaleas, in size and numbers, and in the perfection of growth. Tickets will be sold without end.

Fellows' privileges will be put to a severe test. Music will be ten times more noisy than ever, and no one yet knows the exact size for crinolines, only that there does not appear the smallest chance of any of them being an inch smaller at all events, and some of the gardeners talk of having Merinaes and Monitors to save themselves, if not their plants, from a general sweep when the crowd rush after the bands. The French have not only invaded this country, but they have actually taken possession of ours at South Kensington, and were then throwing up immense earthworks and putting in foundations thick enough to stand anything, and the Emperor is coming to see it is all right.

D. BEATON.

THERE can be no question of the success of the Azalea Show, or of the wonderful skill by which in such a sunless, cheerless spring as this has hitherto been, a mass of bloom of such surpassing beauty was brought together. All honour be to those florists by whom it was achieved, conspicuous amongst whom we must mention Mr. Turner, of Slough. The size of his blooms of Azaleas was really something wonderful. How gloriously the exquisite shape of Gem, and the glowing orange scarlet of Brilliant were brought out! This latter flower being without question the best, largest, brightest, and most perfect in shape of that class. I must, however, pass these lightly by, though legitimately coming under the designation of florists' flowers.

Roses were exhibited in considerable quantities by Messrs. Paul & Son, of Cheshunt, and Mr. Wm. Paul, of Waltham; but I hold it to be utterly impossible to decide anything as to the merits of Roses from blooms taken at this early period. There is this to be said, that if a Rose comes out well now, it is likely to prove a "stunner" by-and-by; and we may, I think, confidently pronounce Beauty of Waltham to be one of the best English Roses ever raised, and, indeed, a first-rate one, worthy of being placed alongside of the hitherto only Rose of decided English origin, "*Devoniensis*." It seemed to be a cross between Jules Margottin and Général Jacqueminot, partaking of the excellent qualities of both parents. In the same box exhibited by Mr. Wm. Paul, the fortunate raiser of the above, were some of the new French Roses, but of these it is impossible to say much, as plants are so thoroughly worked and cut about that the blooms must be inferior. Amongst them were Adolphe Noblet, Paul Leval, Charles Lelebre, Eugenie Bouciere, Vulcan, Madam Charles Wood, Souvenir de Mons. Rousseau, and Monte Christo. Of these, the only one I heard anything good of in France was Madam Charles Wood. It promised here to be a large flower, but inclined to be loose; but as I have said, it is unfair to judge of them now. Amongst the older sorts in Messrs. Paul and Son's boxes, were fine blooms of Gloire de Dijon, Madlle. Bonnaire, Louis Guillion, Celine Forestier, *Devoniensis*, President, Narcisse, and Baron Gonella.

Of Auriculas one must speak with becoming modesty. The season is backward, and even growers had but little to choose from. Mr. Turner contributed good plants of Taylor's Glory, Fletcher's Mary Anne, Ensign, Netherwood's Othello, Spadry's Mary Grey, Dickson's Duke of Wellington, Page's Champion, Smith's Mrs. Smith, and Ann Smith; while I never expect to show finer plants of Maclean's Unique, Hudson's Apollo, or Page's Champion, which were in my own six. Unique had eleven fine pips, and Champion, nine.

A novel-coloured seedling was exhibited by Mr. Holland, called Mrs. Eyles, which promises to be an acquisition for a stage, it was of that delicate lavender colour one sees in alpinas; but instead of having a yellow paste it had a fairly white one, and the flower was well-shaped and large; while not meeting the requirements of a florist it was still worthy of what it received—a Label of Commendation.

In new Cinerarias there were some promising flowers. Lord Elgin, from Mr. James, gardener to Mr. Watson, of Isleworth, was a dark rich coloured self of fine form and substance; while Mr. Turner had "James Andrews," a dark-coloured purple self, and "The Artist," a rich-looking rosy carmine, with very little white, and novel; this received an extra prize.

Messrs. F. & A. Smith, of Dulwich, had a handsome new Azalea, Duc d'Areberg, in the way of that exquisite flower, *Etoile du Gand*; but besides the regular rose-coloured star, it had dark shading in the centre of the petal, which increased its beauty. I have already mentioned Mr. Turner's flower, Brilliant. It seems to be a continental variety, unknown to growers here; and as I saw some very fastidious acquaintances of mine putting it down in their note-books, it may be relied upon as worth some-

thing; it is a grand-looking orange scarlet flower, deeper and better than Perryannum.

Mr. Bragg, of Slough, had two boxes of Pansies, but, although good, it was too early to say aught about them. They were very meritorious, considering it was the 9th of April.—D., Deal.

The following are the awards of the Judges:—

- Twelve GREENHOUSE AZALEAS, distinct kinds (Nurserymen).  
 First, C. Turner, Royal Nurseries, Slough. Second, J. Ivory & Son, Dorking and Reigate Nurseries. Third, J. & J. Fraser, the Nurseries, Lea Bridge Road.
- Nine GREENHOUSE AZALEAS, distinct kinds (Amateurs).  
 First, T. Todman, gardener to R. Hudson, Esq., Clapham Common. Second, J. Blog, gardener to S. Gassiot, Esq., Clapham Common. Third, M. Higgs, gardener to Mrs. Barchard, Putney Heath. Fourth, J. Tegg, gardener to Baron Hambro, Roehampton.
- Six GREENHOUSE AZALEAS, distinct kinds (Amateurs).  
 First, T. Todman. Second, J. Tegg.
- Six GREENHOUSE AZALEAS, new distinct kinds (Open).  
 First, C. Turner, Royal Nurseries, Slough. Second, J. Ivory & Son, Dorking and Reigate Nurseries, Surrey.
- Three GREENHOUSE AZALEAS, new distinct kinds (Amateurs).  
 First, T. Todman.
- Single specimen of GREENHOUSE AZALEA (Open).  
 First, C. Turner, Nurseries, Slough. Second, J. Ivory & Son, Dorking and Reigate Nurseries, Surrey. Third, T. Todman.
- Six RHODODENDRONS in bloom, distinct kinds (Open).  
 First, J. Veitch & Son, Royal Exotic Nursery, Chelsea and Exeter.
- Three RHODODENDRONS in bloom, distinct kinds (Open).  
 First, W. Young, gardener to R. Barclay, Esq., West Hill, Highgate.
- Single Specimen of RHODODENDRON (Open).  
 First, J. Veitch & Son. Second, W. Young.
- Nine CINERARIAS, distinct kinds (Nurserymen).  
 First, J. Dobson & Sons, Woodlands Nursery, Isleworth. Second, C. Turner, Royal Nurseries, Slough.
- Six CINERARIAS, distinct kinds (Amateurs).  
 First, P. Lamb, gardener to Miss Thaehtwaite, Norwood Green, Southall. Second, J. Wiggins, gardener to Walter Beek, Esq., Worton Cottage, Isleworth. Third, J. Gray, gardener to W. F. Watson, Esq., Isleworth.
- Twelve SPRING FLOWERS, forced, distinct kinds (Open).  
 First, J. & J. Fraser, The Nurseries, Lea Bridge Road. Second, Veitch and Son, Royal Exotic Nursery. Third, W. Cutbush & Son, Highgate Nurseries.
- Twelve GREENHOUSE PLANTS in Flower, not forced, distinct (Open).  
 First, J. Veitch & Son. Second, J. & J. Fraser. Third, J. & C. Lee, Vineyard Nursery, Hammersmith.
- Twelve HARDY HERBACEOUS PLANTS in Flower (Open).  
 First, B. S. Williams, Paradise Nursery, Holloway. Second, W. Young, gardener to R. Barclay, Esq.
- Nine AURICULAS, distinct kinds (Nurserymen).  
 First, C. Turner, Royal Nurseries, Slough. Second, J. Dobson & Son, Woodlands Nursery, Isleworth.
- Six AURICULAS, distinct kinds (Amateurs).  
 First, Rev. H. Dombain, Deal. Second, J. James, gardener to W. F. Watson, Esq., Isleworth. Third, J. Holland, gardener to R. W. Peak, Esq., Spring Grove, Isleworth.
- MISCELLANEOUS PLANTS AND FLOWERS.  
 First, W. Bull, King's Road, Chelsea (Group of New and Rare and other Plants).  
 Equal Second, W. W. Cutbush & Son, Highgate Nurseries (Collection of 50 Hyacinths). W. Paul, Cheshunt Nurseries, Waltham Cross (Cut Roses). Paul & Son, the Old Nurseries, Cheshunt, Herts (Cut Roses and Roses in Pots). W. Young, gardener to R. Barclay, Highgate (Tall Cacti). J. Luscombe, Combe Royal, Kingsbridge, South Devon (Cut blooms of Rhododendrons, hybrids from arboreum and cinnamonum, grown in the open air). J. Veitch & Son (Collection of Azaleas). B. S. Williams, Paradise Nursery, Holloway (Collection of Amaryllis).  
 Third, J. Salter, Versailles Nursery, Hammersmith (Collection of hardy variegated plants).  
 Fourth, W. Paul, Cheshunt Nurseries, Waltham Cross (Cut Rose Beauty of Waltham).  
 Equal Fourth, J. Tegg, gardener to Baron Hambro, Roehampton (Erica Sundryana). W. Bragg, Star Nursery, Slough (Pansies). B. S. Williams (Collection of plants and Alsophila species).  
 Extra, C. Turner, Slough (Seedling Cineraria Artiste).

## NEW VERBENAS.

I WAS very much pleased with Mr. Robson's very able remarks on the Verbena in THE JOURNAL OF HORTICULTURE of March 11th, where he has so ably reviewed the Verbena from its commencement nearly down to the present time. I have for many years grown them extensively for flower-garden decoration and pot culture, and have had all the new kinds of any promise each year as they have been sent out, and have spared no pains in crossing them. I think I have at last succeeded in raising some that I think will nearly come up to Mr. Robson's idea of what a good Verbena should be. They are at present in the hands of Messrs. E. G. Henderson & Son, who will, I believe, send

them out at a cheap rate so as to enable purchasers to have them in quantity the first year. The following is a faithful description of them:—

SIR PHILIP will be found one of the best Verbenas ever raised. It is an exceedingly brilliant carmine scarlet, with free, compact style of growth and profuse blooming habit; will prove to be one of the most telling objects in the flower garden, and for a row in a ribbon-border it stands pre-eminent. This is without doubt one of the finest Verbenas in cultivation.

LITTLE HARRY.—This is one of the most distinct varieties I have ever seen—a dwarf, compact, free-flowering habit, not growing more than 6 inches to 9 inches high. In colour a rich velvety crimson, with a brilliant white eye. Of free, erect growth. This will make a charming bed.

CICELY.—A clear, rich peach or almond-coloured pink, with a beautiful erise or rose eye. Neat and compact style of growth. Flower-trusses large and well formed. Is of a free-blooming habit. A very great improvement on all the known varieties of that colour. It is a seedling from Bonnie Dundee crossed with Souvenir de l'Exposition. It is also a charming variety for pot culture. I have had some plants of it beautifully in bloom for the last three months. It is not quite so compact in habit as the two first-named varieties.

LADY GREY EGERTON.—Beautiful magenta crimson, displaying a large, well-expanded truss; the most beautiful coloured Verbena I have ever seen with Purple-King style of growth and habit. Stands the weather well. A very profuse bloomer. I am sure when this has passed through Mr. Robson's hands he will give a very favourable account of it to the readers of THE JOURNAL OF HORTICULTURE, and put it down in his book as A1 with the varieties above named.

JENNY LIND.—A beautiful mauve with lilac tint, very large truss. A splendid variety, great improvement on Azucena.

CORONET.—Rich dark mulberry with extra large truss and pip, dwarf compact habit. A great improvement on Ocean Pearl. Well adapted for pot culture. The finest Verbena of its colour.

QUEEN.—Beautiful, rich, indigo purple, with large white eye; fine truss and pip. An improved Annie Gray, from which it is a seedling. A very fine variety, well adapted for bedding purposes.

GEM.—Rich violet-tinted crimson, medium-sized truss, dwarf compact habit, a very profuse bloomer, and excellent bedder.

ISOLINE.—Rich puce colour; fine, dwarf, neat growth, with profuse bloom, and good flower-truss. This variety will also make a very beautiful bed.

KEEPSAKE.—Magenta-shaded mauve, with a well-formed truss.

EYEBRIGHT.—An exceedingly rich violet-tinted mulberry, medium-sized truss, an improvement on Lord Elgin. It is the darkest Verbena out, rather a strong grower, fine for large masses, extra.

MASTER CORBET.—A great improvement on Lord Clyde and Miss Trotter.

MODEL.—Bright carmine tinted lake, with canary-coloured eye, and large flower-truss. A decided improvement on Morning Star.

CADUCEUS.—Rich violet tinted purple, with fine white eye, large truss, and close compact flower-lobes. An improvement on Standard Bearer and Leviathan.

Tropæolum Oulton Park Beauty is also a very great advance on Elegans or any other variety at present in cultivation.—T. WILLS, *The Gardens, Oulton Park, Cheshire.*

## VINE INJURED BY FIRE.

I HAVE a small vinery heated with a fire and filled with a fine strong healthy Vine. A few days ago when the buds were just bursting they were dried up and killed by the heat from some woodwork, which unfortunately took fire and smouldered all night. The stems were not scorched, but they seemed dry, and where I cut them no sap came; in forty-eight hours the sap returned with such force that having no buds to expend itself on, it is bleeding, not only where I cut the stems but even through the uninjured bark.

The Vine being so full of sap—1st, How long will it take to form new buds and to come into leaf? 2nd, Is there any chance of fruit from spring-formed buds formed in the place of those destroyed autumn-formed buds? 3rd, What would be the best treatment for the poor Vine—moist heat or cool dry air? The stems are not injured.—VIRGO.

[We are sorry that you have had the accident, and think you

must have had a strong fire in such weather to set the wood a smouldering. We are sorry in the second place that you cut or did anything to the Vines. As the buds were just breaking, and if you kept only a gentle heat most likely fresh buds would have started from the base of the injured buds; and if the Vine was well stored with fruitful sap, these second starts would most likely have shown fruit. In support of this opinion we once cut off every bit of young wood from a Vine, and yet had plenty of fruit. We can give no direct answer on this subject, as we do not know the exact state of the Vine; and, besides, the cutting and wounding you have subjected it to is depriving the Vine of the flows of sap, which would have helped to throw out fresh, or rather the latent buds. We think the sap must be trickling down the bark instead of bursting through it. It is late to try to stop it. However, you might let the vinery get as cool as possible, and then in the evening dry the cuts; place a red hot iron over them for a few seconds, and then daub-up with thick red lead. You will be sure to have good wood for next year, and though you may now have some fruit, we should have been more sanguine if you had done nothing in the way of cutting or wounding the Vine.]

### COMBINING GLASS WITH TIFFANY IN CONSTRUCTING AN ORCHARD-HOUSE.

I HAVE a lean-to tiffany-house, 18 feet long by  $7\frac{1}{2}$  feet broad, placed against a wall facing the west. Supposing I remove the tiffany and cover the top with large glass—say 20 inches by 15 inches, and the side beads to the depth of 2 feet, and the remaining 3 feet with wood in the shape of an eighteen-inch drop ventilator, and the other 18 inches, with fixed planking, should I have a chance of ripening Peaches and Nectarines in pots in it? To enable you to assist me with your counsel I must mention that the sun never reaches the foot of the wall until half-past one; but then on a fine day the heat is very great, and I keep it until it sets. Our climate is mild, but damp; yet from my situation, half-way up a steep hill, and the lightness of the soil, I have no reason to complain of the moisture save that in very wet seasons the atmosphere becomes charged with an excess of it, owing to the circumstance of the surrounding moors for miles being inundated. In days of old by some I'm told (pardon the rhyme) the good monks of Muchelney Abbey had a vineyard within a stone's throw of my abode, although the sea in its desire to minister to another of their wants, during Lent especially, swept over these moors. Surely, then, I may hope to have some success with my western aspect, although it is adulterated with a slight dash of north. The tiffany-house was originally placed against a north wall as a protection to various plants, Ferns, &c, during the summer months. Finding, however, that the shade was too great, I had it removed to its present site. There unfortunately it will be exposed to the Atlantic gales which blow over my garden at a rate sufficient to carry away everything but a man's creditors. However, I mean to let it stand one to see how tiffany will resist a strong wind. It has already withstood several slashing ones from the north-west without showing a single rip. Should I find it equal to the demand made upon it I feel inclined to leave the sides as they are of tiffany, and content myself with covering the top with glass to secure more light and dryness. I may add that the tiffany is nailed on wooden frames made of inch laths, and slide into their places like shop shutters. A quarter of an hour is sufficient to strip the house of every morsel of tiffany, and I therefore find these side frames very convenient in summer time, as I am thus enabled to let the balmy air ramble as it lists. Supposing the tiffany to give way, what would become of the glass roof? I do not ask whether it would go, because I am more likely to know than yourself; out would it resist the gust? I fear not.—A READER, *Somerset*.

[If you had the angular piece above each doorway made to open and a couple of squares in the centre of the roof close to the ridge, a foot ventilator might do in front. We think the tiffany might stand a long time for sides if properly supported; but enough of air would not go through it on a sunny day, and, therefore, you would need more top air. In lean-to houses the want of air at top is ruinous with a ventilator at front. We think two in the centre at the ridge would do if the angular piece at each end can be opened. But for having the tiffany we should prefer the ends to be of glass and wood, as you propose. The plants will succeed well enough.]

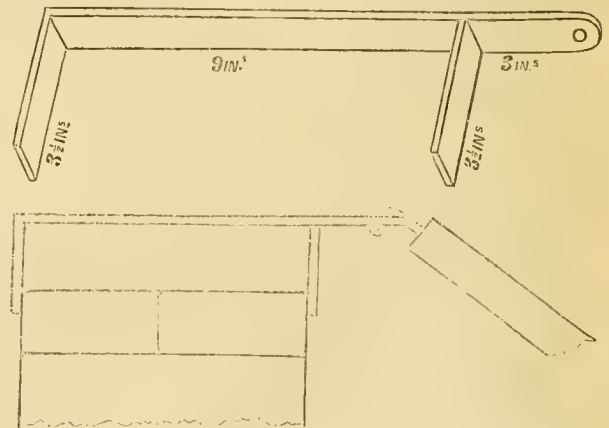
### THE WALTONIAN FIXER FOR WALL SHELTERS.

TALK about fixing, here is a fix and a finish at one stroke which will fix anything against a wall that is good and useful for screening the blossoms of fruit trees from frost, and the fruit itself from birds and insects. This fix is made to "clip" a nine-inch wall without a coping; but it may be made so as to clip any coping, and a wall of any thickness. Let the width, between the two claws of the fixer, be exactly the same as the wall or other substance is in thickness, and it will clip anything, from the ridge of a hothouse to the thickest wall in the country, and the moment you fix it you may hang a ton weight to the eye of it by means of a hook, and it will bear it on the perpendicular as long as the strength of the wall, or wall-plate will bear so much perpendicular pressure.

These fixers are put on the wall or taken off as easily as one's slippers. Mr. Walton had them in use for the last four years, and I had been watching them the whole time. He has them and glass lights, the same as for Cucumbers, on the hook-and-eye system of fastening.

There are two hooks to each light, one on either side, screwed to each stile or corner, and each light has two fixers clipping the wall so as to receive the hooks. The length of the eye at the end of the fixer is about 3 inches, and the bend of the hooks makes about another inch, which allows each light to hang down perpendicularly against the wall, and 4 inches from it or from the trees; but it may be suited to a less or a greater distance. Then, on the two lower corners of the light he has a bolt-plate, 3 inches long, screwed on; but two small staples, 3 inches apart, will explain the bolt-plate easier. Through these two staples he runs down an iron bolt into the border, about a foot or so. This iron bolt is not more than half an inch in diameter, and has a turned end like the end of a walking-stick, and that turn rests on the upper staple when the bolt is fixed down.

The night that hurricane blew down the north wing of the Crystal Palace Mr. Walton's hanging light, in another part of his garden, did not budge the eighth of an inch. He has a whole run of these lights, close together as the roof of a Peach-house, over his Peach and Apricot trees, Cherries and Plums at times, without the slightest accident from wind or weather.



The bottom of the lights stands 2 feet above the border, and yet they save the blossoms as effectually as if they were down to the ground, and in frosty weather and cold nights he has a coping of wood; a board 6 inches or 7 inches wide to cover the four-inch space at the top, or all along the top, the board is fastened to the fixer by a bit of leather after the manner of a hinge, so that the coping in fine days may be turned up and back to rest on the top of the wall all day, then the trees are as free as if in the open air, and by pulling a string at night they are as close along the top as if they were on the back wall of a Peach-house.

This contrivance answers perfectly, and there is no end to its application. Get a quantity of these fixers made at the blacksmith's, and a boy could fix them all round the walls of the largest garden in the kingdom, at 4 feet or 5 feet apart, in a few hours. If it were merely for holding a temporary coping while the blossom lasted they would be worth the expense, for they

will last a whole lifetime if they are painted with iron paint. But nets, or canvass, or frigi, or tiffany, might be applied that way as easily as glass lights. The shelter might even be done like window blinds or bad-curtains—a small iron rod with a hook at each end to fall into the eyes of the fixers, and rings and curtains of any material to draw sideways in the morning and pull tight at night. But the housemaid would put you up to that way of it better than a gardener, and you can see yourself how easy it would be to arrange the glass, the canvass, or the what-would-be-necessary to keep out the wasps and tomtits when the fruit is becoming ripe.—D. BEATON.

### CERASTIUM BIEBERSTEINII FOR FLOWER GARDENS.

Who does not remember with what surprise the news was received a short time, comparatively, since that the hardy perennial *Cerastium tomentosum* was a suitable plant for our highly decorative and still improving flower gardens? And what should we do without it now? Where shall we find a substitute for it? And where shall we find another plant to surpass it for the same purpose? Is it possible?—That is a question time will answer better than I can do now; but this I know, that there is one of the species in this same genus which should be somewhere in England, that would totally eclipse *tomentosum*, valuable as it is at present.

There is in some botanical works a species described or noticed, said to have been introduced into English gardens about forty-two years since, called *C. Biebersteinii*. Now, where is this lovely, white, woolly, perfectly hardy perennial to be found? It is larger in the foliage, more woolly, whiter, more dense in habit, and in every way superior to the before-mentioned *C. tomentosum* for an edging, or for groundwork in panelling; and see it at what season of the year you will, compared one with the other, *Biebersteinii* is the superior kind. In fact, if the two were growing side by side, I venture to say, as a practical man, that there would not be one in a thousand but would say, "Give me the latter. *Tomentosum* must go back to the herbaceous borders, rockeries, &c., for us."

If this species is so valuable as I assert, the question next forces itself upon us, Where is it to be found? Who is there acquainted with it? Has it been lost? Can it be reintroduced? Will it pay the nurserymen to seek it out as a commercial speculation? I answer each of the questions in the affirmative. Then which of our firms, famous for their energetic movements in the case of anything new in the bedding-out class of plants, will be the first to obtain and exhibit at the meetings of the Floral Committee of the Royal Horticultural Society plants of this particular species? Let them exhibit if they will a plant of each, or plants of each, side by side, and if they do not receive a good recommendatory note of introduction to the gardening public I shall be deceived in my judgment. But, I feel persuaded that it will be ordered by thousands if it is offered at a reasonable price; and let it, if possible, be introduced into our elaborate flower gardens during the present season, that our visitors may look with increasing delight at the persevering energy of the English gardener who will, can, and does, turn every useful plant to advantage. In conclusion, let us hope that among the wonderful improvements of new plants that are to be produced this year, *Cerastium Biebersteinii* may be one.—NICKERBOOR.

### PACKING CUT FLOWERS FOR TRAVELLING.

HAVING seen in your periodical of April 1st a suggestion made by you for the purpose of elucidating a system of packing cut flowers for safe transmission to a distance, I beg to send you a description of the system employed here (Combe Abbey) by the intelligent gardener, Mr. Miller.

First, a box is made of half-inch deal, the length, breadth, and depth of which may be according to the size of the bunches of flowers. Then take two cords along the box longitudinally, 1 inch apart and 2 inches from the bottom. After which take other two lines of cord transversely, and at right angles to the first two lines put in, 1 inch apart and 6 inches above the other two lines, just according to the length of stalk of the bunch. Nothing more is done but tying two ligatures round each of the rows of cording. This done, prepare your bunch by tying some damp moss round the footstalks of your bouquet, insert it

down through the cross lines of cord, and run the small ties previously made close to the bunch, which makes it quite secure from moving in any direction.

By this means you have a simple, economical, and effective mode of transmitting flowers to any distance, and preserving them as fresh as when cut.—P.

### A CAUTION.

"To whom?" ejaculates the reader, and I reply, To all who have vinerics; more especially to you (and there are very many such), who have a little pet viney of your own, not enclosed, within a garden, in entirety by walls—one of the many advantages of which being to protect the contents more or less from the many enemies to successful cultivation. Did I not write this, "A Caution," but head it more properly, "Vines Eaten by Mice," the chances are, you whom it most concerns would pass it over in anticipation of the usually more pleasing matter contained in the pages of the Journal you are at present perusing, with a censure upon any who could negligently permit such a thing.

Having decoyed you to perusal of this, I will proceed at once to explain how those pilfering little michers, the smallest of all beasts, mice, have twice within my experience destroyed the whole growth, once of Vines some six years old, by eating, or, perhaps to speak more within the meaning of my deductions, gnawing it in two at the base. Last January the second unfortunate occurrence of this sort was shown to me, when Vines with fine wood of two summers' growth were served in precisely the same way as the former ones. This was entirely unknown to the sufferers, until the Vines, being forced, drooped all at once, which necessarily led to inspection. The moss placed in the vacancies in the wall to admit the Vines from the exterior border to the interior of the house being removed, it was seen, by the Vines falling in at the base, what was the mortifying cause. The mice had cut them clean in two. This is the place they select upon which to satiate their nibbling propensity.

Ere I conclude I will recommend as a possible preventive, that traps be kept regularly supplied with baits in gardens, whether the accustomed depredations of those little pests are visible or not, as they will accept of anything in the form of what they have an habitual liking to, and that the more readily above than below ground.

Why they eat a Vine in the way mentioned above cannot be satisfactorily affirmed. I am led to infer that the mischief only occurs in dry weather when no heavy dews fall, and that it is done for the attainment of the moisture in the sap when no water is near and the accustomed rain or dew-drops upon blades of grass or points of straw in the thatch are not attainable. As a prevention it would be advisable to place some small garden-pans or saucers containing water within or around.—W. EARLEY, *Digswell*.

### REMEDY FOR MILDEW ON FERNS.

To recommend an article which answers its purpose better than others of its class, however much it may serve the interests of the producer, is to confer a very far greater benefit on the consumer. Under these circumstances I shall be glad to recommend to other Fern-growers, "Bell's Preparation for Killing the Mildew." This being one of the most unmanageable pests of our ferneries, and the remedy being, hitherto, so bad as the disease; for as all the beauty of Ferns depends upon the foliage, to have this looking as if the leaves had been sprinkled over with a whitening-brush, at once renders them objects of disgust, instead of being attractive; and it is something to be able to subdue the enemy and at the same time to give the plants the benefit of a thorough detergent, which leaves them freshened-up and as clean as if newly unfolded.

I have found it thoroughly successful, and if used with soft or rain-water all that can be desired.—W. K. BRIDGMAN.

[We never before heard of this remedy. Why does not the proprietor advertise it?—EDS. J. OF H.]

MR. JOHN SPENCER.—It will be gratifying to many of our readers to hear that Mr. Spencer, who has for twenty-five years acted in the capacity of gardener to the Marquis of Lansdowne, at Bowood, with so much credit to himself and benefit to the

profession, has so secured the respect and confidence of his employer, that he has been appointed steward over the whole of the Wiltshire estates. This is a noble testimony to the integrity and ability of one who has for so many years occupied a place in the first ranks of horticulture, and who has, by an honourable and consistent career, enjoyed the esteem of all who have had the advantage of his acquaintance. In addition to this appointment, Mr. Spencer will still retain the superintendence of the garden.

#### MILLER'S HORSESHOE-LEAF PINK GERANIUM—RETAINING VARIEGATION.

I do not think this plant is so near extinction as Mr. Beaton assumes it to be; at any rate twenty years ago there existed large bushes of it in my father's garden, which looked shabby enough when put away for the winter under the greenhouse stage, but in summer were a perfect sheet of bloom.

I perceive that some of your correspondents claim credit for an ability to produce variegation at will. Perhaps they can assist me to maintain it. All my stock of Brewer's Variegated Geranium has returned to the original colour, and my *Farfugium grande* is fast accomplishing the same process. I have several very fine four-year-old plants of the latter that are fast losing all their spots, and I am quite at a loss to account for the circumstance. They have been kept and grown in a cool greenhouse, and occasionally watered with weak guano water. Could this have had anything to do with it?—ALFRED COPLAND.

[Our plants of *Farfugium grande* and all others that are kept so cool as yours are just in the same condition. Stove heat will do all you require. Mr. Beaton assures us he never said anything about a scarcity of Miller's Pink Horseshoe Geranium.]

#### ORCHIDS PRODUCING SEED-PODS.

A CORRESPONDENT in a contemporary asks for information bearing upon this question which, so far as we are aware, up to this time has received no reply. His case is represented thus:—

"CATTLEYAS.—R. C. K. says that last August he impregnated a flower of *Cattleya crispa* with pollen from *C. amethystina*, and has now on the plant a fine fruit the size of a bantam's egg, not yet ripe. He asks 1, whether this is unusual; 2, if any of our readers have succeeded in obtaining seedlings; and 3, for any practical advice as to germinating the seed and treating the seedlings."

So far as my experience goes, there is nothing unusual in obtaining seed-pods and seed in abundance from more than one species; but I have never yet been fortunate enough to get the seed to germinate. However, I never had so successful a hit as during last season, and that, too, was obtained without the slightest manipulation. We have no less than five seed-pods of *Cattleya Mossia*, one of *Lelia cinnabarina*, one of *Odontoglossum grande*, two of *Epidendrum aurantiacum*, one of *Chysis aurea*, and one of *Dendrobium heterocarpum*, all full of seed in the very best order, and the majority of them just now undergoing a series of trials with the view of testing the best materials and the proper temperature to induce and promote vegetation. It will be at once apparent to those who are familiar with their geographical distribution, that we have examples from Brazil, Rio de Janeiro, Guatemala, Peru, Chili, and the East Indies in the way of reproduction.

All these seed-pods are from last season's flowers; nearly all of them required from eight to nine months to remain on the plant, and should never be taken therefrom until beginning to burst their three-lobed seed-vessel. If placed in common garden saucers in the hottest part of the East India house, where no water can get access, the seed will rapidly disunite, and each seed-pod, by a shake of the hand, will disperse its contents like very fine sawdust, and might easily sow moderately thick a square yard of ground. On the other hand, if the manipulator attempts to sow before adopting some such treatment, he will find the attraction or cohesion of the seeds so great that they will not disunite individually, and are therefore not in a condition to warrant sanguine expectations.

We never had more than three seed-pods *in toto* until last season. These were sown in pots, prepared after the manner of established plants, but no symptoms of their race ever appeared.

I had not a clear conscience upon this experiment, as although there was an apparent similitude to their indigenous habits, by the seed being scattered, as one would naturally expect, by the breeze upon mother earth; yet such precious matter, not to speak of the peculiarity of the habits of the whole genus, merited a wider range of practical tests. This season we have filled shallow pans with potsherds within an inch of the brim, some of the edges protruding upwards to the surface; then mixed simple and charred wood, and sphagnum in greater and lesser proportions—sowing the seed now thickly, again thinly, covering with a slight sprinkling of sand, and not covering at all; placing bell-glasses in some cases over them, and in others leaving them to their fate. Some are plunged in strong close heat, others placed in a medium temperature, and under many other circumstances too tedious to mention until we know of successful results.

I have attempted cross-breeding between some of the *Cattleyas* and *Lælias*, but with no fortunate results. I have also, like the correspondent mentioned above, tried the pollen of one variety upon another variety of the same species; but, unlike him, have hitherto been unsuccessful. I am aware that *Calanthe* has produced seedlings, one of them named *Domini*, I believe, in honour of the raiser. Do any of your readers know if any other species has produced like results?—JAMES ANDERSON, *Meadow Bank, Uddingstone.*

#### A FEW DAYS IN IRELAND.—No. 20.

TEMPLE HILL.

(Continued from page 31.)

The greenhouse is connected with a lean-to vinery 70 feet long, 16 feet wide, 16 feet high at back, and 3 feet high in front. This is divided into two houses. The front sashes all open out with a lever, and every alternate top sash slides for air. The houses were filled with young Vines. The first division consisted chiefly of Muscats and Frontignans, with one Lady Downe's Black; the second with Black Hamburgs, Black Prince, West's St. Peter's, and Prolific Sweetwater, of which Mr. Tobin spoke highly. The wood formed was strong, short-jointed, and getting as firm as a piece of oak. We found there was a little difference of opinion about cutting back, and taking only a few bunches in 1862, and taking a more general crop. The Vines were strong enough to yield a good crop, but we hope that Mr. Tobin will be able either to cut back freely, or take only a few bunches, as otherwise if a good crop is taken it will likely be the first and the last good crop the Vines will yield. We have proved it over and over, that a crop from young Vines is just like taking a heavy crop from young Vines in pots. It is rare that such plants ever do any good afterwards.

Besides some nice crops of Melons, we were shown two specimens in a fruit-room. The one was a sort of Canteloup, a fine well-swelled specimen, with an aroma to tickle an epicure, and 20 lbs. in weight! The plant had no particular attention except severe thinning, and a pretty good supply of manure water. The other was a beautiful, smooth, green-rinded, and green-fleshed Melon, about 1½ lb. or a little more, called the Patteridge Melon, a fine variety of the Egyptian, which we grew true for many years and never found one better for the table; but we lost its purity because in a small space this friend and the other friend would send seeds with flaming recommendations as to their respective merits.

Keeping to these forcing departments. There is a nice Pine-stove, though in a rather shady place, but the plants looked remarkably healthy and strong. This house is span-roofed, 50 feet long, 13 feet wide, a bed on each side 5 feet wide, and a passage down the middle 3 feet wide. The house is divided into two equal compartments, and the heating-boiler at one end, at which end are the fruiting plants, the other being devoted to successions. The house is so shaded by a Peach-wall to the south of it, that it scarcely gets an hour of sunshine from November to February, and yet the plants were strong and short, without the least sign of being drawn-up or spindled. This we believe to be entirely owing to the mode of giving air. In each division there are three ventilators on each side wall, 18 inches long by 8 inches wide, hung on pivots in such a way that the fresh air admitted is thrown in over the heads of the plants, and is warmed before reaching them. We hope to tell how Mr. Roynance, at Killakee, by a very simple arrangement effects this

with front air. Much the same principle is carried out here though by a plan a little different. Besides the above, there are three drains, or ventilators, on each side of each division that come from the outside, through the beds on which the Pines are grown—that is, twelve altogether, and the open internal end of these comes against or near to the hot pipes which run on each side of the passage. These drains, or ventilators, are left open night and day, unless in the very worst weather, and to such practice Mr. Tobin ascribes the compact bushy character of the plants. There can be no question that but for the expense of fuel, most forcing-houses would be better of more fresh air than they obtain, especially if heated before coming in contact with the plants. Our friend, Mr. Thomson, of Dalkeith, by similar modes can colour Grapes splendidly in winter, though scarcely ever seeing sunshine.

We must now content ourselves with noticing what may be termed two orchard-houses. The first is a wood and glass span-roofed house, 84 feet long, 24 feet wide, 13½ feet from level of floor to ridge, height at sides from 8 feet to 9 feet, 7 feet of that being glass and moveable. The interior is divided into three beds, those on each side being 5 feet wide, and 2½ feet above the pathway. The centre bed is 8 feet wide, 1½ foot above the pathway, and a walk 3 feet wide goes all round it. A row of nice stubby Peach trees with the wood looking beautiful was planted along the centre, and a row is placed in pots on each side to fill the openings. The side borders are supplied with two rows of trees in pots. A good proportion of these were out of doors to get all the sun and air possible before being housed for the winter. We noticed, however, some fine specimens of Duchesse d'Angoulême Pear in a small pot in the house, fully 1 lb. weight and nearly ripe, and some pretty specimens of Eugenia Ugni, covered with its small aromatic fruit.

There are main-bearers for the roof 8 feet apart, and supported by iron pillars. These bearers were tied by iron rods crossing from side to side of the house. Vines were planted in the side-borders to go up the roof, and also against the pillars, so as to form transversely and longitudinally something like a series of arches, which will have a fine effect in summer when the Vines are established. About forty Vines are thus used, and will yet permit a great amount of light to the plants in the beds. Pipes for heating go round the pathways, but are never used except in frosty weather. Under such circumstances the Prolific Sweet-water ripens three weeks before the Royal Muscadine. There were fine bunches of Raisin de Calabre, which were getting ripe, and which will hang a long time without shrivelling.

The other orchard-house is an out-door Pear-house, with which we were so much gratified that to its dimensions and details we would direct the attention of general readers, and especially amateurs who wish to make the most of their little gardens. This simple structure is also 84 feet long, 18 feet wide, 10 feet high at ridge, being span-roofed, and 7 feet high at the sides. The roof is formed of stout spars for rafters fastened to the ridge-board at top, and at a neat wall-plate at the sides. The sides, and therefore the roof, are supported by inch-and-a-half iron bars beaded at bottom into large stones, and fastened to the wall-plate at the top. The house is so light-like, and seems to stand without support; as the rods are concealed by a Privet-hedge at each side, which is kept closely clipped in summer, and allowed to grow a little in winter and spring. The roof is furnished with canvass in spring, pulled up and down as desirable by means of rod and pulley. This simple structure has three rows of Pear trees standing 6 feet apart each way. The centre row under the ridge had trees from 8 feet to 9 feet in height. In the two side rows the trees ranged about 5 feet in height. There was not much fruit—not owing to frost, but to the season of 1860 being so dull and wet as to prevent the ripening of the buds. Notwithstanding the wet of 1861, there had been more sun, and almost every tree was a picture, bristling with fine rounded bloom-buds from the top to the ground. The centre row needs root-pruning in three years, as they are planted on what was a hard walk with about 18 inches of soil to grow in. The two side rows growing in the free soil with no hard substance beneath them are generally root-pruned every other year. What with devastation by birds and ruin by frost in our getting-more-uncertain climate, need any comparison be instituted between such a system, and growing fruit on tall standards, or in a dwarf state in lines or borders, as respects ease of protecting, certainty of a crop, economy of space, pleasure of attending to the trees, and examining the fruit? We do not know what many amateurs may now be inclined to do—we

know what we should like to do. We rather think we felt a spice of envy about Mr. Tobin possessing such a nice Pear-orchard so completely under control, and perhaps all the more, as it had to be kept bottled-up; for Mr. Tobin is not more distinguished for kind courtesies than for retiring modesty. R. FISK.

## FLORISTS' FLOWERS, THEIR DISTINGUISHING CHARACTERISTICS, CULTIVATION, AND VARIETIES.—NO. 4.

### THE CARNATION AND THE PICOTEE.

We have grouped these two flowers together, as they are generally grown so in collections, and because there are some dear good people who frequently want to know "which is which." We can, therefore, say to all such, "Look on this picture and on that," and there will be but little difficulty in your minds afterwards. You will, observe, my good old friend, if you put on your best specs, that the markings in the Carnation are in bars from the base to the edge of the petal, while in the Picotee they are confined to a lacing on the edge." "Oh! but," some florist will exclaim, "surely no person is so idiotic as not to know the difference!" Ah, we little know each other's ignorances; only let us be tender when we know we ourselves are so very far out in a great many things. A worthy gentleman, who, I doubt not from his bearing and peculiar method of dealing with the unfortunate letter H, was a worthy citizen of London town, accosted me the other day at the Flower Show at Kensington, as we were standing together opposite a number of Cinerarias, "Pray, sir, are those a kind of Polyanthus?" Now, would it have done to have laughed in that good man's face and told him "No?" I could only say, "Not exactly, they are called Cinerarias;" for I feel that while I could stand a pretty good competitive examination on the subject of florists' flowers, I had rather not take up the subjects of banking, the stocks, or the funds, about which my friend, whoever he was, I have no doubt was quite *au fait*. There is one thing about which a florist cannot be so charitable—when those who have no taste for his special hobby affect a sort of contempt for his puerility, or pronounce his fine house full of Pelargoniums or stage of Auriculas as like as two peas, and ask, "What difference now is there between them?" So have I seen a country boor lounging through a room full of Etruscan vases of the most exquisite models, "Lawks! them pitchers be all the zame, beant they?"

Well, I am getting far away from my subject, although I dare say a good many folks would make the same observation about a first-rate collection of these fragrant and attractive flowers; but let any one grow them, and they will then discover those delicate differences of markings and colours which a florist's eye so immediately detects. Is it not the same in other matters to the eye of an educated person even? If you open one of Mr. Lovell Reeve's magnificent monographs of shells there is an immense similarity in the species that form the genus; but become a conchologist, and then all these delicate markings, those little tubercles, those varieties in shape, all become invested with peculiar interest, and you wonder you could have been so daft.

The CHARACTERISTICS of a Carnation are best seen by the figure, which is, however, not more than half the size to which modern floricultural skill has brought this flower. The pod (as the calyx is technically called), should be long, as then the flower is not liable to burst it, as is the case when it is short. The flower should be quite circular, and rising up gradually towards the centre so as to form half a ball. The outer or guard petals should be large and few in number; and the other petals should be regularly disposed on them, and diminish in size towards the centre. In saying this, we beg it be borne distinctly in mind that such a flower as is represented in the drawing is what is called a dressed flower (of this more anon). The texture of the petals should be thick and waxlike, and the markings distinct and clear; the ground a pure white, any flushing or running of the colour being a decided disqualification.

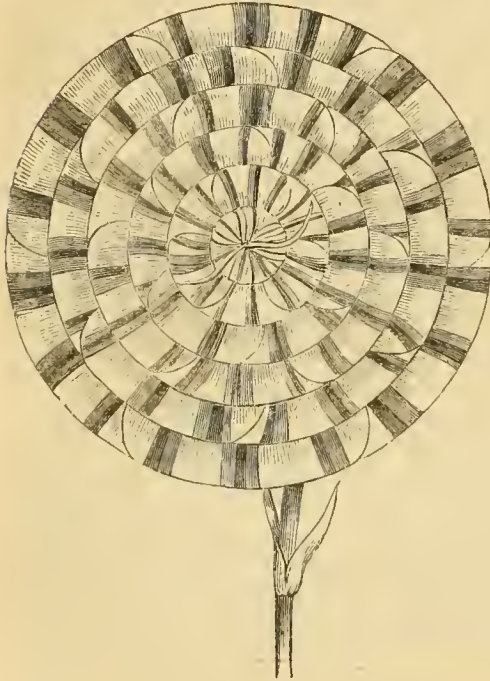
In the case of the Picotee the same rules hold good in reference to shape and substance; while the colour should be confined to the edge, and not run down the petals in bars.

The grass, as the foliage of the plant is called, should be a fine bluish-green: and now-a-days I think that no new flowers of

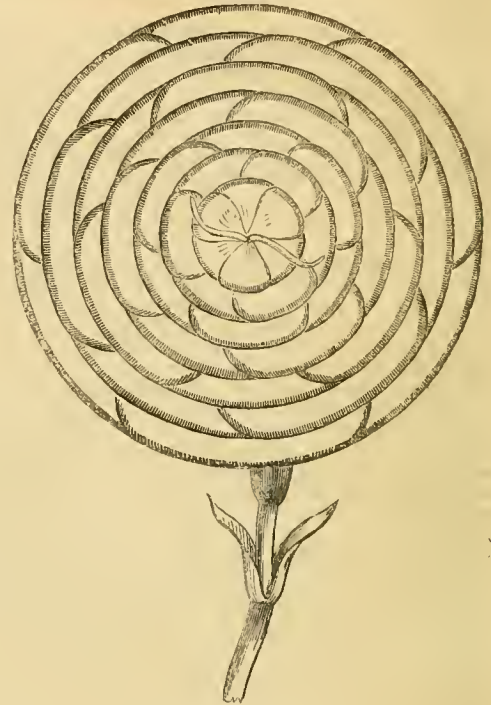
delicate habit ought to be tolerated at all. There are some we cannot yet throw away which unfortunately are delicate, Brooks' Flora's Garland and Easom's Admiral Curzon for example; but if a new flower in either of these classes be admitted it ought to be superior to them in point of habit, for in other respects I question if they can be beaten.

The CULTIVATION of these classes can only be properly managed by growing them in pots. The old-fashioned plan of beds has been deservedly going out of vogue for some years past. I say deservedly, for one is so much more free from the depredations of insects, and the work of layering is not of that terrible break-back character. The pots should be about 10 inches

across, and a pair may be placed in each, one stake answering for the two flower-stems. The compost (but I am going over ground I have trodden before), should be one-third loam, one-third leaf mould, and one-third rotted frame-manure, well mixed together and carefully looked over, as one wireworm—a nasty, yellow-looking monster—will completely destroy the best pair you have. When they are potted it is a good plan to place a piece of potato or carrot in each pot, and examine it every three or four days. This acts as a trap to the vermin, the only way to get rid of them being that of the finger and thumb. I have tried all kinds of mixtures, and they rather seem to thrive in them than otherwise. The pots should be placed on a walk or other



CARNATION.



PICOTEE.

convenient position, and kept clean. When the plants begin to spindle, as it is technically called—that is, the flower-stems begin to increase in length, they should be loosely tied to the stake, which we suppose to have been already placed between the plants; and if any green fly appear on the shoots they should be brushed off, or the shoots washed with diluted tobacco-water. Keep the surface soil, too, well stirred; and as the blooming time approaches it will not be a bad plan to top-dress with some well-rotted manure—remembering, however, that the higher-coloured varieties are somewhat impatient of too much manure, and are apt to run when they are overdone with it. When the flower-buds appear they should be pinched off, leaving only three on each stem, and these tolerably wide apart. As the bud swells a piece of bast mat should be tied round it, and the segments of the pod split down on each side, so as to prevent bursting. It will now be time to place them on a blooming-stage, with an awning over them to protect them from the rain and sun. I have bloomed mine very well in a tiffany-house open at the sides, so as to admit a free current of air and prevent the plants from being drawn. If you desire a really good bloom eards must be placed under each pod; and as the petals open they should be gently assisted so as to lie flat on the card. But many varieties will open without this trouble. When blooming is over, unless you wish to save seed, cut down the flower-stems, take out the stakes, and have all ready for layering. I have already given in Vol. I. of THE JOURNAL OF HORTICULTURE, pages 6 and 456, 457, lists of what seem to me the most approved varieties; but to make this short paper complete I add a list, which comprises some good and sterling sorts.

## CARNATIONS.

*Scarlet Bizarres.*  
Admiral Curzon (Easom)  
Mr. Ainsworth (Holland)  
Captain Thompson (Puxley)  
Oliver Goldsmith (Turner)  
William Pitt (Puxley)  
Lord Ranelagh (Holliday)  
Dreadnought (Daniels)

*Crimson Bizarres.*  
Black Diamond (Haines)  
Hope (Puxley)  
Lord Milton (Ely)  
Tenby Rival (Puxley)  
Orestes (Puxley)

*Pin's and Purple Bizarres.*  
Falconbridge (May)  
Captivation (Taylor)  
John of Gaunt (May)  
Sarah Payne (Ward)  
Lady of the Lake (Hale)

*Red-edged.*  
Ada Mary (Smith)  
Dr. Pittman (Turner)  
Eugenie (Turner)  
Lauretta (Smith)  
Lavinia (May)  
Favorita (Kirtland)  
Mrs. Norman (Norman).

*Purple-edged*  
Amy Robsart (Dodwell)  
Countess (Fellowes)

—D., Deal.

*Rose Flakes.*

Aglaya (May)  
Poor Tom (May)  
Flora's Garland (Brook)  
Mr. Martin (Elrington)  
Rose of Castille (Headley)

*Purple Flakes.*

Ascendant (May)  
Mayor of Nottingham (Taylor)  
Earl Stamford (Elliott)  
Squire Trow (Jackson)  
Florence Nightingale

*Scarlet Flakes.*

Africana (Chillingford)  
Christopher Sly (May)  
Defiance (Puxley)  
Sir Henry Havelock (Puxley)  
Sportsman (Hedderley)  
Mars (Puxley)

## PICOTEEES.

*Purple-edged—(continued).*

Duke of Devonshire (Bayly)  
John Linton (Headley)  
Rival Purple (Headley)

*Rose and Scarlet-edged.*

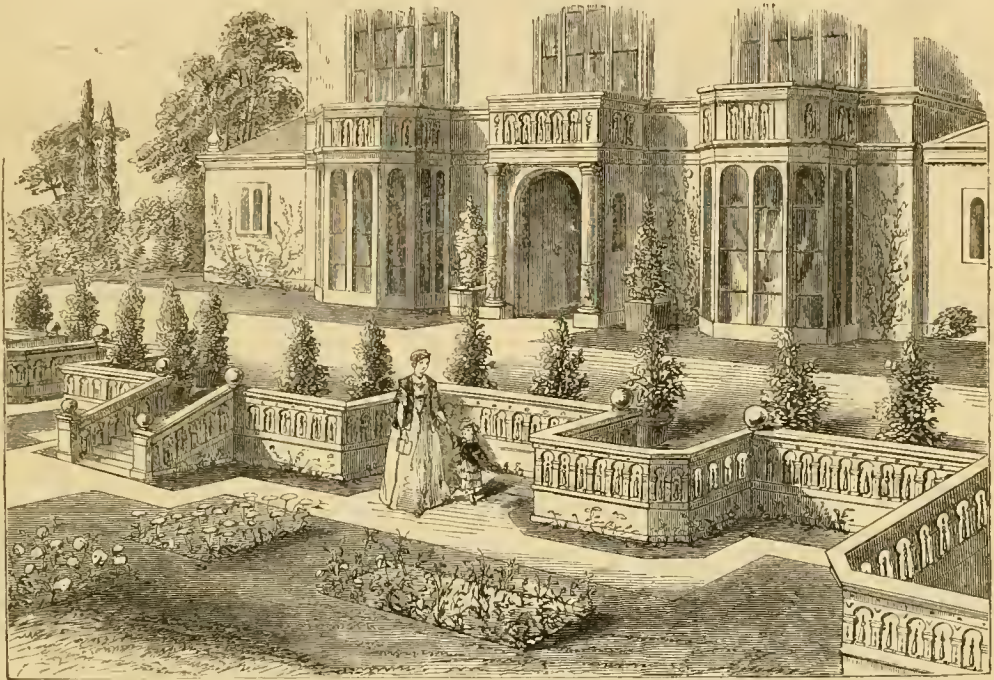
Miss Meeking (Kirtland)  
Rev. H. Matthews (Kirtland)  
Rosy Circle (Payne)  
Mrs. Drake (Turner)  
Princess Alice (Kirtland)

THE MANAGEMENT AND TRAINING OF PYRAMIDAL PELARGONIUMS.

BY THE LATE MR. GEORGE M'EWEN, OF THE HORTICULTURAL SOCIETY'S GARDEN AT CHISWICK. WITH SOME INTRODUCTORY REMARKS AND ILLUSTRATIONS BY MR. H. N. HUMPHREYS.

IN those parts of the Continent, where the nature of the climate admits of the cultivation of the Orange tree with much more facility than in England, those noble plants, in their massive square tubs, form the grandest and most appropriate decoration to terraco walks that can be conceived. The effect thus produced can only be witnessed in this country for a short month or two in our royal gardens at Hampton Court, and in a few celebrated private gardens where expense or inconvenience is no object. The immense accommodation required in the form of orangeries, necessary to furnish terraces with Orange trees in this country, renders their general culture for such a purpose impossible; but other plants, if cultivated expressly for

the purposes of terraco decoration, might advantageously supply their place. At more than one establishment with which I am acquainted, I have seen Fuchsias trained to a height of 6 feet and 8 feet in height, especially for placing out on a terrace during the summer, and if they were trained to the same form as the Pelargoniums, and made to alternate with them, the effect would be very good. I succeeded myself in training some of these plants to a height of about 5 feet, and then suffered them to form a bushy head, similar to standard Roses or Pomegranates. This forms a pleasing variety, and would contrast well with pyramidal Pelargoniums, for artists find that effects produced by striking contrasts are sometimes more valuable than those obtained by uniformity.



Garden Terrace, showing the arrangement of Pyramidal Pelargoniums.

The above sketch exhibits a terrace on which pyramidal Pelargoniums are placed in a manner to produce a very agreeable effect, the acuminating lines of the Pelargoniums contrasting well with the predominant horizontal lines of the terrace, but the full advantage of the arrangement can only be shown by the aid of colour. Sufficient indication is given, however, to enable any person to judge of the general effect which might be produced by Pelargoniums trained in this manner and in a similar position. The species that has been tried for this purpose is not one of the most robust; and I imagine that for out-door purposes the common horseshoe Pelargonium would form a larger, and perhaps more effective object, particularly if it were to alternate with the new pink variety, or that with variegated foliage. [With these remarks of Mr. Humphreys on the artistic effects of pyramidal Pelargoniums, we proceed to Mr. M'Ewen's practical instructions on the subject.]

The end of January, or beginning of February, is a good time to begin to form pyramidal Pelargoniums. Both old and young plants are available; but, as an expeditions mode has many advantages, we recommend to select from the old plants the most healthy and high-coloured, and, as the unhandsome can be best spared, choose from those with whose symmetry you are not pleased. Preserve the best centre shoot as the leader; and from it cut away all its rivals, or side shoots; this act will increase lateral shoots, which it must be an object to encourage. Tie-up the main shoot to a good strong stake, which may be left longer than is requisite at the time, as a vigorous growth may be anticipated.

The chief attention must now be directed to divert the growth

from the top to the under lateral shoots. Stopping the main shoot would tend to it, but this would, for a time, thwart a not less important point—the getting up of the plant. However, by a constant pinching of the upper shoots or rival leaders, by taking off occasionally there a large leaf, and by preserving every leaf, and bending downward, and regulating the shoots at the base and body of the plant, and also by turning and exposing fully to the light the vacant parts, an approach to the form you aim at will be daily augmenting. You must lay aside, for the present, the standing rule, “that when you stop one shoot, you must stop all.” Stop and bend to the place wanting, wherever the strong shoots appear, always excepting the centre.

But it will be found that the leader will be occasionally running to flower; in this case stop it, and draw in the next wood shoot. We may here mention that, previous to bending the side shoots much, it is indispensable to have, near the heel of each lateral, what we shall call a guard-tie, that when the shoot is bent—and it can be done by degrees to a great distance—the stress of the bend may come upon the tie, and thus prevent the laterals breaking off. We may assume that, about the middle of March, there is a great growth upon the plant, and that the pot is full of roots; and as the making of wood is of primary importance (for it will take another season to make this a show plant), it must have a large shift, the drainage perfect, and the soil rich. The size of the pot must be regulated by the vigour and size of the plant; but a shift from an 11-inch, or rather an 8-inch pot, to a No. 6 or 13-inch pot, is quite compatible with success; this size, too, will support well, and give good proportion to a plant from 5 feet to 6 feet in height. The soil compose

nearly thus:—Turfy loam drawn asunder by the hand, and well decomposed dung, equal parts; one-fourth peat; and silver sand sufficient to colour the whole. Little water will be required until the plant takes with the new soil, and of course this is hastened by giving it a shady, close, and moist atmosphere for a day or two. We said that one stake is sufficient, and we say so still; but, in a little while, a few temporary stakes for the tender shoots may be of service, before provision is made for their permanent support. By the middle of May, the plants should have made an apparent fulness of shoots, and will present an outline of the pyramid. But this fulness is only apparent, for when each of these shoots is extended 9 inches or more, large vacant spaces will present themselves; therefore, a general stopping of the whole plant must shortly take place. If other things are equal, the best time to do this is when the shoots at the base extend nearly to the rim of the pot after being thus finally stopped. The reason for this will appear, when the final tying-in of the plant in June takes place, of which we now speak. Surround the under side of the rim of the pot with a strong wire, with or without eyes. To this fasten, at intervals of 6 inches or 7 inches, smaller wires to run vertically, and fastened near the top of the stake. To these upright wires may be fastened, if necessary, a few pieces of wire or twine running horizontally; upon this the flowering shoots are tied, and the work is done. We close by submitting a few general directions, which will, no doubt, be useful to a large class of those amateur readers who may be beginning to "grow Geraniums." We will suppose the growing season to begin in February.

*February and March.*—Temperature at night from 40° to 45°; by day, 10° more. In dull, cold weather, light a little fire; increase the moisture as the season advances, and keep the atmosphere of the house pure by airing daily. Guard against cutting winds. Fumigate, for two or three nights successively, at the first appearance of green fly. In the evenings, towards April, a little guano or liquid manure may be cast about the house. Water the plants only with soft water. Avoid steaming at all periods.

*April and May.*—Night temperature, from 45° to 50°. By day, 10° to 20° more. Saturate the atmosphere with moisture. Shut up with sun heat, but give air daily, and at night also when the air is calm and warm. This will prevent the plants drawing. And this also do: keep the plants standing free of each other, and turn them often; see that the sun does not strike on the pot.

*June and July.*—Night temperature, from 50° to 55°. By day, 60° to 80°. We have entered the maturing and flowering period. Give increased air and less moisture. When the trusses of flowers appear, then apply weak, clear liquid manure at every alternate watering. The display of flowers will be only moderate compared with what should be next year. To prolong the blooming season, shading and coolness are indispensable; and not less so is gauze or lace over the openings of the house, to prevent insects, as bees, touching a flower. Pick off the bloom so soon as it fades. Seed-bearing exhausts plants, and so does prolonged flowering; avoid both, for the first year particularly.

*August and September.*—Night temperature, from 55° to 60°. By day, 20° more. Remove the plants to pits or a sheltered situation. Withhold water, and give the plants the full glare of day. If they are out of doors, lay the pots on their sides. When the wood is brown and firm, and growth stopped, cut the plant well in, giving due attention to keeping the pyramidal shape; and if the shoots at the base are cut to about 7 inches, or flush with the pot, it will be right. This is the resting period. But we would greatly recommend to steal a march at this period, and try to have the plants fully matured, and cut back in August. By the end of September the young shoots will be appearing. Lift the pot, syringe, and give them the benefit of night dews, without watering the ball. Shift the plants, and induce them to grow freely.

*October and November.*—Temperature decrease with the season—from 55° to 40° at night. If the plants are not shifted, do it early, by shaking away the old soil, slightly pruning the roots, and using say an 11-inch pot. The soil must be lighter than before, less rich, perfect drainage, also some bits of charcoal mixed with the soil. A caterpillar infests the plants at this period—keep watching and hand-picking it. Take every advantage of sunny days and dewy nights; but frost must be vigilantly guarded against from the middle of October. A luxuriant growth is not, at this period, desirable, but a healthy, short-jointed, and vigorous break or push, which must be kept in check until the end of January. Do not excite the plants now in any way.

*December and January.*—Night temperature from about 35° to 40°. Day from 5° to 10° more. Avoid using much water. In severe weather the house or pits should be covered at night by mats or shutters. This will economise the fuel, and save the energies of the plants. About the beginning of the year the plants may be finally shifted, the house whitewashed, and the temperature slightly increased, advancing afterwards with the season. By fair management you may expect a fine display in time for the June shows.—(*Gardener's Magazine of Botany.*)

## MR. J. STANDISH'S, BAGSHOT AND ASCOT NURSERIES.

(Continued from page 4.)

IN resuming our account of the new Japanese plants sent home by Mr. Fortune, it is but justice to give the place of honour to the noble *Sciadopitys verticillata*, the Umbrella Pine, or Parasol Fir as it is variously called, the latter being the more correct rendering of the scientific name. It has been erroneously described by Eiebold as forming a tree of from 12 feet to 15 feet high, with yellowish-green leaves; but in reality it grows to the height of from 100 feet to 140 feet, and has deep green leaves. These are linear, about 4 inches in length, blunt-pointed, and rather broad. They are arranged in whorls or clusters of thirty or forty at the ends of the branches, and radiate regularly like the ribs of a parasol; from each of these parasols others spring, so that the tree is covered with thousands of these peculiar parasol-like clusters of leaves.

In its growth the tree assumes a pyramidal form with wide-spreading branches at the base and tapering regularly upwards; even in the young specimen which we saw this characteristic was well marked. Altogether the *Sciadopitys* is described by those who have seen it in its native country as a tree of a peculiarly striking and ornamental character; and should it, as it is expected, prove hardy, it must be regarded as an acquisition, second only to the giant *Wellingtonia* itself.

It is now pretty generally known that the *Thuja dolabrata* is perfectly hardy in this country, it having stood uninjured the severe winter of 1860, when even in some places the common Holly was killed to the ground—a property which, coupled with its handsome appearance, must render it a favourite for ornamental planting; but here we have a variety called *Thuja dolabrata variegata*, in which the blackish-green *Arbor-Vitæ*-like foliage is much variegated with white, the variegation like that of most of the Japanese Conifers, coming in large patches. Like the species, it will withstand any amount of cold that it may be subjected to in this climate; and from the height which it is expected to attain here, it will in all probability form an object of great beauty and effect for landscape scenery, as well as for single specimens on lawns.

Another *Thujaopsis* with charming yellow variegation was also pointed out to us, as well as a fine kind called *Thujaopsis Standishi*, with beautifully plaited dark green leaves.

*Retinospora obtusa* is another grand Conifer, which is described by Japanese writers as the glory of the forests. In its native country it grows with a straight stem 70 feet or 80 feet high, and 5 feet or more in diameter, and the wood being white, very close-grained, and susceptible to a high polish, always commands a high price as well for timber as for ornamental purposes in the arts. In habit the plant combines the sturdiness of the Cedar of Lebanon, with a foliage smaller in size than that of any Cypress, in colour of a sad green, the young leaves, however, being of the brightest green. Being found very far north, there can be no doubt of its hardiness; and should the wood acquire the same degree of solidity here that it does in Japan, the tree will be valuable to us not for its ornamental character alone, but also for planting for timber. *Retinospora obtusa variegata*, is a variegated variety of the above with the foliage much blotched with white.

*Retinospora pisifera*, a species with glaucous finely divided leaves, forms a slender ornamental tree of lower growth. Of this there is a variety with white variegations; and another, *aurea*, in which the whole of the young shoots are of a golden hue, like those of *Thuja aurea*. This had a very elegant moss-like appearance. *Retinospora selaginoides* is another species, somewhat like a *Selaginella*, with small branches covered with dark green leafy scales.

*Nageia ovata*, from Yeddo, where it forms a fine evergreen bush, with broad, thick, ovate leaves, without any apparent midrib, of a glossy dark green; and its variety, *Nageia ovata varic-*

gata, which is beautifully striped or blotched with white, are also great acquisitions.

We also noticed a variegated Juniper somewhat resembling *chinensis* in its general character, with glaucous green leaves and white variegations; the true *Juniperus japonica* with glaucous foliage closely imbricated and extremely minute; and two variegated species of *Podocarpus*—one of which, called *corrugatus*, had ovate shining leaves, finely variegated with white, the other having yellow variegations.

A fine variety of *Cephalotaxus Fortunei*, distinguished as *robusta*, is worthy of particular mention on account of its handsome dark green leaves, which differ from those of the species in being broader, thicker, more flat, and much more regularly placed in two rows along the branches. It may also be remarked that it stands the smoke of London very well, and being of free growth it would form a very desirable evergreen tree for suburban gardens.

In cold frames was a large collection of plants, many of which had only come home a few days ago. Among them were fourteen or fifteen sorts of Maple, with curiously cut or variegated leaves—those of one calling to mind the fronds of *Pteris tricolor* both in colour and shape; several double-flowering Cherries, reported to have flowers as large as a Noisette Rose; a new *Deutzia* with red flowers, said to be splendid; a variegated Jasmine; a *Forsythia*, stated to be climbing; a *Lonicera* with green leaves dotted all over with yellow; three or four Clematises; a variegated Cinnamon; and a silver variegated variety of the well-known *Kerria*, or *Coreborus japonicus*; a variegated Bamboo, a pretty dwarf grass-like tuft; a variegated Ivy; and several varieties of *Chrysanthemums*, said to be of altogether an extraordinary character, and likely to give rise to quite a new race from those at present in cultivation; several Oaks with curiously cut leaves; and lastly, *Quercus chinensis*, an evergreen Oak found near Peking and in Chinese Tartary, and, therefore, perfectly hardy. The leaves are long, like those of the Sweet Chestnut, only smaller, and the acorns are large, with handsome cups. The tree, we were informed, attains the height of 30 feet or 40 feet, and is of a very ornamental character.

Passing into a propagating-house we found a beautifully variegated Lily of the Valley, *Convallaria majalis variegata*, its ovate dark green leaves having broad distinct stripes of the purest white running from base to apex. Of course, the specimen shown to us was very young; but should the same purity of colour and distinctness of marking be retained in the more advanced stages of its growth the plant will be invaluable for flower-garden decoration. There was also a variety in which the leaves were merely tipped with green; and another had the leaves striped with yellow. Among a host of other things in this house Mr. Standish pointed out a Saxifrage much esteemed by the Japanese for baskets, the leaves green and rose-coloured on the young shoots, shading down to white on the older ones—quite as free as *sarmentosa*, and, like it, admirable for baskets and covering rockwork; a new *Vitex* just coming up; several sorts of Lilies, one of which of the lanceolatum breed is reported to have finely-spotted flowers 8 inches across; *Lychuis Senno*, described as having beautiful crimson flowers, and its white variety, both of which have only just arrived; the pretty variegated *Gardenia*, the leaves edged with white; a herbaceous *Spiraea*, said to have magnificent red flowers; an Egg Plant from Peking, producing, it is said, fruit as much as 16 inches round; and a fine and very distinct hardy Fern with fronds 2 feet long, and which, when full grown, will probably reach at least twice that length. The fronds being of the brightest green, when young, and much cut, the plant is peculiarly ornamental.

The fernery contained a large collection of new Ferns, to notice more than the names of which would take up more space than we can afford. Among the most remarkable were *Cyathea Cunninghamii* and *Todea pellucida*, and the following new kinds, which are so hardy as to resist five or six degrees of frost and are perhaps capable of bearing even a greater degree of cold:—*Lomaria Fraeeri fluvialis*, and *elongata*, from New Zealand; *Lastræa atrata*, *Cyrtomium caryotioides*, *Cyathea Smithii*, *Polystichum vestitum venustum*, *Woodwardia japonica* and *orientalis* and *Linsæa trichomanoides*. These might be cultivated in rustic boxes or small stone caves with glass fronts, and placed under trees or at the north part of a house, so that the sun could not shine upon them; they will grow with very little light, and merely require to be kept cool and moist, and to have the glass covered with mats or canvass in severe frosty weather. That this mode of culture is eminently successful was proved

by a large glazed case standing beneath a tree and having a fine plant of *Todea pellucida* in the centre, surrounded with *Hymenophyllums*, *Davallias*, *Lomarias*, &c., all in beautiful condition, the only drawback in its appearance being two or three of the more tender Ferns, which Mr. Standish had put there by way of experiment, and which had been unable to withstand the winter. All the protection the case received was that afforded by the tree and slight coverings in frosty weather.

There are many persons who are ardent admirers of Ferns, but who cannot afford to erect a house for the growth of these interesting plants, or who, owing to the small size of their gardens, cannot spare the room which would be taken up by such a structure. To these, then, the knowledge that they may yet grow some of their favourites in the way we have indicated may not be without its advantages. Once a demand existed for glass cases for this purpose manufacturers would soon produce them of all sizes and shapes so as to suit different tastes, and the greater or less means for the gratification of these. It may be well to add that *Hymenophyllum demissum*, *erispatum*, *seruginosum*, *flexuosum*, *polyanthos*, *dilatatum*, *pulcherrimum*, and *scabrum*, with *Trichomanes reniforme*, *T. elongatum*, and *Todea hymenophylloides* will flourish with the same mode of treatment.

Before quitting Bagshot we had just time to glance through some span-roofed pits used as vineries, in which a brisk heat was kept up by linings of dung and leaves. The paths running up the centre of each pit are sunk 3 feet below the surface of the borders and filled up with dung and leaves, and the heat thus generated passes directly beneath the borders in consequence of a space of 9 inches being left between the bottom of these and the floor of the house. Of the excellent result of this ample supply of bottom heat, the enormous size of the bunches was the best evidence. The Vine, it must be remembered, is a native of Asia, where its favourite climate lies between the 36th and 48th parallel of north latitude. Here, though the atmospheric temperature may at times be low in winter, the soil is never so cold as in Britain, and as the season of growth approaches there is a powerful sun which quickly warms the soil and starts the roots into action. And in the culture of the Vine, if this root action is not properly secured in the first instance by a proper degree of heat in the soil, the foliage will derive its supply of nourishment not through the roots but at the expense of the stored-up organisable matter of the stem.

English horticulturists have paid more attention to the subject of bottom heat than those of, perhaps, any other nation; but when even our farmers carrying on their cultural operations on a ruder and more extensive scale are keenly alive to the advantages of draining, not merely in carrying off the surplus waters, but also in raising the temperature, and consequently the productiveness of the soil, it is not too much to predict that the subject of bottom heat will acquire a yet higher degree of importance in the more limited area of the garden.

To resume, however, after this digression. We here saw the Yeddo Vine, which is stated by Mr. Fortune to be a medium-sized red Grape of great excellence, and quite equal to a Grizzly Frontignan in flavour. Possibly it may prove hardy enough for out-door culture against walls. In other houses were Ingram's Hardy Prolific Muscat and Muscat Troveren in pots, furnished with numerous large bunches, and, it may be added, a large batch of seedling varieties, Mr. Standish being assiduous in crossing.

In the Rhododendron grounds, containing about 15,000 American plants, it was, of course, too early in the season to see anything but the foliage; but in this Mr. Standish has effected by skilful hybridising very considerable improvement. One variety, which he has named Mrs. Gair, was beautiful even when in leaf, its foliage being like that of a Magnolia. All the stock on this ground is ultimately to be removed to the nurseries which are in course of formation at Ascot, to which we next proceeded. Here, Mr. Standish has secured upwards of eighty acres of ground opposite the Grand Stand, and surrounding the Royal Kennels. About a fourth of this extent is a nice loam suitable for fruit trees, the remainder being a deep fat peat admirably adapted for growing large specimens of American plants. Digging, trenching, draining, and roadmaking were being actively carried on; in the latter department alone one long avenue, which is intended to sweep round the grounds, will require about two miles of road to be made. On each side of this arc to be ranged all the different hardy Conifers. Already in places the ground was being stocked, and the centre house of a range of glass had been erected and the heating apparatus

completed. One boiler with a heating surface of about 25,000 square inches is to warm the whole of the houses; it is constructed of two-inch pipes connected with syphon bends forming a box surrounding the fire on all sides, and the whole is arched over like an oven. The fuel it is to consume is peat.

It would be premature now to enter into details of the plans which Mr. Standish is working out, but on a future occasion we shall take an opportunity to "report progress."

### PORTRAITS OF NEW AND RARE PLANTS, FLOWERS, AND FRUITS.

**DENDROBIUM LOWII** (Mr. Low's Dendrobium).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of Borneo, at an elevation of 3000 feet. Flowers bright yellow, with red lines on the lip and crimson fringes. Blooms in November.—(*Botanical Magazine*, t. 5303.)

**ANGURIA WARCEWICZII** (Warczewicz's Anguria).—*Nat. ord.*, Cucurbitaceæ. *Linn.*, Dicaia Diandria.—Native of Panama. Stove climber. Flowers brilliant scarlet, blooming in December.—(*Ibid.*, t. 5304.)

**PHYSURUS MACULATUS** (Spotted Physurus).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of Ecuador, South America. It bloomed in November, at Mr. Osborne's, Fulham Nursery. Sir W. Hooker thinks the white spots on the leaves "may not be constant."—(*Ibid.*, t. 5305.)

**CEROPEGIA GARDNERI** (Mr. Gardner's Ceropegia).—*Nat. ord.*, Asclepiadaceæ. *Linn.*, Pentandria Digynia.—Found by Mr. Gardner, at Rambaddo, Ceylon, at an elevation of from 4000 feet to 5000 feet. Flowers white, thickly spotted with dull purple.—(*Ibid.*, t. 5306.)

**BEGONIA PRISMATOCARPA** (*Prism-fruited Begonia*).—*Nat. ord.*, Begoniaceæ. *Linn.*, Monœcia Polyandria.—Native of Fernando Po, at 3000 feet elevation. Flowered at Kew in December. Flowers yellow, but insignificant.—(*Ibid.*, t. 5307.)

**SCILLA BERTHELOTII** (Berthelot's Squill).—*Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—Native of Cameroon River, tropical Africa, and Canary Islands. Flowers pinkish-white, inconspicuous.—(*Ibid.*, t. 5308.)

**BOLBOPHYLLUM RHIZOPHORE** (Mangrove Bolbophyllum).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—"A very lovely little plant." Found growing on Mangrove trees by the Nun River, tropical Africa. Flowered at Kew both in April and November. Flowers reddish-purple, yellow, and brown.—(*Ibid.*, t. 5309.)

**CLOMENOCOMA MONTANA** (Mountain Clomenocoma).—*Nat. ord.*, Compositæ. *Linn.*, Syngenesia superflua.—It has also been called *Dysodia grandiflora*. Native of Guatemala. Crimson orange, "colour of the flower very rich, and it may prove to be a valuable summer bedding plant."—(*Ibid.*, t. 5310.)

**PETUNIA ELIZA MATHIEU** (*P. inimitabilis flore pleno*).—Very double; petals purple and white. "Unquestionably the sensation flower of the season, 1861." Flowers very large, some 4 inches in diameter.—(*Florist and Pomologist*, i., 49.)

**TRANSPARENT GAGE PLUM** (*Syn.*, *Reine Claude Diaphane*).—Yellowish-green, dotted and speckled with bright dark crimson. "A dessert Plum, larger than the old Green Gage, and of the greatest beauty, and most exquisite flavour. Ripe in the beginning and middle of September."—(*Ibid.*, p. 56.)

### THE WEATHER.

WITH the difference of being farther to the south, the weather in Gloucestershire has been nearly similar to that reported by Mr. Ashby, from Lancashire. We have had almost the whole of March and part of April (up to the 10th) very wet; but March and April are rarely both all wet. I have not noticed these two months wet for at least 55 years. The verdure on the grass fields is most superb at present, and the grass on the meadows and pastures, where they are drained and well manured, is very forward. Yesterday the "Black-thorn winter" commenced, with the full blossom of the Sloe or Black Thorn, and who ever saw this take place without frost and cold winds?"

"Emblem of Life, see changeful April sail  
In varying vest along the shadowy skies;  
Now bidding summer's softest zephyrs rise,  
Anon recalling winter's stormy gale,  
And pouring from the clouds her snow and hail."  
—(H. K. White.)

In answer, the last ten days, to those who have been predicting

so early a spring, I have always said "our Black Thorn is only getting into blossom. Wait until this blossom is entirely gone."

The sudden check to vegetation this week will, probably, save the great promise of bud and blossom ready to burst on the fruit trees of all descriptions.

I will read a short paper to some of the young people who fancy when there are a few warm days in March or April, that real spring or summer is approaching.

In the year 1802 we had snow on the 16th of May, and severe frost that day.

In 1805 we had snow about the 10th of May.

In 1809 we had snow in Gloucestershire 6 inches deep on the 21st of April.

In 1816 we had hail and snow in May.

In 1830, after a very warm week, we had snow on the 1st of April, and the thermometer fell in fourteen hours 40°, from 65° Fahr. to 25° in the morning (recorded in *THE COTTAGE GARDENER*.)

In 1837 we had twenty-six days of frost in April, and twenty frosty days in May, real spring only commenced about the 21st of May.

In 1838 another late spring with a fortnight's frost in May. In 1845 we had nineteen severe frosts in March, and ten days skating at the middle of the month.

In 1853 and 1854, about the 7th and 8th of May, snow fell each day in heavy storms.

In 1855 we had a very late spring. The Black Thorn was in blossom until the 10th of May. Frost more or less severe during the first ten days. The White Thorn was not in blossom in the earliest districts before the 28th of May.

On the whole I agree with Mr. Abbey, that we shall have a cold and wet spring, a prevalence of easterly winds, and but little range of temperature.

No one who has studied and noticed the climate of England expects a continuance of genial weather before the middle of May.

In giving a prognostic of the summer, my opinion is that it will be what they term a medium one, that we are likely to have a preponderance of dry weather in May and June, and that July is likely to be a drier month than it was in 1861; but August is likely to have a greater quantity of showery and unsettled weather than in 1861.

The twenty-five fine harvest days in last August saved the Wheat crop throughout England.

Notwithstanding the rich appearance of the early grass above alluded to up to this day (the 10th of April), we are very likely to have a light crop, as I never yet saw premature grass in April turn out well in June and July, the land being chilled by wet previously.—H. W. NEWMAN, *Hillside, Cheltenham*.

### FLAX, WOOL, AND CORK REFUSE FOR GARDEN PURPOSES.

FLAX REFUSE has long been used as a manure, mixed with farmyard manure, in the neighbourhood of York; perhaps, ever since its manufacture commenced. However, the first use of it as a garden material that came to my ears was at Fairfield, near York, about eight years since, and being inquisitive like most other gardeners, I took the trouble of visiting the gardens there, hoping to glean something new about hotbed-making.

Well, having asked to see the new-fashioned plan, I was shown a bed 15 feet long, 9 feet wide, and 6 feet high, in reality composed of flax refuse and stable-dung in equal proportions, which I was informed produced a milder heat but of longer continuance than stable-dung alone. This bed was said to have been made on the 5th of February, and Cucumbers planted a week after that in the bed were, when I visited the place on the 6th of April, producing fruit, some of them 1 foot 10 inches in length, and the plants were pictures of health. The temperature inside the frame was 75° with a dull day and overcast sky, and a thermometer plunged in the soil indicated 87° at 6 inches deep.

Near the same bed was another, newly made, for Melons; and the heat of it, and in the frame above it, was mild and very little higher than that of the Cucumber-frame which had been made six weeks prior.

Flax refuse, therefore, is a material useful for hotbeds; and, applied as manure for Strawberries, the results are equally satisfactory; but the plants are not stimulated into growth so rapidly, nor produce such abundant foliage, as they do when stable-manure is applied. However, the plants continue to

produce annual crops of fine fruit (after a thorough dressing of flax refuse at planting and an annual mulching an inch in depth in March, which also prevents the fruit from being spoiled with heavy rains), for several years. For kitchen-garden crops it is a good fertiliser, but slow in its action, and (as far as my experience goes), not to be preferred to ordinary manure.

**WOOL REFUSE** is a material well adapted for raising a mild, strong, and violent bottom heat, according to the quantity used. Formed into a bed 1 foot 6 inches deep, a mild heat of 75° to 80° is the result; a bed 3 feet high will make the mercury rise to 120°, and sometimes to 180°; whilst a bed 6 feet high will soon set the whole a-blazing, and if we are unfortunate enough to have a frame on the bed that soon is reduced to ashes. Nevertheless, as a heat-producer and used in moderation, and with care, wool refuse, or Billy-muck, is inferior to none other fermenting material; it retains its heat longer than stable manure or tanner's bark.

Used as a manure, after it has laid a year or so to rot its application as a top-dressing to grass is very beneficial, and for garden crops it is a good manure—superior to ordinary dung.

To make a compost of it, it should be laid in a heap to decompose for three years at the least, when it makes a good ingredient for the potting-bench, for enriching the compost for any description of softwooded plants.

**CORK SHAVINGS** are said to heat spontaneously so violently as to ignite. Be that as it may, I find the few Orchids we have are much benefited by its use as an ingredient in the potting or basketing compost; in fact I think cork shavings are equal if not preferable to charcoal. However, as my experience is but very limited I speak reservedly; but should any person have tried it I hope they will give us their results. I certainly had intended to have tried cork shavings, especially as I had the promise of a cartload for the fetching. But to my consternation I found promising and performing were two very different things—it proved a promise only made to be broken.

In conclusion, I have to add in favour of flax refuse that, when used as a mulching on orchard-house trees in pots, the trouble of watering is lessened, and the trees are benefited by its application.—*GEORGE ABBEY, Gardener, Horton Hall, Bradford.*

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

**DURING** the last month we have had such a continuance of rain that little progress has been made in the sowing of seeds, or even the digging and trenching of ground. Surely the late drenching rains, and the astounding articles which are daily appearing through the press of this country will convince the owner and occupier of every plot of ground of the necessity and importance of thorough drainage. Ground that is thoroughly drained takes but a few hours to drain off the superfluous moisture, and under such circumstances it is soon in working condition; whereas ground that is imperfectly drained will be days, and in some instances weeks before it is in a fit state for the reception of seeds. The cultivator who has his ground thoroughly drained will have his crops appearing above ground before those whose ground is undrained will be able to deposit the seed; and, should the season throughout prove unfavourable, the latter will not produce as much as will pay for the labour. If a few fine days should occur prepare for getting in the main crops, if not already done, as soon as the ground is dry and workable. *Broccoli*, if a sowing has not yet been made of the various winter and spring varieties, it should be made at the first favourable opportunity. *Brussels Sprouts*, a good sowing to be made for winter use. *Cabbage*, a sowing of the Sprotborough to be made for winter and spring use. *Cardoons*, the seed may now be sown in trenches where the plants are to remain, the trenches to be about 4 feet apart, and a few seeds dropped in at intervals of 18 inches or 20 inches. *Carrots*, they succeed best in a deep rich soil; if it is of a light nature it is the more suitable for the long tapering roots. They should follow a crop for which the ground was previously well manured; for if manure is applied in the spring the roots will be forked and wormy whenever they come in contact with it. *Cauliflowers*, prick out the young seedlings on a warm border, earth-up those which have stood the winter beneath hand-glasses. *Mushrooms*, in making beds to produce through the summer, a portion of loam should be mixed with the dung: this will give greater solidity to the bed, which will in consequence produce more

fleshy Mushrooms. *Marigolds*, to be sown if required for kitchen purposes. *Nasturtium*, a sowing may be made at the foot of a fence or any other suitable place, either for the purpose of forming a screen or the production of seed for pickling, or for both. *Parsnips*, the seed, if not already committed to the earth, to be sown in drills from 15 inches to 18 inches apart in drills and about an inch deep. Drilling crops, where it can be done, is far more convenient than sowing broadcast, as the intermediate spaces can be easily cleaned and stirred-up, which is of great benefit to the plants.

### FLOWER GARDEN.

As the unfavourable state of the weather most probably interfered with the performance of previous instructions, we would advise a reference to them when the weather will become favourable for executing all arrears. The following plants, if not already there, may be introduced with advantage to the flower garden:—The *Phloxes* of various colours and sizes, as seen last season in the beds at Chiswick, may be recommended as worthy of special notice. Most of the varieties of *Pentstemon gentianoides* are handsome; *Snappedragons* are numerous, and many of them are very showy; *Delphiniums* when pegged-down in beds or allowed to grow erect in borders make showy masses of blue; *Alströmérias* are easily managed and showy, also the *Gladioli* of various colours. The hardy *Diclytra spectabilis* when planted out is one of the gayest things grown, blooming freely through the season. Commence in earnest with mowing and cut down close, it will mow better for it all the season afterwards.

### STOVE.

Pay attention to watering, shifting, stopping, &c., the plants in general. The greatest care will be necessary to prevent the soft-wooded plants from drawing; during this unseasonable weather they should have all the light possible. Some of those potted early may now require a second shift. Take every opportunity of keeping down insects by fumigation and the active use of the syringe; but caution must be taken that the syringe is not plied with such force as to tear or injure the leaves.

### GREENHOUSE AND CONSERVATORY.

Proceed with the staking and tying-out of plants requiring such assistance; but if former instructions had been carried out relative to growing plants with short-jointed wood, a good deal in the way of stakes may be dispensed with, although some will be necessary to give the plant its desired shape, but on no account use more than will effect that purpose. Turn each plant frequently round that it may not become one-sided. Orange trees require particular attention when they are making their young wood. Stop luxuriant shoots at the fourth or fifth joint, no one part of the head should be allowed to grow stronger than the rest. Young trees may require some of their strong branches to be tied-down for a time, which will strengthen the others. Climbers should soon be planted, if additions are to be made to them this season, and see that the young growth of the old ones does not get entangled for want of training.

### FORCING-PIT.

Preparations must now be commenced for the autumn, by propagating such plants as *Euphorbias*, *Justicias*, *Poinsettias*, &c.; nor must the forcing *Pinks* and *Picotees*, *Roses* for potting, *Sweet Briar*, &c., if not attended to already, be forgotten. Cuttings of *Fairy Roses* to get the plants strong, must be put in at once. Pay strict attention to *Violets* so as to get a good stock of them.

### PITS AND FRAMES.

Persevere with the potting-off all plants for bedding-out. Those which have been established and hardened may be removed to temporary pits and protected with mats.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

**THERE** is as yet little or no change in the weather for the better. We had it dry on the 4th, but little sun. Forked the surface of the rain-caked ground intended for *Onions*, &c. Did it still more slightly on Saturday morning. Trod and raked it by mid-day, and just managed to draw shallow drills, and sow *Onions*, and cover with light, dryish soil before the rains came down again. Sowed also *Parsnips*, which ought to have been earlier, a few *Carrots*, and a row or two of *Beet*, deferring the main crop for some weeks. Also, a few *Turnip*

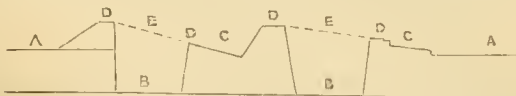
Radishes, and a slight sowing of Broccoli and winter Greens. Cut over Cabbage plants in the quarter that were throwing-up their flower-stalks, a too common thing in this neighbourhood this season. By cutting these over pretty low, the cut-off heads would be useful, if there were not such a supply of all sorts of Greens from the mildness of the weather. This mildness, and two or three sharp frosts have made this havoc among the Cabbages, much to the loss of the cottagers; but cutting-down will often, when done so early in the season, cause the stools to produce at a later period three or four tidy Cabbages instead of one. Gave some Broccoli some manure water, though there has been wet enough; but such rich watering does good even in wet weather, if the plants are not waterlogged. Cut up the roots of *Sea-kale* plants that had been forced into lengths of 3 inches ready for planting, and got ground ready for thinning last year's sowing. Where ground is plentiful would thin as soon as up fairly, or sow thin enough at first, as this plant does best when sown to remain there. The roots cut up into pieces we do not consider to be so good as seedlings, except it be the crown ends. We have sometimes slit up the latter when large into several pieces, to secure buds at once, but seldom with advantage, as vermin that will not penetrate the rind of cut pieces will devour the inside to a shell, if split down its middle. Those who intend making a fresh plantation should, therefore, get last year's smallest seedlings instead of these cut pieces, as dealers will be apt to send the latter mixed up with the former, and charge the same price. A little salt thrown along between the rows of growing-beds will now do them good, and Asparagus-beds would like a sprinkling, which would not only assist the shoots, but keep down weeds. Covered a score or so more heads of *Sea-kale* with largish pots, putting them firmly an inch in the ground, covering the holes at top with a slate or tile, and half a spadeful of earth to keep out all light. In sunny weather when the sun heats on the pot the crop will be fit to gather in a few days; in dull wet weather it will be longer in coming. Sowed Basil, Marjoram, &c., in heat, and Thyme, Borage, Burnet, Sage, &c., in pots and boxes. These things, though hardy enough, are apt to be lost when small, and, therefore, the extra care in sowing and planting out the seedlings is not labour lost.

#### FRUIT GARDEN.

Much the same as last week. Moved Strawberries set from shelves close to the glass to some farther from it, and supplied the top ones with plants that had stood under glass on the top of a slight hotbed for two or three weeks. Some people succeed pretty well by bringing plants from the open air at once into a temperature of 60° to 70° or more. We trace no such practice from the lessons that Nature gives: all her operations speak of gradual bit-by-bit working. In forcing-houses, if Strawberries are placed in them when the houses are shut-up, the plants have all the advantage of the gradual rise in temperature, and the flower-trusses come boldly. For succession crops in the same house we prefer the plants being gradually excited before shelving them. No weather could be worse hardly for obtaining rich-flavoured fruit, &c.

#### FLOWER DEPARTMENT.

Out of doors this has been well nigh at a standstill. Cold pits holding thickets of *Calceolarias* are much as they were, as the ground in the temporary pits is so claggy for moving them. Wet or no wet out they must go soon, or I fear what the struggle for existence will accomplish. Seeing we shall want more room than our earth pits afford, cleared a small quarter of last year's Cabbages, and dug out trenches 4 feet wide, which will first be filled with *Calceolarias* and other things, and would be a capital place, if bottomed with a little hot dung, for sowing half-tender annuals. These for the time being answer all the purposes of the best turf pits, and will come in for Celery afterwards.



A, Ground level of garden.

B, Pits dug out.

C, Slope for walking on, sending rain past, generally covered with a little litter to keep the shoes clean.

D, Tops of sides, for placing hurdles, or calico, or wattled hurdles, such as common old fence hurdles, with a few spruce or laurel boughs drawn through them.

E, Showing such covers laid across. Calico, frigi domo, fixed to poles would be handiest. A person walking at c, and another at d, put it off and on pretty well as fast as they can walk.

Whatever protection is used, means should be taken to throw the heavy rains past by having one side lower than the other, which in making is as easily done as not. See section of two such makeshift pits. Divided Dahlias and planted them out about 3 inches apart under glass, from whence *Calceolarias* had been removed, and may thin them again before going out. This, especially in bedding kinds, saves much labour in potting. Planted out in temporary beds many of the green and horseshoe-leaved *Geraniums* where I could cover with old sashes, as they lift well without potting. Turned out lots of variegated ones that had been potted into shallow wooden boxes, and placed them in a verandah where they can be protected. Filled the pots with more variegated ones. Sowed Zinnias, Stocks and Asters in pots and boxes, and set them on the floor of a Peach-house until they got up nicely. Pricked-off lots of seedlings, *Petunias*, *Lobelias*, &c. Potted *Pelargoniums*; trained earliest kinds and strongest plants. Potted young *Fuchsias*, *Vincas*, fine-leaved *Begonias*, &c. Old plants of these should have most of the soil shaken from them, and be placed in smaller pots. The soil, loam, and peat, with almost a third of old cowdung or hotbed manure, old, well sweetened, and dried before using, and a little silver sand. Plants old and young should be under rather than over potted; no place suits them better than ainery at work, the heat and the shade just suit them. The sun, if strong, is apt to make the leaves spotted and brown. They seem to thrive in a temperature from 50° to 65° and 70°. If kept in rather small pots they will need watering often after the pots are full of roots, and weak manure water will be acceptable; if in largish pots they will need watering much more seldom. Much was expected from these plants for out-door decoration. A great gardener wrote to me last season—"I have got a new idea for this season that will, I think, make you old jog-trot fogies stare." Well, I believe this was some 500 to 1000 of these plants turned out in the flower garden; but I heard nothing afterwards of the "idea." We have seen them pretty fair in some places. Mr. McDonald, of Woodstock, Ireland, had a bed of them and the Chinese Coltsfoot, &c., about the best we noticed. With us and elsewhere neither too much wet nor too much sun seemed to suit. In any shady place under glass they will be more at home than out of doors even in summer.—R. F.

#### TRADE CATALOGUES RECEIVED.

*Charles Turner's General Spring Catalogue for 1862*, is a descriptive list of all that is new in Florists' Flowers and Bedding Plants. Those who are interested in such matters, will find it well worth a perusal.

*A Catalogue of Forest, Fruit, and Ornamental Trees, &c., by Benjamin Whitham, Clough Nursery, Moltram*, is a good general nursery list.

#### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**CALCEOLARIA LEAVES SPOTTED (*Sigma*).**—You have had a little red spider on the *Calceolarias*, and a good deal of thrips, both caused by the plants being kept too hot and too dry. Put a quart of lime and a quart of soot into twenty gallons of water. When mixed, and settled, and clear, syringe the plants well, turning the plants over and over. When dry dust with a mixture of dry soot and flowers of sulphur. After a few days shake that off and syringe again. If all the leaves are as bad as the one sent, the plants would not be worth the trouble.

**EVERGREEN CLIMBERS (*A Subscriber*).**—We have often said there are no evergreen climbers for the climate of England. Properly so called, the Ivy is not a climber, but is the nearest to it. A plant like a *Clematis*, or a running Rose, and to be green the year round like the Ivy, is what we repeatedly have said is not to be had for our climate. Then, of course, it is like all other varieties highly to be desired.

**CAMELLIAS (J. E.).**—We cannot distinguish the buds, the roots were quite dried up, but, otherwise, seemed to have nothing the matter with them. Try the Camellias in the lightest place you can command, and be sure the ball is watered throughout. We think it must be some peculiar variety, as the gardener succeeds so well with all the others.

**ADAPTING A STOVE TO A BOILER (H. M. F.).**—Putting a sheet of iron round your circular stove and placing a boiler on the top would answer, but we are doubtful if anything but sheet-iron would stand round your stove. You should take your flue-pipe from near the top of the boiler, instead of so near the bottom of it as you suggest. We would not like to work it so place. The cheapest plan we know of would be to have a brick Arnot's stove, and an Arnot's stove-boiler on the top of it, which Mr. Highes, of the iron foundry, Bishop Stortford, sells for about 35s. However, your plan will answer well enough, if you attend as above to the flue-pipe, though unless you can command the services of a very handy man, your boiler may not be so cheap after all. Vulcanised India-rubber tubing would not answer for hot water.

**BOOKS (G. D. H.).**—You can have *The Cottage Gardeners' Dictionary*, free by post for 5s. 8d., from our office; and "Johnson's Modern Dairy and Cowkeeper," for 3s. 8d. (A. B. C.).—Buy the new edition of our "Green-houses for the Many," which will be published in a few days. It contains much about orchard-houses.

**ALANTHUS TREE (Mrs. P.).**—Any nurseryman can obtain it for you, for it is in the catalogues of the London nurserymen.

**POTATOES AND CELERY (A Nottinghamshire Inquirer).**—Do not put any manure to the ground for the Potatoes, unless it be two bushels of soot and 14 lbs. of Epsom salts mixed together and spread over the ground before digging. Give no liquid manure to your Potatoes, but as much as you like to the Celery. It will make it crisp, not soft.

**PROPAGATING EVERGREENS (Limerick).**—Now is as good as any time of the year to layer all sorts of evergreens and all kinds of deciduous shrubs. The Portugal Laurels and the Bays—that is to say, *Laurus nobilis*, will need tonguing or twisting, the Aucuba and the common Laurel will do without, and both will come from cuttings out in the open field, if put in in July, as well as Scarlet Geraniums. No one thinks of layering *Berberis aquifolium* now-a-days, but every one raises it from seeds like the Larch, or Scotch Fir, into the birds take to the berries of this *Berberis* when the seeds are fit for sowing, and get the best share of the seeds on account of their better knowledge of when it is fit to sow. Watch the birds or you will soon learn to your cost the best time to sow the seeds of *Berberis aquifolium*.

**EUPHRAZIA AMAZONICA (G. Liverpool).**—This *Euphrasia* is the very pink of drawing-room plants, but as such the treatment must be as different as possible from what it would need in a hothouse. There is where the great error lies with half our plants. Some gardeners find out the true way, and the best way for him, of growing a plant, and amateurs take it for granted that all that is needful is to do as he did, and, of course, they must fail under the circumstances; and if your drawing-room *amazonica* is grown as if it were in an Orchid-house, you will fail as surely as any of them. Your bulb wants a pot, about the end of next May, just one size bigger than the one it is in, and no more for the next twelve months. Mind that it is to be a drawing-room ornament. In June, July, and August, put it in a saucer of water once a week for ten hours at a time, that is to make up for a bigger pot, and water as usual notwithstanding—that is, when it seems to want water. Little pots always do best in the drawing-room.

**PLANTING FLOWER GARDEN (A Young Beginner).**—We can only reply to you as we have for more than twenty years uniformly replied to all such applications—namely, that we never plant for any one, we only point out errors in the proposed plantings submitted to our judgment.

**POTASH AND BONES (A Seaman).**—We do not know the best proportions. If we were about to practise the operation we should merely cover the bones with powdered potash and pack them in the cask. You had better write to Mr. G. West, Beurnmouth, Hants, describe the Waltonian Case you require, and ask the price. The Cases are sent from London. It is far superior to the In-door Plant Case for your purpose.

**VINES UNHEALTHY (J. N.).**—From your description we should almost conclude the Hamburgs had been diseased when you planted, if all others do so well in the same circumstances. We can form no idea what would remedy them as all the rest are so healthy. We would certainly change the plants if they showed any such symptoms last year.

**FLUES EMITTING SMOKE (C. D. Danvers).**—We are very glad that you have succeeded so well. Flues are apt to draw badly in damp weather, when there is not a little rise all the way. The mortar for unplastered flues should be the best, as fine as lime putty, and made with little water and plenty of elbow grease. In these there is little chance of smoking, as the joinings get even as hard or harder than the bricks. We once had an old wall pointed by a first-rate bricklayer, and did not the labourer who made the mortar grumble! The work did make his arms sore, the best sand and no water except what could not be done without, and though the bricks have been going piecemeal since, the joint's stand as firm as pieces of rocks. If necessary you may fresh point, or even plaster the outside. An old gardener told me how he served a smoky flue. He had some old flimsy cloth, as frigi dome, old bags in fact, these were cut and spread over the flue when wet, and washed with thick lime wash. What is the expense of cocoa-mat covers? Long lengths of canvass, frigi dome, &c., can be affixed to poles.

**HEPATICS (Thom.).**—Divide the plants as soon as the flowers have faded. Buy our No. 57, and you will there find full notes on the culture of Hepatic. The sample you enclosed is pure decayed wood and leaves. After being exposed for a few weeks to the air it would be an excellent manure for flower-borders, or, indeed, for any soil or crop requiring manure. It will not do as a substitute for peat, or heath soil, for American or other plants.

**HEADING DOWN APPLE TREES (A. Q.).**—If there are buds on that part of the stem immediately below where you intend to cut them down to, then you will be quite safe in reducing them to that height; but if, as is frequently the case, the buds have been effectually destroyed in trimming up the stem you will be disappointed. All will depend on whether or not there are any buds left to break after you have headed-down the stem.

**ORANGE AND LEMON TREES FROM PIPS (X. F. Z.).**—They will certainly both blossom and bear fruit without being grafted. If grown in a proper temperature and soil they ought to blossom when four years old.

**VINE LEAVES CURLING (B. S. H.).**—We fear the wood of the Vines was not perfectly matured, or a stoppage at the roots. Fasten a little stone to a

piece of matting, and then the other end of the matting to the end of the bunch, and see what that will do. If you have been growing the Roses some time, and the shoot showed no bloom, you did right in stopping it, as you will most likely have later flowers from the side shoots; but it should not have been stopped until it was seen there would be no flower-truss. Roses in such dull weather as we have had can scarcely be expected to come to their full colour.

**PROPAGATING BEGONIAS (Elizabeth Causton).**—Cut up your blotched leaves into strips and insert them as cuttings, having a piece of midrib at the bottom. You cannot have a better place for the Begonias than your viney. Grow them in heath soil and loam, and very old dried hotbed dung or compost in equal proportions, and rather underpot them. See "Doings of Last Week" in to-day's Journal.

**PEACH AND NECTARINE-BUDS FALLING (A. F. W.).**—Yours is a very plain case. Your Peaches and Nectarines, according to your statement never ripened their wood, the others would be harder and more ripened. We should not have been surprised if your blossom was defective. Under the circumstances we should not have thinned the blossoms so much until we saw what they would do, and in their imperfect state watering should have been given in great moderation once a week or fortnight, when planted out, in case of every two or three days. The less heat such trees had the better, as the weather has not been cold enough to hurt Peaches, and if fire heat were given, then plenty of air should also have been given, so as not to hasten the plants at all. You must make the most of them now for next year. If you have not much experience, you had better have kept the plants in pots. Pears will not endure much fire heat. We think Ivy of various sorts would be best for your cottage covering.

**GLADIOLI FOR POTS—EVERGREENS UNDER TREES (L.).**—All the Gladioli will do in pots with good management, but ten times better for you and them without pots. Those which will do best in pots out of your stock are *Brenchleyensis*, *Conranti fulgens*, *Madame Henric*, *Floribundus*, *Dan Juan*, *Blandus*, and *Sagittalis*. Flowering shrubs will do no good under trees in a shady border, and very few evergreens either. The large trees have got full possession of the ground by their roots. Try Tree Box, *Berberis aquifolium*, *Yew*, and *Aucuba*.

**CUTTINGS (L. T. P.).**—Far too general a question; for all the year round some such cuttings are best done, but the great bulk of evergreen cuttings are better made in the autumn, and the deciduous ones at the same time as Gooseberries and Currant cuttings—that is, in October and on to Christmas.

**PRICE OF WALTONIAN CASE (C. Horwood).**—Write to Mr. G. West, Beurnmouth, Hants, describing what you require. He will send you prices and where he can deliver the Case.

**VARIEGATED MINT (D. N. Northwood).**—It is a variety of *Mentha gracilis*, sometimes called *Mentha pratensis*. It is found in the New Forest, Hants, and somewhat resembles *M. piperita*, but is not so agreeably aromatic.

**MIXING SOIL WITH COCOA-NUT FIBRE REFUSE (Edith).**—Any sort of loam may be used with cocoa-stuff, just as you would use peat and sand. We believe it takes the place of peat and sand in all composts.

**SWEET-BRIAR HEDGE (Idem).**—It is not at all difficult to make. It is like planting a row of Geraniums, straight or curved. Do it in October or November, or in the beginning of March, and much about the roots. Cocoa-nut fibre refuse would do for this purpose. You may plunge the potted Tulips in the borders.

**BEDDING PLANTS IN POTS (F. W.).**—Decidedly we prefer planting all bedding plants out of pots, but unfortunately in some few places most of the Geraniums and Cherry Pies go too much to leaf and give very little flower, and much more is the misfortune, that very few make suitable beds to bloom these plants. Anybody can make any bed or beds in any county, or part of our kingdom, to suit any plant in the catalogue; and the next best thing is to plunge the pots and to attend to the watering.

**RIBBON-BORDERS (A Reasoner).**—Verbenas do not do well as ribbon-lines the trouble to keep them in lines is more than most can afford to give them. You have an excellent assortment without them. Put first *Lobelia speciosa* then Variegated Mint, then *Perilla*, then Tom Thumb Geranium, then *Calceolaria aurea*. You want something for a back to the bright yellow *Calceolarias*, and the *Mignonette* must go somewhere else. If you could get a row of the *Zelinda Dahlia* at the back, it would be just the plant for the purpose.

**DISA GRANDIFLORA (Malpas).**—No one has ever yet gathered a pod of a *Disa* of any kind. The seeds which we mentioned were sown on Table Mountain by Nature's own hand.

**CULTURE OF AMARYLLIS BELLADONNA (Idem).**—It puts up the flower-stalk, or scape, in October, and then begins to grow, when Hippeasters, the *Amaryllis* of the shows, are going to rest for the winter. All the *Amaryllises* grow from October to the end of May or near it, and all the Hippeasters go to rest during the winter save one kind. June, July, or August therefore would be the best time to bury *Belladonnas*. This sad all the true *Amaryllises* like a lighter soil than Hippeasters—say pure loam, friable as for pot *Pelargoniums*, and no dung, or nothing beyond as much sand as would make a friable loam, if you want to preserve the bulbs for an heir. After the *Belladonna* flowers, you will recollect it must have the same treatment as a Cape Heath. In a cold frame all the winter, and the glass entirely off every fine day and night in the spring.

**COCOA-NUT FIBRE REFUSE (L.).**—We can only repeat to you as to another correspondent last week, that your specimen is totally unlike the correct kind. We have repeatedly said that the useful refuse is a powder like brown snuff, and you send us a bunch of bristles, and ask "is it the proper thing?"

**WORMS IN SOIL IN POTS (T. E. C.).**—Water with lime water. A piece of slate put over the hole in the pot excludes worms, yet allows surplus water to escape from the drainage.

**ALANTHUS SILKFORM (Rev. J. B.).**—Lady Dorothy Nevill's book on the subject will give you all the information you require. It is published at our office, and can be sent by post for thirteen postage stamps.

**RABBITS (Westmorlander).**—There is no law preventing you destroying in any way, on your own ground, the rabbits which invade your garden crops. To keep the rabbits away there is nothing so effective or so cheap as three-foot-high galvanised iron netting. It is very much more reasonable in erecting than that required to exclude mountain sheep, which you seem to have endured painfully. To scare the rabbits away a terrier in a kennel near the crop of Carrots would be effectual, probably.

**VARIOUS (C. F.).**—No evergreen will cover your fence so effectually as Irish Ivy. Do not apply any manure to your Strawberry-bed until you can see the blossom-buds. It is impossible to give an answer about the stable-manure, so much depends upon circumstances. The area question could be answered from any arithmetic-book. A circle 100 feet in circumference contains 79,557½ square feet.

**COCKSCOMB CULTURE (Correspondent).**—When the seedlings are half an inch high prick them into pans about 2 inches apart, grow them on fast, and do not give much water, which will cause the combs to appear early. Those having good-shaped combs lift with good balls to their roots after watering the day previously, and plant in light rich soil in 3-inch or 4-inch pots, and plunge in gentle heat.

**SELLING FLOWER-STICKS (A. H.).**—We know of no other mode a poor person could adopt for selling these than offering them wholesale to the seedsman and nurserymen near London, and calling at houses where flowers are cultivated.

**FLOWER GARDEN (S. E. L.).**—You have arranged all the beds but four very well, and these two pairs you could not have done worse. The figure is one of the centre figures in Lady Granville's flower garden at Dropmore, and is of beds of various shapes and sizes placed all round a circular bed in the centre. The centre bed is mixed Verbenas, and none better. The rest of the beds are in opposite pairs, the colours standing thus:—1, scarlet; 2, blue; 3, yellow; 4, purple; 5, white; 6, white; 7, scarlet, and so on to white again. Then you see 5, white variegated "Alma or Bijou," and 6, Variegated Alyssum side by side: but put 7 between 5 and 6, then the arrangement will tell its own tale more than it does your way of putting it.

**GREEN FLY (Seven-years Subscriber).**—"The best preparation for destroying the green fly" is unquestionably the best tobacco—there is no question at all about that. But the best way to apply tobacco is a very serious question, and if the best way could be discovered it would be the cheapest way in the long run. The best preparation at present for killing the fly on standard Roses is to make tobacco liquor and dip the shoots in it one by one. And the rule for knowing if any sort of liquor is dangerous is first to try it on some useless plant—say Mint or Nettles—there is no other reliable rule. The cheapest and best mode of destroying green fly on Geraniums, Verbenas, and all plants in pots is by tobacco-smoke, and the best tobacco is certainly the cheapest and the most safe for strangers to that work.

**EDGING (Idem).**—The best and the only sure edging to the bed where the cats hold their parliament is, that of glass advertised in our columns by Messrs. Kilner. A little Stonecrop, as you suggest, might be tried; but where your Box-edging could not bear the traffic, the Stonecrop will have but little chance.

**LATE AND EARLY GRAPES.**—"In your notice (see page 33, JOURNAL OF HORTICULTURE, April 8th), of Mr. Hill's late Grapes, you either forgot or were unaware of the fact, that the Vine on which the Lady Downe's Grapes were hanging was actually showing bunches three weeks back, and some of the Vines in the house were very much forwarder. When I saw them it was, indeed, a sight to set a gardener's mouth watering, and to set his wits to work to find out how Mr. Hill had carried such splendid Grapes though in a house which has been used as a storeroom for bedding stuff all through the winter. That the Lady Downe's is the best late Grape out there cannot, I think, be a doubt now."—R. C.

**NAME OF APPLE (A Constant Reader).**—The Apple you sent is Normanton Wonder, the correct name being Dumelow's Seedling. If you have received it from Mr. Pearson, of Chilwell, under the former name you have, no doubt, got it true.

**NAMES OF PLANTS (H. B.).**—1, A worthless *Oncidium*; 2, *Piptanthus nepalensis*; 3, *Acacia verniciflora*. (H. A. E.).—*Anemone pavonina*. We do not know your *Orchid* by the description, but it is not unlikely to be some form of *Ophrys fuciflora*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY, &c., SHOWS.

APRIL 21st, 22nd, and 23rd. EAST HANTS (Southsea). Sec., Mr. F. Baker. Entries close April 16th.

MAY 14th and 15th. TAUNTON AND SOMERSET. Sec., Charles Ballance, Esq., Taunton.

MAY 27th, 28th and 29th. BATH AND WEST OF ENGLAND (City of Wells). Steward, S. Pitman, Esq., Manor House, Taunton. Entries close May 1.

MAY 23th and 29th. HULL AND EAST RIDING OF YORKSHIRE. Sec., Mr. J. Hooton. Entries close May 14th.

JUNE 3rd. ESSEX AGRICULTURAL ASSOCIATION. Sec., R. Emson, Slough House, Halstead. Entries close May 10th.

JUNE 4th and 5th. BEVERLY AND EAST RIDING. Sec., Mr. Harry Adams.

JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. Secs., E. Holdsworth and J. Wade.

### HATCHING EARLY CHICKENS.

OUR correspondents, as in this instance, often give us the one for a paper, by reminding us of the season of the year and the natural processes which it introduces. There is with many people a great liking for May chickens. We are of the number. They are strong, and deserve the appellation our forefathers gave to the month itself, *Lustie Maie*. All things are young, fresh, and growing; it is, also, the natural time for hatching. Those pullets that have passed into hens, and subsided into regularity after their youthful vagary of laying in the winter, bring out their chickens at the end of May in obedience to the same laws that govern Pheasants and Partridges. Where we interrupt Nature we have to find substitutes or apologies for those things that we forestall. If we hatch when night is twice as long as the day, we must press artificial light into our service. During cold weather and biting winds we must provide shelter. As the

hen is kept in close confinement, we must provide another guard; but whenever we can we shall do well to follow nature, or rather to let her have her own way. All birds of the gallinaceous tribes in a wild state make their nests on the ground, *literally on the ground—on the earth*, and to this may be attributed the fact of their hatching so well. Any wooden flooring for a sitting-house is bad, and being raised up in the air is far worse. It is unnatural. Nests such as that described by our correspondent are full of vermin, quite as destructive as rats; these latter would eat the eggs, and the vermin we speak of—fleas and lice, prevent the hen from hatching them. They make her sit hollow and uneasily, we need hardly add ineffectually. There are coolness, ventilation, and freshness in a nest made on the ground: this is so necessary that in making a nest in any out-house or covered place we always put a sod or turf at the bottom. Our hens come off but once in twenty-four hours. They are then provided with dust, food, growing grass, and water. They are off about twenty minutes, and return cool, fresh, and dusted to their duties. For seven or eight days before hatching-time the eggs are regularly wetted every day when the hen is off. The hand is dipped into cold water, and shaken or wrung over the eggs till they are wet. The success of hatching depends much on this; when chickens are dead in the shell it is for lack of moisture. The inner membrane of the egg becomes so dry and hard the chicken cannot pierce it, and extricate itself.

We have here stated the method that has been uniformly successful with us. We should attribute the failure of our correspondent to bad sitting caused by vermin, and this latter caused by wooden flooring, and, above all, nests made of hay, the worst possible material. The remedy may be gleaned from the preceding remarks. Let the nests be on the ground; let the bottom of each be a sod of grass; let these be only covered with a little straw—no hay, and let the hens have dust at hand when they come off.

**LUSUS NATURE.**—I beg to enclose particulars of a remarkable freak of nature hatched 24th of last month. Out of nine Spanish eggs set five chickens came out; one of them had two heads, four wings, four legs; the body was in one, but appeared wider than usual on the back. This animal, for it was as much like an animal as a bird, lived but six hours, and I should think its functions were not complete in every respect, as it did not appear able or willing to bend the head to pick up food, or to suck it in when offered.—F. CROOK.

### VENTILATION OF BEE-HIVES.

I have been much interested in reading at page 386, Vol. II., the extract of a letter from Staffordshire inserted by your intelligent correspondent and apiarian, "A DEVONSHIRE BEE-KEEPER." The idea of free ventilation was maintained very strongly nearly a century ago by a very strenuous promoter of the system, who was at that period not only a learned advocate at Paris, but during his leisure hours a very expert manager of bees.

He gave the following reasons of the practice he adopted for leaving hives open all round at the bottom:—"I find in summer it facilitates the labour of the bees, and their tumultuous entrance when the weather threatens a storm: that at all seasons it contributes to their health, by maintaining in the interior of the hive a pure air, free from the humid vapours usually proceeding from the bees when the opening at the entrance is single and small. It obviates also, when the season is cold, an inconvenience which is perceptible in all hives that have only a small entrance— which is, that the heat being often too great within, the bees being forced to go out to cool themselves are seized with the cold, as we ourselves are in winter sometimes when we quit a small room where there is a hot fire, and then they die outside, being unable to regain their hive; whereas, by the other method, the bee, without quitting the bulk of their companions, whose union supports them in a degree of warmth sufficient for their preservation of life, they perceive within the hive the quality of the external air, and judge without danger if it be suitable for them to venture out, or more prudently to remain at home."

The French bee-hives, at the period when these remarks were written, were commonly made of osier, like our present wicker baskets. A very good representation of them, and a garden of bees, may be seen in a vignette in Rapin's History of England by Tindal, on title-page, vol. i. and ii. The author continues—

"This ventilation prevents too great a consumption of the provisions of a hive, by the coolness that the openings allow to enter; for it is known by experience, that the more considerable the interior warmth of the hive is, the greater is the consumption of the stores within. Lastly, it allows, during all weathers, while the bees occupy the lower part of the hive, one to judge of the weakness or strength of the community without moving it, which is always prejudicial to it, but by only looking beneath, it is seen what one may be required to do at any moment.

"With respect to cold, I do not think its effects so injurious to bees as some imagine. It forces them not to separate themselves from each other, and thus enables them to pass without danger the most rigorous winters.

"One might, on this subject, put the question, Whether it be quite so certain the safety of a hive depends on the preservation during the whole year of all the bees that it contains?" For my own part, I am inclined to the negative; and that if the great increase of bees during the spring and summer be advantageous to a hive, as one can have no doubt of, so as to cause it to throw strong swarms, in order that the provisions for the following winter may be abundant, it is no less necessary that there should remain a diminished population during autumn and winter, in order that the said harvest may last the longer.

"In fact, of the two mortalities of bees which happen annually, that of the autumn, joined to the expulsion of the drones, produces the effect of which I speak—that is to say, of diminishing the number of mouths to feed during winter. As to that of the spring, I think it designed to carry off a good part of the bees of the preceding year, in order to give place to the young which are to succeed them. Now, by the method of leaving the hives open all round at the base in winter as well as summer, I am well persuaded that bees only perish that should; whereas, by that of shutting them up too close, a far greater number of them die than is necessary for the preservation of the hive."

"However it may be, I leave to every person the liberty of his opinion and his practice; not only without blaming, but praising, on the contrary, the efforts of those who seek the best; for I do not think everything has yet been discovered on this subject."—E. K.

### INSULATION OF BEE-HIVES.

In order to prevent the access of insects, such as ants, millipedes, and snails, &c., which not only annoy the bees, but often devour or spoil much of their stores as fast as they gather them in, it is an exceedingly good plan to place the legs of a bee-house, or the feet of a bee-stand in pans of water, taking care continually to keep them filled, and all weeds removed from near them, lest the ants, whose cunning as well as ingenuity are proverbial, should make so many ladders of them, and thus defeat the end proposed.

The Tomtit, or Great Ox-Eye, Sparrows, and Swallows—the Great Tomtit during winter, and particularly in the spring—make great devastation among the bees of an apiary. The Large Tomtit, or Great Ox-eye, is a most mischievous bird; the smaller species, some of which are exceedingly beautiful, are quite innocent of all bee slaughter; but the great criminal above mentioned (of which I have destroyed about a dozen this winter), is easily entrapped by a small cage baited with a tempting piece of fat, of which he is most dainty. These birds generally come in pairs: two cages should always, therefore, be in constant readiness to receive them, and to supply them with their dainty repast.

Ants may be readily put to the rout by a little fresh lime, or if a pointed broomstick be driven through their nest, about 2 feet into the ground, and carefully pulled out again, hundreds will fall daily into the well thus made, and may be easily destroyed by a little lime or hot water poured into the pit. Millipedes are readily caught by laying a board or slate on the ground, and afterwards crushed. Snails are readily caught by flower-pots inverted.

Sparrows should never be suffered to build their nests near an apiary. I have frequently seen these marauders catch the bees and the drones in the air flying, and carry them off to their young. They are far too cunning to touch poisoned corn. A gun, with a little dust shot, is the best remedy; and the same may be had recourse to for Swallows, even by those who are not great adepts in shooting; for these birds, though they fly ever

so swiftly, may be easily brought to the ground by seizing the moment when they are on the turn, which they always make in their flight, however swift it may be.—E. K.

### PARTHENOGENESIS.

LIGURIANISING AN APIARY—THE MYSTERY OF DRONE DEVELOPMENT.

M. HERMANN says (page 13), "It will be well to be cautious to leave one hive undivided and untouched that they continue to breed many drones, for the divided hive will not produce any more drones in the same year: therefore, one hive must be kept strong and untouched, so that you do not run short in drone-breeding."

Now, when a hive has swarmed naturally does it not continue to produce drones? And why not when artificial swarms are formed? Or must the possessor of a single stock of Ligurian bees leave its increase to nature? As I am desirous of Ligurianising my whole apiary as speedily as possible, any information will greatly oblige—F. H.

[After repeated perusals of M. Hermann's little book, I am still in doubt as to whether he was aware of the fact that drone eggs were entirely free from male influence, and that, therefore, a pure-bred Italian queen which has been impregnated by a black drone will breed as pure Italian drones as one that has received true impregnation from a male of her own species. That this is really the case follows, as a matter of course, if parthenogenesis in the honey bee is a proved fact; and that it is so cannot, I think, be for one moment doubted. Those who have read the apian articles in the last two volumes of THE JOURNAL OF HORTICULTURE will be aware that to Dzierzon, the eminent German apian, we are indebted for the discovery that drone eggs are unfecundated by the male semen, and that the truth of this discovery was proved by the microscopical investigations of Professor Siebold. These investigations having been verified and confirmed in America by Professor Leidy, and in this country by myself, have resulted in establishing beyond question the fact of parthenogenesis in the honey bee.

Having due regard, then, to this important fact, I believe that the most feasible, and, in the end, also the most speedy mode of Ligurianising an entire apiary from a single pure Ligurian stock is that recommended by me in page 507 of the last volume—viz., to content yourself the first year with furnishing all your stocks with young Ligurian queens from the colony in your possession, leaving their impregnation to chance. Next year any of these queens, about whose true impregnation there is any doubt, may be weeded out and replaced by young sovereigns bred, as before, from the original Italian queen. These will stand a fair chance of a true impregnation from the multitude of drones of their own species, which will then have been bred by the mother queen and her offspring, whether hybridised or not.

Something may be done the first year to increase the chance of a true impregnation by multiplying the number of Ligurian drones and diminishing those of the black species in the manner recommended by M. Hermann—i. e., by placing drone-combs in the breeding part of the Ligurian-hive (feeding liberally if honey be not very plentiful at the time), and transferring them to the black stocks as soon as filled with brood, removing, at the same time, all the original drone-combs from the latter.

When a hive swarms naturally the production of drones does not immediately cease, because there is usually a great number of embryo drones in the hive; but, as it is well known that the old queen always leads off the first swarm, it follows, as a matter of course, that, beyond the hatching-out of whatever brood may remain in the hive, no farther increase, either of drones or workers, can take place until her successor commences egg-laying. Notwithstanding the occasional irregular production of drone eggs by young queens, which has been noticed by Fabricier and Dr. Bevan, and still more recently by myself, it may be laid down as a general rule that the laying of drone eggs is at an end for the year whenever a natural swarm issues from a hive, and that the remaining drones will be ruthlessly expelled as soon as the young queen becomes impregnated.

The old queen having led off a swarm will breed no more drones for the year, unless the new colony becomes sufficiently prosperous to throw off a swarm, in which case there will be another laying of drone eggs prior to the issue of the swarm, and the same course will be repeated as in the old stock.

When artificial swarming is practised, the suspension or entire

cessation of drone-breeding depends upon the mode in which the operation is performed. If the old queen be placed at the head of the swarm, all will follow in the same manner as if it had issued naturally. If on the other hand the old queen is left in the parent stock, the swarm being furnished with brood-comb from which to raise a queen, the suspension of drone-breeding will be but temporary, and, in fact, need not take place at all if the number of bees abstracted be not sufficiently large to check the prosperity of the colony.

That distinguished apiarian, Dzierzon, writing so recently as the 14th February last, says, "that drone breeding is the first step towards increasing the species that is to swarm, and that it begins and is continued when there is a feeling of prosperity and growing strength in the colony." Any interruption to this feeling of prosperity and growing strength puts a complete stop to the production of drones\* which is not resumed until prosperity is restored. If this axiom be borne in mind it will afford a clue to the mystery of drone development—a mystery which, it may be remembered, the experiments and researches of the illustrious Huber failed completely to elucidate.—A DEVONSHIRE BEE-KEEPER.]

### BEEES AS CHEMISTS.

"Bees are able to make honey of sweetened water. By way of trial, I fed a stock with hard sugar,† which, after I had put it into a feeding-pan in pieces, and sprinkled abundantly with water, I placed before the bees. When I afterwards cut the combs out of the hive, which I wished to empty on account of its queen, I found that this sweetened water had been changed by the bees into honey, and was well sealed. It had all the taste of real honey. —*Die Korb-Bienenzucht*, by Friedrich Otto Rothe.

It will be perceived by the above quotation from a work written in 1854, that German bee-keepers have long been aware of a fact which was indeed established by M. Reaumur nearly a century ago, but which has been denied by some of our best English apiarian writers, and is even now controverted in the pages of THE JOURNAL OF HORTICULTURE. The results of my experiments and observations entirely coincide with that of Herr Rothe, although they have been so frequently repeated, and under such a variety of circumstances, as to induce absolute conviction in my own mind. I have this day (29th of March) extracted from the late artificial swarm mentioned in page 428 of the last volume, a small piece of sealed comb, itself fabricated from, and containing only what was originally simple syrup. This piece of comb I shall be happy to submit to the Editors or any tribunal they may point out, with the view of having it tested, and the result made public, after it has been ascertained if any, and what change, has been made in the flavour and chemical character of its contents.

The artificial swarm from which this piece of comb was taken was formed on the 9th of last August, after the honey season here was entirely over (as proved by the fact that several ill-provided swarms in this neighbourhood died of starvation at the time), and, being supplied only with simple syrup, fabricated combs and stored them with sufficient food to last the winter.

This evidence is the most conclusive I can offer, and if accepted may fairly be presumed to decide the point. Should any bee-keeper, nevertheless, be of opinion that he can, either by confining a newly-bived swarm in a room, or by any other means, induce bees to store their food without changing its character, I now repeat my offer to present such person with a good Ligurian stock, upon his producing a piece of sealed comb in which simple syrup—i.e., lump sugar and water only—has been stored by bees, and in which the syrup remains unaltered.—A DEVONSHIRE BEE-KEEPER.

P. S.—Since the above was written, I have perused the communication of "A NORTH LANCASHIRE BEE-KEEPER" in last week's Journal. He appears, from what is therein stated, to be the very man to claim the stock of Ligurians which I offered. As preparatory steps, I would suggest that he should first prepare a certain portion of simple syrup from lump sugar (such as I suppose his bees were fed on), and, with the assistance of one or two friends, carefully compare its flavour with that of syrup taken from the sealed combs of his defunct stock. If neither himself nor his friends can detect any difference in taste, then place a small quantity of each in shallow vessels, and expose them to a current of dry air until one or the other

becomes crystallised. The effectual manner in which his bees have destroyed the crystallising property of the syrup which he submitted to them will, in this way, soon become evident. Every bee-keeper is aware of the different flavour and varying quality of honey, and knows also that it depends upon the season and the pasture from which it is obtained. It is, of course, a very fair argument to adduce against the mere assertion that bees effect a change in the food with which they are supplied, and as such has been repeatedly made use of; but as soon as this assertion is supported by sufficient evidence, "both must take equal rank as established facts, which, however apparently antagonistic, are doubtless in strict accordance with each other.

[Another practical bee-keeper gave last week a totally different evidence. The question will not be set at rest until a swarm has been confined in some room—say an empty greenhouse, and supplied for some time with syrup of sugar and water only. It is an interesting inquiry, and we shall be equally pleased whatever the truth proves to be—we only wish to ascertain that.—EDS. J. OF H.]

### OVERFEEDING BEES—CHEAP FEEDING BOTTLE.

WATERPROOFING WOOD OR STRAW HIVES.

It appears to me that many persons err on the side of over-feeding, supposing, as is generally done, that a hive ought to weigh 20 lbs. nett at the close of the season. My experience goes to prove that half that weight is amply sufficient. I have always found that those hives that contained only that quantity have invariably done better the succeeding season than those that had been made up to 20 lbs. by feeding, and I find this corroborated by several bee-keepers of my acquaintance.

Some difference of opinion exists as to the kind of bottle to be used when feeding is necessary. I have used an empty glass pickle-jar (such as pickles are usually retailed in) and have always found it answer well; I tie it over with the canvass ladies use for woolwork, which is the most durable of any kind of netting. A piece of perforated zinc is placed over the hole in the crown-board, the bottle inverted upon the zinc and covered with a wooden box, which effectually keeps wet from entering.

I should fancy from your correspondent "A. W.'s" remarks last week that he sometimes finds wet enter his hives. I have for three or four years used the varnish from the recipe I give, which makes either wood or straw perfectly waterproof—viz., half an ounce each of gums—thus: benzoin, and guaiacum, and 2 ozs. shellac dissolved in 8 ozs. of naphtha, and strained after standing a day. It is applied in the same manner as paint, dries perfectly in ten minutes, and, therefore, can be used at any time in the year without injury or annoyance to the bees, and leaves no smell behind. New wood may require two or three coats, and if previously slightly stained will present the appearance of French polish, of which, in fact, it is a species. It has lasted three years with me, quite unprotected, and is yet unimpaired. The quantity given would do a dozen hives or boxes and ought not to cost eighteen pence.—G. F. B., *Colney Hatch*.

### OUR LETTER BOX.

GOLDEN-SPANGLED HAMBURGERS.—"CORRESPONDENT" likes "POOR YORKSHIREMAN," only, he thinks, perhaps, the poor man is like Gil Blas' beggar, quite able to take that which he asks. We fancy the alms were given more for fear of the blinddebt than for the love of the Virgin; and he who descants on "well serrated, firmly fixed comb; white ear-lobes; deep gold hackle, striped down the centre; maroon wing, and distinct bars;" has not much to learn "in re Golden-spangled Hamburgers." We should not like to cast a slur on Yorkshire, her judges, and her breeders. The black breast certainly was a Yorkshire here-y, and it is only of late it has been repudiated. When once upon a time, the best of the Yorkshire judges acted at a show of Hamburgs only, the prize was given to a bird with a purely black breast. It was held at Huddersfield. We think rose ear-lobes will always be fatal to success.

CANARIES IN A ROOM (*Malvern*).—The young birds may be allowed to leave the nest when they like, the old ones will continue to feed them on the boughs or floor. You will find a description of the points in the varieties of Canaries in earlier volumes of this Journal. The series will soon be published in a separate form.—B. P. B.

PREVENTION OF ROTTEN FEATHER IN PIGEONS (*J. S. A.*).—The disease known as "rotten feather" is one of the most troublesome to the fancier. It is more frequent in high-bred birds than in the stronger and more common varieties. It appears to depend on imperfect formation of the feathers. Beyond placing the bird in those circumstances which tend to promote its vigour, we know of no prevention, nor have we ever met with any one who has. Rotten-feathered birds will breed freely, and throw sound-feathered young ones.

KIDS (*N. N.*).—Advertise them as being for sale, describing them and stating price.

\* If the check be severe, it may result in the destruction of all the drone-brood and of every adult drone in the colony.

† By this is meant sugar-candy which is extensively used in Germany for feeding bees.

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	APRIL 22—28, 1862.	WEATHER NEAR LONDON IN 1861.						Moon Rises and Sets	Moon's Agc.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.				
22	Tu	EASTER TUESDAY.	29.887—29.772	deg. deg.				m. h.	m. h.	m. h.	m. s.	112
23	W	Sun's declin. 12° 32' N.	29.854—29.815	56—89	N.	.01	52 af 4	5 af 7	8 2	23	1 33	113
24	Th	Cineraria amelloides. [1843.	29.919—29.982	55—25	N.	.08	50 4	7 7	29 2	24	1 45	114
25	F	St. MARK. PRINCESS ALICE BORN,	30.001—29.981	61—40	N.W.	.01	48 1	8 7	47 2	25	1 56	115
26	S	Dryandra tenuifolia.	30.113—30.029	66—30	N.W.	—	46 4	10 7	4 3	26	2 7	116
27	SUN	1 <sup>st</sup> , or Low SUNDAY.	30.111—30.014	62—32	N.W.	.03	44 4	12 7	22 3	27	2 13	117
28	M	1-opogon formosum.	30.090—30.004	38—22	E.	.54	42 4	13 7	41 3	28	2 27	118
				54—26	N.W.	—	40 4	15 7	sects	●	2 37	118

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 58.6° and 36.6° respectively. The greatest heat, 81°, occurred on the 28th in 1840, and 4th, 1833; and the lowest cold, 18°, on the 24th in 1854. During the period 187 days were fine, and on 108 rain fell.

THE CAMELLIA AND ITS CULTURE.—No. 5.



MOISTURE. — Dr. Lindley, in "The Theory and Practice of Horticulture," most emphatically observes that plants should never have more moisture than their system can consume. This is certainly an axiom accepted and practised by all who deserve the name of cultivators; and an infringement of its due observance is fatal in its consequences in proportion to the respective capabilities of the multitudinous race of Flora of withstanding, or succumbing, under a given amount of fatigue. Plants with small wiry roots, such as the Cape Heaths, cannot endure fatigue with impunity; while the Camellia, and many other subjects of like nature, are not materially injured by a moderate amount of excess either way. Such excesses, however, on the part of the cultivator had better not become systematical. The parties in charge must not be "habit and repute" in the abuse of their subjects, else the latter will soon have to undergo hospital treatment—by no means a happy condition for the plants themselves, and an eyecore to every onlooker, not to speak of the mental disquietude experienced by the unfortunate cultivator. It is, therefore, absolutely necessary that one should have in their mind's eye the axiom, "Plants should never have more moisture than they can consume;" and it might be added, they should always have a supply according to their needs.

There is one period in the annual history of the Camellia which deserves to be recorded as the most critical. More failures occur at that particular period than any other throughout the season, judging, at all events, from my own not unattentive observations. Scores of people complain of buds dropping from November to January—in other words, from the time that the buds are properly formed—that is, almost full-sized, until the time they are expected to expand. With impunity, aye, and even with the best results, especially to shy-blooming varieties, you may allow the plants to get what is technically termed bone dry at the root, on a long summer day, when the young wood is pretty well consolidated, and flower-buds expected to be in the course of formation; when such treatment, during the short days of winter, would bring them down like a shower of hail (if the plants were large enough) about your ears.

A moderate state of moistness at the root, and a moderate state of humidity in the atmosphere during the period in question, is what should be aimed at. In fact, to speak in medical language, they should be "kept quiet." How often does one see, especially among the uninitiated, who fire away without ever looking at the thermometer, an almost parched atmosphere occasioned by strong artificial heat, necessitated in turn, in some degree, by probably 20° or more of frost out of doors. Let the plants be ever so well watered at the root, if the atmosphere remain a couple of days (we speak safely) in such-like predicament, the buds, without inquiring into the physiological cause, will drop off in dozens. The work of a season is mis-spent, and the only satisfaction obtained, if the unsuccessful party is inclined to ferret out the cause, is the seeing his or her case replied to in the answers to correspondents. It is almost unnecessary to be more emphatic on this point, but we again reiterate that a strong, dry temperature at that dull season is about the best means possible for getting rid of the flower-buds.

Again: one other fertile source of mischief in connection with moisture, especially to plants that have been liberally repotted the same season, and also to plants that have been planted out into conservatory, or other borders, even though they have been growing there for a series of seasons, is an excess of moisture which the plants by their roots cannot absorb and digest. Hence follow the decomposition and death of the rootlets which the growing season has engendered; and next, as a matter of course, follows the sluggishness of the continuity of the sap, which at this more than any other season gives the system of the plants such a shock of paralysis, so to speak, that they quickly relieve themselves of their buds, and all the while without much apparent debility of the plant itself, as exemplified by its foliage. We happen to know a case in point where a border was thoroughly renovated early in the spring, and the plants luxuriating in the fresh compost to the satisfaction and delight of all concerned who saw them. Buds were formed in thousands, and doing well up to that critical period. The chief of the establishment who expected great things of them, was chagrined beyond measure to see the buds dropping. On giving some of the large plants a shake the buds came down like a shower of Lammis Pears from a heavy-cropped tree in the month of September. On investigating the cause it was found to be an excess of moisture at the roots, and what aggravated the case much more, an incautious and injudicious appliance of manure water at a time when it was not needed. No extra stimulant should be given to these plants until the pot is crammed full of roots. Weak applications once a-month at that time will assist the vigour of the plant, and, consequently, add strength and stability to the blooms when expanded.

Camellias are by no means gross feeders at the root, and although it is necessary to furnish a proper ingredient for the roots to revel in, as has been suggested and disposed of in former chapters, their success as flowering

plants is probably more attributable to strong heat in the growing season, and an atmosphere charged with humidity in proportion to the state of the temperature. It is wisdom in my opinion to shut up the house or houses they are growing in early in the afternoon, and deluge the atmosphere with humidity by means of freely plying the syringe, giving the plants a thorough good bath; while I am sceptical as to the practice of resorting to syringing overhead in the morning, which I have, indeed, abandoned. In the former case experience teaches that if the temperature be high, probably 80° for an hour, falling, we shall say, to a minimum of 55° during night, and the plants in proper health, their systems will greedily absorb the greater portion of extreme humidity which the houses contain. Their bending and flaccid shootlets caused by the extraordinary call upon their vital energies during a hot day's sunshine, will betake themselves to an erect position, and their whole system will be re-invigorated; whereas, if their thirst is not properly quenched, there is not, and cannot be, the same amount of success. On the other hand, it is malpractice to ply the syringe overhead in the morning when the plants by their leaves are evaporating instead of absorbing moisture, and one only defeats the end they have in view by following up such-like method. The careful observer who may not have the slightest smack of vegetable physiology, knows well that where drops, or blotches as they turn out to be afterwards, of moisture remain on the leaves during the day, and perchance the direct rays of the meridian sun come in contact therewith, it is certain destruction not only to the epidermis on the upper surface, but to the entire part of the leaf or leaves so exposed. In fact they are so susceptible of injury while making their young wood even under the best treatment that they require at that period more especially, quite as close shading as a house of Orchids.

The successful cultivator has, however, occasionally to resort to what might be called negative means to bring about uniform fortuitous results. The constitutions of the different varieties of the same species often require slight modifications of the usual routine. The truth is that practical gardeners ought to know, and very often do know quite as much about the system of the plant as the doctor about the system of his patient. That is why I argue that gardening is quite as much entitled to be called a science as doctoring. Those high-up in dealing with the matter in a scientific point of view, botanical and physiological, set it down as such *simpliciter*; but looking upon us low down and our humble capacity, are slow to elevate our practice and the method we have in going about it above an art.

It does not require a very lengthened experience to see that a Black Hamburgh Vine and Canon Hall Muscat will not set fruit equally well under similar circumstances. The former will scarcely refuse to set in a house kept considerably above the ordinary degree of moistness; while the latter, speaking in general terms, will scarcely fructify to the cultivator's mind in a very dry house where we would suppose the pollen would of its own accord scatter like dust in a hot summer day. Again, take another example at a different stage of maturity—one of the most delicious Grapes in cultivation, possessing a vigorous habit, a strong tendency to fruit freely, a handsome bunch, and large individual berry, immediately it begins to change colour, if there is anything like moisture in the house, looking at the interpretation of the term in the gardener's mind, almost every berry will crack, and bunches become unsightly and unfit to be placed upon any nobleman's or gentleman's table; while most other Grapes, in like circumstances, are unaffected in this respect and may be all that can be desired as examples of cultivation. I need scarcely say I refer to Chasselas Musqué. One might multiply instances of this description like anomalies *ad infinitum*. I was only endeavouring to fortify Flora's position in referring to compæx examples of Pomona. All these wayward subjects such as Mathotiana, Mrs. Abby Wilder, Regea, Centifolia alba, Rubini, and some others, must receive somewhat diverse treatment from the general stock in order to induce formation of flower-buds. As soon as the cultivator finds the wood pretty well elongated, and the leaves assuming somewhat their natural size, it is judicious to withhold moisture both in the atmosphere and at the root, or they will form little else but wood-buds. A very good proof of the wisdom of this practice is to be observed in flower-buds forming in scanty numbers; they only appear on the weakest shoots of plants treated after the usual method, which is a tolerably patent proof that such-like varieties elect to grow wood-buds in preference to flower-buds, and, therefore, show good-enough cause why they ought to be subjected to a

low diet. Indeed it is not a bad plan to allow the whole plantation of them at this period to remain on the dry order for two or three weeks. Any one may do so without the slightest compunction, taking care once the buds are properly formed to see that the balls are uniformly moistened.

Liquid manure water, guano water, and nitrate of soda diluted have each their supporters, and I am in no wise inclined to be churlish with other people for adopting them; but I may state that unless to large-plants that have been growing in from 12-inch pots to 30-inch tubs, and have remained in such for two or three years, we have never applied such stimulants with very good effect. If the physical condition of the soil be such as we have endeavoured to press upon the reader, the drainage perfect, the resting, growing, and checking of the plants all attended to at the proper time, there is little, very little to fear in the shape of abundance and quality of bloom, which is the great desideratum. Remember that I do not wage a war of extermination against stimulants. By no means. If plants remain in small pots quite full of roots, then stimulants must be applied to keep up the system. I only contend for a moderate supply of pot-room so long as the plants are small or medium-sized and in portable-sized pots in preference to a small modicum of soil support, and an absolute necessity for liquid appliances.

The Camellia is a plant, which if allowed to become filthy—that is, if its leaves are not syringed and occasionally sponged like a child's head in the same predicament, is liable to vermin. The brown scale is its worst enemy, and may occasionally be found in well-managed collections. Such collections, of course, are always adding to their stock, and although these incomers are subjected to a rigorous process of ocular investigation there may be larvæ of that insect on some of the plants. It is very easily kept down by periodical washings of Gishurst Compound, or even soft soap. A couple of ounces to the gallon make a capital safe ingredient of either of them, and plants so affected washed three times in so many weeks will be perfectly clean. Some of your readers know the Scotch maxim, "a steek in time saves nine," which is probably not so offensive to the generality of your readers as the very expressive one quoted by the Chancellor of the Exchequer in his Budget speech as to require interpretation. A few minutes' attention to keeping down vermin infesting plants at the proper time may save days of labour and anxiety months afterwards.—JAS. ANDERSON, *Meadow Bank, Uddingstone.*

#### A YARN OUT OF A WEE PICKLE TOW.

I HAD a private letter the other day from a first-rate grower of plants, a good practical botanist, and a great reader. What he chiefly wanted to know was, how to set about writing his notions for publications, knowing that his secret was as sure as the name of his lady love in my keeping. There may be a thousand like him at this moment, wishing to be useful to others, and at the same time improving themselves, and probably laying the surest foundation for future fame and fortune: therefore, it struck me that by merely begging your pardon for another broom-handle article so soon, at such a busy season, I could just tell the thousand what I had written to him, and show him and them, at the same time, how to begin, and how to find a ready-made subject to write about, at any season of the year, by merely writing a review of the last Number of this Journal; and as it comes in weekly, a man need never be at a loss for a subject to write about, or make a broom-handle article, while so much is before him to choose from. I wrote as follows:—

His first plan should be to write under a different name; to keep a copy of your manuscript, and to compare it with the printed article; to avoid mannerism as he would the evil spirit—that is, not to write two articles just alike in words and sentences, for fear of getting into one style, or one manner of writing only; to write exactly as if he were writing to private friends of very different dispositions, which, as he meant to please them all, would compel him to a change of style, and keep him from all ideas of nervousness, which is entirely ruinous to young writers. That exercise would soon show him if he wanted or where he wanted touching up, and no one could be the wiser.

Then, to begin a review of the last Number of this Journal, as an example to young beginners I must do as usual—keep to fair argument and straightforward criticism, and neither spare myself nor blame others if I can at all help it.

The first article is on CYCLAMENS, by "J. A. P.," a gentleman who has shown more practical knowledge of the Italian species

than all the botanical authors who wrote about them for the last sixty years, save Tenore alone. His is the best and most reliable account of *vernum* and *europæum* in all our books, and no doubt but he is as well at home on the *Cyclamens* of Naples and central Italy, and on the Calabrian species, the true Ivy-leaved kind. One of the most singular coincidences I ever met with, is the exact form of tale and language by "J. A. P.," and the descriptions that were given to me of his Swiss and Italian rambles by Mr. Atkins himself, the great cross-breeder of the family. But no gardener or botanist, as far as I know, was aware till this season that the *Cyclamens* assumed such different forms in the wild state; and no author, except Sweet, had ever noticed the spur, and he knew it only on *vernum*. My *vernum* was in ill health for five years before I had it: the first time it flowered with me was in March, and the flowers then and the following year were much deeper in colour than they have been since they took to flowering at the end of October. The reason why my *vernum* flowers so early is, that it is planted out in a pit, where it has been kept warmer and more confined in order to bring it round from a long course of illness. I was not aware that I was wrong on the family crest—that spur, till early this season, when I received a true *europæum* with the crest on, from the gentleman who dug it up twelve miles beyond Genoa. Ignorance is never a fault, only a misfortune, and my misfortune in this heraldry is now its own reward; and we are, certainly, all of us much indebted to "J. A. P." for his very lucid and practical account of the family. He also confirms the view which this Journal has held from the beginning, on the system of drying these half-bulb sort of roots. It is the hard drying which keeps them down so much, as, if they were not so dried, no one would ever see the end of one of them. Any kind of *Cyclamen* would see out two generations at least, if people would cease from roasting them alive, as the practice is in many places.

The reason why I take *vernum* to be a cross-seedling is, that no one has ever yet assigned it a native locality. I look upon *sibiricum* in the same light as *vernum*, another cross without a home. Mr. Atkins has changed our old notions of species in this family so completely, that unless we are sure and certain to the contrary, any new or old addition that may be made to this section of *Cyclamens* may safely be referred to intermixtures from foreign pollen. True *vernums* and true *sibiricums* might very probably be now picked out of seedlings of *Atkinsii* in the Wellington Road Nursery, where this race varies as much as *Calceolarias*. The fact that a plant will come true from seeds is not the least confirmation of its being a distinct species, for the merest accidental garden variety often does the like, even among annual plants. What we were all so much in ignorance about was the extreme range of the variation the leaves of *Cyclamens* assumed in different localities. None but those of neapolitanum were hitherto known in cultivation to vary much; but now we know, thanks to "J. A. P.," that *europæum* varies even more than we know of in neapolitanum; and no doubt the *vernum*, on travelling as far north as Naples, assumes forms of leaf very different from what is or may be seen in the middle and extreme point of Calabria; and it may also prefer a lower elevation at the northern limits, and possibly to come near enough to the coast as to warrant the name *littorale* to one of the forms of it there; or a fresh-water botanist might be excused for calling some form of *europæum* by that name, if he found it near the Lake of Como—*littorale* meaning a shore plant. The *Cyclamen* figured by Dr. Sibthorp in his "Flora Græca," looks very much like Mr. Holland's evergreen *Cyclamen*, as far as I recollect, and now there can be no doubt about that being one of the forms of *europæum*. It has the exact fragrance of the best known variety of *europæum*.

The next article in the last Number is my own on the *Azalea* Show, and I ought to be pulled over the coals for writing it so carelessly. Here, then, is a lesson for young writers. Look here, "critics who must take their ideas from assemblages of flowering plants at London shows, because they can see no others, are sure guides to direct in the way of selections." They cannot possibly be any such thing, but "they cannot help it;" therefore what I ought to have said was that they "are not sure guides." Then there is Dr. Martius, the great demonstrator of Brazilian botany, down as Dr. Martens.

And what is the use of hammering at all if you are hitting the wrong nail even in seven times, as I did there with two most beautiful variegated plants which I meant to praise skyhigh, and yet never even told they were as much as variegated?

"There was a fine specimen of *Hymenocallis fulva* in two collections, that of Mr. Salter, and in one of Messrs. Smith's groups." *Hymenocallis fulva*—why, that is the common shrubby border yellowish flower called Day Lily. Of course it is; but in my notes there was a high-sounding name to one of the plants which put me out so as to forget myself, and what I was going to say. Both were most beautiful specimens of the finest hardy-variegated plant there, after *Symphytum asperimur variegatum*. If this *Hymenocallis* (not *calis* as one had it) keeps as slick and slim as both were that day all through the summer, no one can hammer the plant too much on the nail.

The third article is on florists' flowers, a review of itself; and the only thing I could touch up in it with a clear conscience is Mr. William Paul's new H.P. Rose, the Beauty of Waltham, a splendid grower. I saw the plant last autumn at the Floral Committee, and I should say it beats both its parents, the Margottin Rose and the Général Jacqueminot. I was also pleased to read that the author and the writer came so near as a toucher on the merits of the new Auricula Mrs. Fyles, so you see I can do a little of floristry in a quiet way. Then as to the new *Verbena* from Outton Park, they are sure to be right; for Mr. Wills was a contributor to the Experimental Garden. The burning of the Vines in the next article was a sad misfortune, for which we must all sympathise. In such another case, or one like it by frost, the plants should not be cut until new shoots are made, and then to be cut back to a promising shoot.

I pass the next two articles and come to "*Cerastium Biebersteinii*," and I think it is at Kew, and that I had a hunt after it there last spring, and, if so, there was then only one plant of it; but we must not rest till we get to the bottom of it, and many thanks to "NICKERBOR" for the contribution.

"Packing Cut Flowers" is the next article, and I can vouch for it being one of the very best plans, for it is identical with that I saw at Stafford House by Mr. Fleming, of Trentham; and if I had not had a regular go-in the boxes and my packers in routine on that plan, I should certainly have taken to the crossed strings just as "P." put them down in that box.

The Vines eaten by mice in the next article was another sad loss, and the "Caution" is good. There is another way of getting rid of them, and of rats, cats, and dogs. Take a piece of liver, cut it in the form of dice into small bits; prick one side of the dice, and inoculate the slit with a drop of strychnine; and for a rat take the inoculated bit on the point of a skewer, dip it in the frying pan after something good, and cast off the bit in the run of the rats with the point of a knife, so that the rat may not smell a foe, and the thing takes like a fly-hook after a rainy day; and either of the animals will take to his heels immediately for his home as fast and as far as they will carry him, but down he goes ere he reaches the place, unless it is high at hand.

It is always gratifying to hear of such confidence and such a rise in a fellow-labourer as is recorded of Mr. Spencer in the next chapter; and in the next it is not at all surprising to see Mr. Beaton saddled with the crupper the wrong way. He deserves it all; for if he never spoke of Miller's Pink Horseshoe Geranium, he did his crimson; and what is the difference? For if the plant was in "extinction" itself, who ought to bear the blame more mildly than he?

Orchid-pods come next; but, O Teacher! you never told us how you did it—how you crossed, or how you sowed or reaped the goodly harvest I often registered in your name and mine; but I have been at it and know all about it, yet even now I hesitate to take the cheese off another man's crust, and shall only say my plan is the second best. Get the seed-pod of an Orchid emptied on a piece of smooth paper, the seeds being as small as the dust in the sunbeam. Take a very clean No. 32-pot, and put a No. 60-pot upside down over the hole at the bottom, and put a piece 2 inches square of ragged turf of fibry peat over the hole of No. 60. Then take four pieces of rough cracked charcoal 3 inches or 4 inches long, and half that in width and thickness, place them on their ends against the sides of the big pot at equal distances, put your finger on the bottom hole outside, and fill the pot with water, holding the pot in the left hand. Now sow the seeds on the water, and breathe against it till the whole surface is equally dusted. Then begin to let off the water from under your finger by the bottom hole very, very gradually. As the water subsides in the pot the seeds will stick to the sides of the pots, the peat, and the charcoal, just like so much of a tide-mark. When the water is all off place the pot in a saucer of water with an inch deep of water in it, and hold it to that

point till your seedlings are safely on the wing, put two twigs across the mouth of the pot, and put a square of glass over the twigs, so as to have a space for air all round the thickness of the twigs. Put the pot where it will not get more dry at the sides than it is now, and where the heat is at Calcutta point, and if ninety-nine out of every hundred of the seeds will not vegetate and that very soon, why, the pollen has not given them the germ of life. I brought a thousand Orchids into this world just that way; but, truth to say, they all of them found the means of getting out of the world by a route I never could fathom. So, as I have just said, my plan is only second best after all.

And then we have "A few Days in Ireland, No. 20," and it is always twenty to one if ever you can catch that man turning a corner. He will be an Irishman as sure as Paddy O'Reardan before it is all done, or else he wants to get all the goodness out of them for this side of the channel and make them believe all the time his aim is just the other way. But I should like to have seen some of the sights! Captain Whitty, however, from the inspection of prisons in Dublin, called on me last week, and told me all the Irish news in a lump, and the best part of the whole story was the continued success of his good lady with the Waltonian Case; and if Mr. Fish knows a gardener in all Ireland who would venture a risk of propagation against that lady and the Waltonian, I should like the name to book for the Derby.

Then another first-rate article on "Florists' Flowers" succeeds. I always thought there was a wheel within a wheel in managing Carnations, and there they are sure enough, no less than five of them besides the guard wheel, and now I can see what I could not for a length of time—the real and substantial difference between a Carnation and a Pink of the present fashion. I recollect mistaking the one for the other seven years back, at a show in the Regent's Park. So one can live and learn to the last.

Then those beautiful architectural terraces and balustrades and pyramidal Scarlet Geraniums. How exquisitely beautifully they have been delineated! That is the place and style for Nose-gays, and the right school for young artists. But how they make one's teeth to water from the reading of Mr. Fortune's run to Yeddo and back again before the arrival of the ambassadors from the Emperor of Japan, in the accounts from Mr. Standish's nurseries at Bagshot. But have you seen *Prunus trilobus* from a former trip, by Mr. Fortune? if not, it is the prettiest thing you ever saw. Just like a true cross between two pink Pompons—say Madame Rousselon on the one part, and the best pink you know on the other part, and the flowers of that *Prunus* are better still, and come with the leaves early enough without forcing. And did you book that beautiful new "summer bedding plant," from the "Botanical Magazine," I mean that very rich crimson orange composite called *Clomencocoma montana*? We must have it out and see to it. Nothing in that way should ever slip between the fingers for want of trying.

Then the "Weather," just such as it is, and then to end in wool, flax, and cork, is nothing more than another form of hot-beds, with blankets, sheets, and cork bottoms; but the things tell as well in the newer style, and some of you ought to try them certainly, and some may wish I was there too, but how could I, seeing I had a thousand young ideas on my hands, and had to demonstrate how easy a thing it is to spin a yarn out of "A wee pickle tow?"

D. BEATON.

### DISA GRANDIFLORA.

In the answers to correspondents in the last Journal there is a mistake as to the seeding of this plant, which I would take this opportunity of correcting. It has seeded under Mr. Eyles' care; and he told me the other day at South Kensington that he had a number of seedling plants, besides about sixty which he had made out of the plant presented by Mr. Leach to the Royal Horticultural Society; in fact, there is no plant that I know that is likely to become more generally grown after a few years than it is, provided people attend to the very plain rules laid down by Mr. Leach for its culture. But what is one to say when people are so wrongheaded as they will be at times? I was some time since showing to a very eminent plantman the beautiful drawing of it made by Mr. Andrews for the *Floral Magazine*, when he said, "Ah! By-the-by I don't believe all that is said about that plant being easy to grow." "Don't you?" was my reply; "have you got it?" "Yes—two little weakly plants." The plants were brought, and poor enough they looked. "What was your treatment?" "Oh, I have kept

them tolerably dry during the winter in the stove." All I could say was, "I wonder you have them at all." Had he kept them in a cool house from which the frost was excluded, and standing in water, he would have had nice healthy plants by this time.

A short time ago I was again the guest of my friend Mr. Leach, and saw all his plants in their fullest vigour. They had been kept moist, and were throwing up offsets in all directions; while the main stems were stout and saucy-looking, as if they intended to bear a large head of bloom. One pot he had kept in an intermediate-house all the winter, but it was not in as good condition as the others, and not a bit more forward, clearly showing that the cool house is the proper place for them. I have kept the small plant which Mr. Leach so kindly gave me in a pot standing in a saucer of water, and it is growing away fast.

There is one peculiarity about it which I do not remember to have seen noticed. Just at the base of the main stem there is now a small shoot or offset, which remains very much the same size for some considerable time; but when the main stem begins to decay this offset begins to increase, and when the head of the family has done its work this one is ready to take its place. The bump of philoprogenitiveness is very strongly developed in *Disa*, for no sooner is an offset potted off and started for growth, than it begins to increase also. And as ere long Mr. Eyles' plants will be distributed amongst the Fellows I presume, and Mr. Veitch must be getting into a stock of it from those he obtained from Mr. Leach, it will ere long be generally grown; and notwithstanding the sneer with which the idea was received by a classical contemporary—that it would some day be seen growing out of doors, on the margin of pools, &c., I have sanguine hopes of seeing it ere many years realised.—D. Deal.

### MANETTI STOCK AND MANETTI ROSES.

I HAVE no desire that my name should ever appear in print, or that my rosetry or Roses should ever be mentioned, except for public instruction. I sign my name at full length for one only reason—viz., that the public may have the opportunity of seeing the truth of what I say. I have no predilections or prejudices whatever—they are beneath an educated mind. No man can be called prejudiced that bends to his circumstances, whether those circumstances relate to fortune, locality, or soil. I can truly say that I never had, in any article that I have written, any other object than the public good. I have no secrets; and I believe that "the liberal deviseth liberal things, and that by liberal things he shall stand." I was amused and gratified by a letter that I received some years ago from a gardener, living with a lady of title in the Isle of Wight, who paid me the great compliment of saying, "I wish all people were like you, who tell us what will do us good. People are got so selfish, that if they know anything (say about Cinerarias) that will do us good, they will only tell us enough to do mischief." Let me endeavour to wipe off this foul blot from the escutcheon of florists, and say a few things relating to Manetti and Manetti Roses, which may do good. I must always suppose that this is admitted—that unless people mean to cultivate Roses in "earnest," they had better, for "satisfaction," have nothing to do with them, especially if Nature is not likely to supply that which Art refuses.

1. *The Introduction of the Manetti Stock.*—This stock was sent many years ago to Mr. Rivers in a parcel directed to Messrs. Longmans & Co. It was a solitary stalk. "How great a matter does a little fire kindle!" Mr. Rivers has made a fortune out of it. Mr. Cranston says he cannot propagate it fast enough to supply his customers, who prefer it; and I suppose that Mr. Francis has done himself some good by it. I do not propose here to praise this stock, or prefer it above others. My predilections for it are well known, and arise from my soil. To the question often proposed to me, "Which is the best stock for me?" I can return no answer, till I know the circumstances of the querist. Till these are known, the question to me is like the mouths of the Ganges, "lost in marshes!" I propose, in the following observations, simply to give a few hints as to the management of Manetti Roses. I know how the stock should be raised, how propagation by grafting should be done, how it should be planted for budding; but, as I learnt these from the "trade," I should not think it right, without asking permission, to inform the readers of this article. I bud but very few Manetti stocks myself. One thing is certain, that the stock cannot be budded well without going down "all fours." I buy

Manetti Roses and bud Briars because I do not like going down "all fours."

2. *Soil*.—Manetti Roses will grow and bloom well in any soil—sand, chalk, or clay. They grow more rank in stiff soil than in any other. This is the objection to them; but, they have this advantage—viz., that they will do well in soil where it would not be expedient to grow Briar Roses.

3. *Planting*.—This is always the basis of successful arboriculture. If the land is stiff, cold, and wet, when you receive the plants, you will gain by planting them in clumps as tied up, and putting them out at the spring. If the soil is healthy, they may be planted at once. Those that are huddled high—say 8 inches, should not be planted to the full depth, but 4 inches, and earthed-up the other 6 inches—that is, 2 inches over the collar, like Potatoes. The stock may be exposed in winter, but it should never be exposed in summer. The greater part of mine when first received were budded too high; but, being thus planted, have always done well. I tie all my plants to a stick; the small ones are tied to a spar. They should not be cut when planted. Budders are now beginning to bud lower—close upon the roots. These may be planted on the "flat."

4. *Replanting*.—When Manetti Roses run to blind wood, they should be either root-pruned or removed. Auguste Mîc is given to this: hence I cut but little wood, even useless wood, out of it. Where ground is strong and first-class, annual removal and root-pruning "may" be advantageous. As I have no such ground, I cannot give a certain opinion. It is a rule with me, when a plant does well to leave it alone. Manetti Roses may be removed with care, without injury, when in foliage and bud. Two out of the treble Angleterres, cut for Kensington in September, were cut from two-year-old stout plants, removed from the upper to the lower part of my garden with their balls of earth on, and kept watered as to foliage for a day or two. This removal took place in the beginning of August. The blooms were fine, some of them being over 4 inches in diameter. I removed some plants of Manetti Roses (31), from Blandford here on the 24th of May, last year. They had their foliage on. The plants had suffered from the winter, but they became fine plants by the latter part of the year, and one (Cambacères), threw up for Blandford Exhibition as fine a bloom and truss as I ever saw. I gave 7d. each for the plants. They were all shielded after planting from the sun. They soon "took," all did well, and all look well now.

5. *Manuring*.—The ground should be well trenched and manured before planted; and, as the trees bear, so should they be manured. Feeding cattle and feeding trees are both matters of "judgment." Half-inch bones; new maiden earth; black highly-decayed manure, made from horses and pigs; nitro-phosphate; guano; liquid manure; wood-ashes; occasionally a little salt; soot; and strong-beer grounds are what I use. This latter I put on for gala days, when the bloom is nearly full for expansion. It must be greatly diluted by about nine times the quantity of water. My twenty-four trebles at Kensington in September had had a potation of this. I use also, besides the above, stale twenty-years-old "humanioribus," which looks like Hardham's thirty-seven snuff.

6. *Watering*.—We have lately needed but little advice on this subject. For the last two years it has rained like the Atlantic Ocean coming through a sieve. Manetti Roses do not want so much watering as Briar Roses; but, when they are watered, sufficient should be put on to touch all the points of the roots. This, with many hundreds of Roses in a torrid summer, is a serious affair. I plant the Roses in trenches with all their roots one way, so as to know where to place the water with more economy. Manetti roots, however, run on all sides.

7. *Suckers*.—These should be cut off close to the stock whenever they appear. I am never, except in the case of weak pot plants, ever troubled with them, owing to careful planting in the first place. Briar Roses, summer and autumnal, as well as Briar stocks, are very troublesome; in strong ground, no doubt, less of these will appear. I would advise Manetti Rose-planters, when they plant the Rose in light soil, to tread the ground very firm on the radicles of the roots and close up to the stock: the exclusion of air would stop suckers, which, it is possible, in very light land might prevail till the tree has completed an adequate volume of wood.

8. *Plants Cut Hard by Winter*.—When this occurs, or when you cut down a bush to the stumps, you must be careful, when you cut into the quick, to seal with Robinson's liquid glue, rubbing on also a little dirt. I also use a cerate made of oil, soap,

and Burgundy pitch, or cobbler's wax. As the ground is usually, after a wet winter, very cold, in order to quicken the roots I move the ground with Parkes' fork deeply in the baulks on which the plants stand, and also between the rows where I walk. That has been done to-day (April 8th), to supply health to the ground which this wet March has denied to me. I never know ground more unhealthy. The plants are very healthy.

9. *Mildews*.—There are three kinds of mildew—white, orange, and black—which affect Roses. If you should overlook any of them till the foliage is hopelessly spoilt, take up the plant and shake it out, and put it back again. This will stop for awhile the flow of sap, which, having no lungs to go to, will be confined to the wood, and spoil it for next year. Highly-mildewed trees, unless their wood is ripe previously, have a salmon mark in the pith of the wood, and cut soft as a Turnip at the enaung spring. It cannot be denied that Manetti Roses, as a class, are more subject to white mildew than Briar Roses, and that the higher you cultivate the more you will be subject to it. This arises from the succulence and quick growth of Manetti plants, and also of very highly cultivated Briar Roses. I tried last year with complete success, after sulphur failures, 2 ozs. of pounded vitriol dissolved in a stable-bucket of water, and poured from a watering-pot with a fine spout over the foliage. The trees are perfectly healthy now. The plants were some on Briars and some on Manetti. When foliage is very young and tender in the spring a weaker solution would be advisable. I have only tried it on hard-leaved plants. Sulphur is not a sure remedy.

I cannot conclude without dispelling a few errors as regards my soil and situation. My home garden is exposed to the furious assaults of the south-west wind, which has just knocked down 39 feet of my garden wall in defiance of two buttresses. The land in this garden is dry brown land wanting in aluminum. My other garden faces the north-east, and is dry black soil mingled with and resting upon gravel. This also wants aluminum. It is the better soil of the two, and the British Queen revels in it. Still Mr. Worthington, when here, observed, this soil is too deficient in clay for Roses. In winter the situation is very severe. No doubt some of the Manetti Roses have Rose roots; but I have examined two trees—a ten-year-old fine Duchess of Norfolk, and a four-year-old Inermis, and they have no other roots than the Manetti.

I hope and believe that my Roses will tell their own tale on the 11th of June at Kensington. High cultivation, universal attention, and a knowledge of the peculiar habits of each Rose plant, are the keys of success. I believe that I could grow them on the tops of the hills equally well.—W. F. RADCLIFFE.

## INTERIOR ARRANGEMENT OF A GREENHOUSE.

I HAVE a greenhouse erecting, span-roofed, against a south wall, 19 feet by 10 feet, 7 feet to the spring of the roof, and 10 feet 7 inches from the ground to the ridge. Will you advise how to plan it inside for plants and fruit trees, so as to make most use of the room and the blank wall against which the house stands?—H. A. W., *Enfield*.

[For making the most of such a span-house we would have a tree or two against the end of the house, a walk in the middle, and a border on each side for plants. In the case of a lean-to, facing the south, we would cover the north wall with fruit trees, have a walk a couple of feet from it, and a border in front either for plants in pots or turned out, and to be root-pruned when required. You could do little with the end or back of the house in either of these cases if you had a stand, and if you had you would have more trouble with fruit trees and Roses. Your house would, however, be properly a fruit-house instead of a greenhouse.]

THE BIRMINGHAM AND MIDLAND ROSE SHOW.—The Committee met on the 3rd inst., in the Committee-room of the Town Hall. The first business was to fix the time for holding the meeting. Tuesday and Wednesday, the 1st and 2nd July, were the days determined upon after some discussion, being as near as possible midway between the show of the Royal Horticultural Society, and the one at the Crystal Palace. The prize list was next considered, the premiums it was finally determined to offer amounting to £84 10s. The schedule, together with the regulations for the display both of Roses and of horticultural imple-

ments and garden ornaments, will be issued in a short time. The project is exciting great interest, and will, there is every reason to anticipate, prove a decided success.

### BORONIA SERRULATA CULTURE.

I SHALL feel obliged by your acquainting your readers and myself with the secret of the management of *Boronia serrulata*. My gardener cannot keep it alive, and I have heard the same complaint from others. It is intrinsically a very pretty flower, but to me it has peculiar charms, because it is common all round a city where I spent many years of my life—Sydney.

It is called by Australians "the Native Rose," and about Christmas time, when it is abundant in the Bush, great quantities are gathered for ornamental purposes. Its strong and peculiar odour perfumes the whole house.—AUSTRALIAN.

[You do not say one word too much in favour of this peculiarly-scented plant. It often fails because we cannot give it the keen sunlight it obtains in its native home in the Bush. It will not, therefore, stand the same amount of cold with us in winter as it will do near Sydney, because with all our care in our dripping, cloudy climate we cannot get it both to grow and to ripen its growth as well as it does in its native country, and all plants cultivated in pots require more attention than when growing in the open soil, with all circumstances favourable. Passing everything about propagating, we will just instance a few of the matters necessary for successful culture, merely premising that you have a small, bushy plant to begin with that ere long will require more pot-room.

The first thing, then, with those not having much practice, is to secure a pot just a single size larger, perfectly clean, and which if new has been soaked in water, and dried again before using. Nearly a quarter of such a pot should be filled with drainage, the larger below, and fine-washed grit on the surface. The compost should be chiefly the best fibry peat, and in proportion to the size of the plant and shift. It should consist chiefly of pieces from the size of a Pea to that of small Mazagan Beans. About half the quantity of peat may consist of equal portions of broken charcoal, broken pots, sifted so as to exclude all dust, and the best silver sand. Such a compost even when pressed tight will allow the water to pass freely, so that drainage is continued from top to bottom, the least stagnant water being ruinous. In the spring of the year, when it is desirable the plants should grow freely, a little dressing of old, sweet cowdung rubbed fine will be acceptable. In finishing potting with such roughish material it is advisable to cover the surface half an inch or so with the finer soil, so as to prevent the air entering too freely and drying up the fibres. In all cases it is advisable not to over-pot. In weak or decaying plants turning the roots carefully out of the old soil, putting them in compost more sandy than the above, and keeping the plants warm and rather close, are the best means for restoring them.

Established plants should be repotted if they need it, after the bloom is gone, the faded bloom cut back, and the plant pruned back considerably (keeping in mind that the bloom this season is produced on the points of the young wood formed and ripened the previous year). The potting should not take place until fresh growth is taking place—say when the young shoots are an inch or two in length. After nipping the flowers off and pruning, the plant should stand in an airy place for eight days, then be removed to a closer and warmer one, be kept there after potting, and only be moved to an opener place, but seldom out of doors, when it is desirable to harden the young shoots—say in the end of July and August.

*Position and Temperature.*—Unless then when commencing to grow, and for a short time after potting, the plants must have little or no shading. All the sun, when able to bear it, that the shoots can obtain the better will they stand the dulness and colds of winter. When the shoots are getting long enough, the plant should stand close to the glass in a greenhouse, or in a cold pit, with air front and back, if necessary, but so as to get the full force of the sun; and the roots under such circumstances had better be protected by setting the pot inside of a larger one. Such plants will in five days stand a sun heat with air on of from 70° to 80°, and rejoice in it.

By the middle of September the plant should be transferred to its winter quarters, where it will get all the sunlight possible and plenty of air, so long as out of doors it ranges about 40°, and is not too foggy. In December, November, and the first

part of January, the plant should only rarely be under 45°, because unless in extraordinary seasons the wood will not be so firm as in Australia. From the middle of January to March the plants may have an increase of 5° and 10° of rise from sunshine. When in bloom ordinary attention will be sufficient. When done flowering proceed as already detailed to get fresh growth and ripen that growth.

*Watering* must be done carefully, or all the above will be labour thrown away. Properly speaking, the plant should never be very dry nor very wet. The compost and the drainage must guard against the latter, and the pot must be frequently lifted and rapped with the knuckles to make sure the plant is not dry. A waterer who slips his work and keeps the surface moist for an inch or so and allows the ball to get dry in the centre will soon have the plant sickly or dead. On the other hand, with such careful attention as hinted at above there will be a reward for all the labour. The plant looks best when bushy and grown so as to form nearly three parts of a circle. When fully established and regularly pruned it will stand the knife pretty well. The young shoots if numerous will frequently need thinning. In old plants it is best to nip off the old flowers and not cut back much, and then the young growth being short is easier ripened for blooming the following season. Even in young plants a growth of 3 inches or 4 inches is more easily ripened than a shoot of double the length. The water must be pure and soft—exposed rain water if possible. Manure water should never be given unless a little of a weak and cool nature, such as old cowdung, just when knotting for bloom, and again when making new wood.—R. FISH.]

### IDENTIFICATION OF PLANTS.

You will greatly oblige *A City Merchant*, if in the notice "To Correspondents," in your valuable work you say what the *Bois de rat* plant is, from the Island of Bourbon; also, what is the *Yampa*, which is said to be a root in common use and largely consumed as an article of food by the Snake Indians along the Rocky Mountains; also, what is the *Kooyah*, or Tobacco Root, another edible root much used by the Indians in the same country; and what is the *Mansanita*, or chocolate-coloured shrub of Fremont's exploring expedition in the Oregon country, which he says is an evergreen about the size of an Apple tree, with bark as smooth as glass, and bearing clusters of berries in the autumn which are edible.

[The *Bois de rat* is so called from the fruit of the shrub being grateful to rats and mice. It is the *Myonima obovata* of botanists, and the generic name from *mys*, a rat, and *onemi*, to delight, refers to the fact we have stated. *Kooyah*, or Tobacco Root, as stated by Dr. Hogg in his "Vegetable Kingdom," is the root of *Lewisia rediviva*, native of the west of the Rocky Mountains, and gathered in great quantities by the Indians, who value it highly for its nutritive qualities. It is boiled and eaten as arrowroot, and is well calculated to be a provision for long journeys, 2 ozs. or 3 ozs. being enough for a man even when undergoing great fatigue. It is called Tobacco Root, because it smells like Tobacco when cooked.

Of the *Yampa* and *Mansanita* we have no account, and shall be obliged by any of our readers sending us relative information.—EDS. J. OF H.]

### CLASSING VINES IN VINERIES—AMOUNT OF CROP PERMISSIBLE.

I HAVE three vinerias at this place under my care, the Vines planted by my predecessor in the spring of 1860, and have made very good wood. The first season I cut them down to the wall-plate, this season I left them one-third of the rafters on account of their strength. They are showing fruit nicely in the first house. How many bunches would you leave on for first crop? and would you let a bunch remain on the leading shoots, as they are showing very well on them? They are planted inside of the house and allowed to root out under arches. I am afraid as they are planted they will not answer. In the first house are planted, 2 Golden Hamburgs, 1 Pope's Hamburg, 1 Bowood Muscat, 1 Charlesworth Tokay, 1 Muscat Hamburg, and 1 Black Hamburg. Second house—6 Muscat of Alexandria, 1 Canon Hall. Third house—1 Lady Downe's, 2 West's St. Peter's, 2 Black Barbarossas, 1 Grizzly Frontignan, 1 Bowood Muscat. I am

afraid the present arrangement will not answer, and how would you alter them?—R. J., *Ireland*.

[We do not see much the matter with the plauting. In the first house the Muscat might be in the warmest place, and would yield Muscats before the second came in. We allude to the Bowood. The Muscat Hamburg would come in with the other. The second house could not be better; and the third house will hang a long time after the Grapes are ripe. We would limit the bunches to about four to a Vine, if the bunches are fine; and if enough equally good can be obtained, we would not leave a bunch on the leading shoot. However, if very strong, a bunch will not hurt it much. You might take the double of the above, as we have often done, but never without regretting it afterwards.]

### CONSTRUCTION OF A GAS-HEATED MELON PIT.

A *Subscriber* inquires whether a Melon-pit would be successful if constructed as follows:—1, A strong ashlar wall, 12 inches thick, all round, such as frost could not penetrate; 2, The inside of pit to be level with the ground; 3, To be 21 feet long, seven lights, at 3 feet each; 4, Lights to be each 7 feet long; 5, 5 feet high at the back, 2 feet 6 inches at front; 6, A stove in one corner, partitioned-off from the soil in the pit by brick-work; 7, A tile pipe to lead from stove across the pit, through the soil, and return to the open air to get rid of vitiated air from stove; 8, Inside this tile pipe (the joints of which not to be hermetically sealed) the pipe from stove to run, thus conducting the heat all round; 9, Stove-heat to be from gas, giving thus an even steady heat; 10, A stone path behind the pit to stand on to work the lights.

[Everything will depend on the setting of the stove, and the pipe that takes the heat. If your return earthenware pipe, enclosing the close pipe from stove is lower considerably than the stove we have no faith in your proposed system answering. We question whether you would not require a quick ascent instead of a long descent. All that we have known of gas-heating leads us to the conclusion that for diffusing heat much the same principles must be attended to as in constructing a flue. To get enough of heat at all early, a good supply of gas will be necessary. All things considered, but for getting gas cheap or for nothing, we think a small brick Arnott's stove with or without a small Rivers' boiler on the top of it, and three inch pipes, two below the bed and two above, would be more satisfactory and less liable to easulities—in fact, we would sooner have an Arnott's stove alone, low enough to heat bed from a chamber beneath, and the top by openings from chamber. For cheapness nothing beats a stove now, and there would be less intricacy than in your plan. However, if you try it let us know the result, as many are enamoured with the idea of heating a house by merely turning a gas-tap.]

### A BUNDLE OF WANTS IN THE BEDDING GERANIUM WAY.

MUCH has been said of late about variegated Geraniums and their origin and other features, all in its way very good, and skilful cultivators have extended our lists of names to an extent which renders a wedding-out of indifferent kinds now and then necessary. But my purpose here is not to undertake the nugracious task of condemning varieties that have done good service in years gone by, but to point out new wants in this way, and direct the attention of the ardent cultivator towards supplying that want, and I do not doubt but he will ultimately be able to do so. I will, therefore, state my requirements in a form that will be easily understood, and as I expect they are such as will meet the views of all flower gardeners, the attainment of the object asked for will be a general boon. Commencing, therefore, with

**WANT THE FIRST.**—I want a silver-edged Geranium of good habit and quick growth, with white flowers; so that when it becomes necessary to plant variegated Geraniums in lines as string-work to a panelled garden, or in a white line to a ribbon or striped bed, the colour of the flowers should coincide as much as possible with that of the plant. Unfortunately, all the attempts at variegation have been with a view to obtain flowers of the best form or brightest scarlet, and in this respect some

very excellent varieties are in general cultivation; but I am not acquainted with any silver-edged one having white flowers. Perhaps some sport from *Virgineum*, *Lizzie*, *Hendersonii*, or *Boulo de Neige*, the kinds nearest approaching to white that I have, may supply the desideratum. The habit of the plant I will describe below.

**WANT THE SECOND.**—I want, as one of your correspondents cleverly expresses it, a Mangles' Variegated Geranium with a gold-laced jacket on. In other words, I want the white edging of this most useful Geranium turned into a bright yellow; the flowers for the time might remain as they are; the prostrate but quick-growing habit of the plant to remain as it is. In fact, I simply want the silvery margin of its leaves turned into gold—a want, by-the-by, not more unreasonable than that of the world in general, who seemingly all give the preference to the more valuable metal.

**WANT THE THIRD.**—As the last-named variety is better adapted to cover a considerable space of ground than form an edging, I want a gold-edged kind, of a compact habit and quick growth, to form lines or rows; and if I take *Tom Thumb* as the type of habit I would like to see in gold lace, the requirements of my case will be understood. It would certainly be as well if a stronger grower than *Tom Thumb* were also dressed up in gold lining—say *Punch*, *Mrs. Maylor*, *Emperor*, or others of that breed; but I would be content with one that presents as uniform a habit as *Tom Thumb*, and, what is equally important, retains its foliage to the very last—a feature which *Purple Nosegay* and others are very defective in.

**WANT THE FOURTH.**—I want a golden-edged variety of the Oak-leaved class of quicker growth than the white-edged kind we have under the name of *Lady Plymouth*. In fact, I may say here I would like a more vigorous growth thrown into all the variegated varieties we have; but in this particular case I do not stipulate what colour the flower is to be. It would be best white; but once obtain the variegated form of right colour and constitution, and the flowering part will follow.

**WANT THE FIFTH** is an improvement on *Purple Nosegay*, giving me a plant of better growth that does not lose its leaves so quickly, and does not get so leggy. It is too much to ask for a better flower at the same breath; but one with the footstalk shorter would be better, and if the colour could be brightened up so as to approach the same tint as *Verbena Purple King*, there would be a good chance of having a blue Geranium in a short time. However, I hope to hear of much improvement this way, and would like to give the so-called improvers of our *Scarlet* section a hint that I am perfectly satisfied with their attainments in that direction, and would like them to try their hand on this and some other branches.

**WANT THE SIXTH** is something more in the Ivy-leaved way. In fact, I do not despair of seeing most of the colours of the *Verbena* transferred to this plant, and in dry situations and hot summers it will be a formidable rival to that popular bedding plant. It is hardly likely that the mass of bloom on the best of our *Verbena*-beds can ever be excelled in Ivy-leaved Geraniums; but the latter looks better as a plant not in flower. We all know *Verbenas* are not the earliest nor yet the latest of bedding-plants, and when not in flower can never equal the Geranium in the same condition; but the Ivy-leaved Geranium is best adapted for vases, very dry banks, or places where *Verbenas* would only drag out a sickly existence: therefore, I hope to see it more generally adopted where improved forms are forthcoming.

**WANT THE SEVENTH** is some considerable improvement in the *Unique* section. No greenhouse plant can possibly look better than *Rollisson's Unique Geranium* when trained in a pyramidal form and full in flower, but as a bedding plant it lacks bloom the latter part of the season. I fear this cannot well be improved; but if it could be made as abundant and continuous a bloomer as the best *Scarlets* we have, we would have a very important boon. In this section such kinds as *Moore's Victory*, *Prince of Orange*, *Shrubland Pet*, the white, pink, and scarlet *Unique*, as well as *Rollisson's*, and others, are all very good while in flower, but in the latter part of the season leaves instead of flowers predominate: and though I fear the character of the plant is against continuous blooming, it may, perhaps, nevertheless be improved in that respect by degrees.

**QUALIFICATIONS OF A BEDDING GERANIUM OF THE VARIEGATED CLASS.**—In an article on the Geranium in *THE JOURNAL OF HORTICULTURE* of last year I mentioned some of the points I thought essential in a bedding Geranium, and subsequent observation has confirmed me in the views I then took of the

matter. In the Variegated class two colours only are wanted, as a clear white and green, or yellow and green. The inner zone, which in such kinds as Countess of Warwick and others gives a certainly pretty effect to a potted plant close under the eye, are certainly a defect in the bedding plant, by neutralising the effect the combination of the two other colours creates when viewed a few yards off, which flower-beds usually are.

Another requirement I would insist on is that the leaves should be cuppy or concave, with as broad a margin of pure white or gold as can be had pointing upwards; so that the plant when looked at horizontally should present the greatest possible amount of light-colouring. In this respect *G. Bijou* is much superior to *Alma*, the foliage of the latter being convex, thereby bringing the centre or green more into view. But the best *Geranium* of the Variegated class that I have is *Shottesham Pet*, which grows as freely as most plain-leaved *Scarlets*, and its leaves are of the wrinkled cuppy form, which shows all their whiteness to the best advantage. In the autumn of 1859 *Brilliant* partook of this character to an extent which led many to expect a greater breadth of white margin might become permanent in it, but it relapsed the next season into its original condition. A most excellent bloomer, but not sufficiently variegated to meet the requirements of the present day.

**QUALIFICATIONS OF A BEDDING GERANIUM OF THE PLAIN-LEAVED CLASS.**—This also was treated of in the article alluded to, so that I need only repeat here that, as flowers, not foliage, form the interesting feature, the latter need not present anything beyond a plain green surface, the brighter the better. Zones of black and red, or black and brown, though pretty enough in an individual leaf when examined closely, only look dirty when viewed a few yards away. I therefore prefer the plain-leaved kinds to the horseshoe-marked kinds: neither do I think the white or transparent appearance of the stem of the plant or flower-stem as of any use in a flower-bed, though interesting in the plant-house. An abundant bloomer is of course requisite; and if I were to add to the wants already specified, I would ask for a *Tom Thumb* to bloom as freely as *Brilliant* now does; but I am for the present content with *Tom Thumb*, and like it better than any of the other *Scarlets* I have. But if it were in any way interesting to the reader, I may say that next to *Tom Thumb* *Punch* is a favourite here, though a much stronger grower than *Tom*. In the rose-coloured class *Trent-ham Rose* is the best; in dark reds *Paul L'Abbé* and *Rubens* divide the palm; while in the pink class *Christina* and *Pink Perfection* are good; in pale colours *Lizzie* and *Boule de Neige* are the best. But I do not by any means assert that such may be the case everywhere, neither do I disclaim all connection with the horseshoe-marked class, which embraces several good kinds, as *Scarlet Globe*, *Compactum*, *British Flag*, *Mrs. Ricketts* and others; but for the reasons given above I give the preference to the plain-leaved kinds. I need hardly add that compact habit, with free growth neither too stunted nor too leggy, are necessary qualifications; and such kinds as carry a respectable appearance to the latest possible period in the year, combined with other good points, are the sorts of most use in the flower garden.

In my bundle of wants, No. 1 is most likely to be first supplied—in fact, I shall not be surprised at being told that it already exists, but I am not acquainted with it. The palest-coloured flowering one I have that way is *Silver Queen*, and it is a shy grower, and of a dead creamy-coloured leaf-margin. A clever correspondent has promised to furnish No. 2, which I suspect he contemplated doing by subjecting *Mangles*' to some drugging process, and making the discoloration persistent. No. 3 means a better grower than *Golden Chain*, *Cloth of Gold*, *Golden Vaise*, or *Golden Fleece*. If this be forthcoming I will do without No. 4; but I hope to see No. 5 attended to. No. 6 will take more time to accomplish, as likewise will the next No. But I will be glad to hear what progress has been made in any of these changes in other quarters, and may possibly trouble the reformers of bedding plants with some wants in other classes of plants.—J. ROBSON.

#### VINES AND PEACH TREES IN THE SAME HOUSE.

THE respected clergyman of this parish has built a lean-to house on the south wall of his garden, 10 feet by 8 feet, having a glass front, also having the east end glass. It is 5 feet high in

front, and well ventilated. He asked my advice about what to put in it. I advised him to plant two Vines to train up the roof, having the roots outside; and to plant a Peach or Nectarine on the back wall, with a border inside.

The builder took another gardener to look at the house, and he told him (the gardener) what I had advised to plant in the house. The said gardener replied, that the clergyman should never have the pleasure of eating a Peach or Nectarine of the trees if planted where I proposed. Now, I find that the builder has told this to the clergyman, and, of course, he does not know whose advice to follow; and I take the liberty of referring to you to ask your uninterested judgment on the affair.—CORESUNN.

[If your friend the clergyman wishes to have Peaches and Grapes in his small house, there is nothing to prevent him; though, as a general rule, houses devoted to one fruit tree answer best. Had he glass at both ends, it would have been better. Now, for success, these things are necessary:—First, that the Vines should each be about 2 feet from each end, and each trained to a single stem, and to be pruned on the spur system—in other words, the Vines must not cover the roof, to prevent the sun reaching the back wall. Secondly, if artificial heat is applied, it should be so gentle at first, that the Peaches shall have flowered and set their fruit, before the Vines are doing much more than breaking. Thirdly, the Vines should be partly pruned back as early as possible in the autumn, in order to let all the light possible to the Peach tree. Fourthly, at that time the Peach roots should not be too wet, so that the ripening process should be hastened. Fifthly, in winter enough moisture should be given to swell the buds gradually. If too dry they will be apt to drop. And lastly, no plants of much height should be grown on the floor of the house; and no stage of any kind should be allowed, or that will just spoil the Peach tree. These little matters attended to, there is no reason why first-rate Peaches should not appear on the table at the parsonage.]

#### ORNAMENTAL STOVE PLANTS.

*IXORA LAXIFLORA* (*Lax-flowered Ixora*).

*Nat. Ord.*, Cinchonaceæ. *Linm.*, Tetrandria Monogynia. An ornamental stove shrub, growing 3 feet to 4 feet high. The leaves are opposite, oblong, lance-shaped, acuminate, attenuated at the base into a very short petiole, with ovate-acuminate



adpressed stipules; the largest leaves a foot or more in length. The flowers grow in large, terminal, trichotomous panicles, white, delicately tinged with pink, very fragrant; the calyx is deep red; the corolla consists of a very slender tube,  $1\frac{1}{2}$  inch

long, with a spreading limb cut to the base into four spreading obovate segments. From Sierra Leone; introduced by Mr. Whitfield in 1848. Messrs. Lucombe, Pince, & Co., of Exeter. —(*Botanical Magazine*, t. 4482.)

TABERNEMONTANA LONGIFLORA (*Long-flowered Tabernamontana*).

*Nat. Ord.*, Apocynaceæ. *Lin.*, Pentandria Monogynia. A fine stove shrub, of erect branching habit. The leaves are large, opposite, elliptical. The flowers grow on axillary peduncles, or two placed together at the ends of the branches, bearing about



three flowers in a cyme; the corolla is white or pale cream-colour, large, and having a delicious aromatic fragrance like that of cloves; its tube is 4 inches long, twisted and swollen below the middle, terminating in a limb of five waved, or reflexed tongue-shaped lobes. From Sierra Leone; introduced by Mr. Whitfield, in 1848. Messrs. Lucombe, Pince, & Co., of Exeter. —(*Ibid.*, t. 4484.)—(*Gardener's Magazine of Botany*.)

### MESEMBRYANTHEMUMS AS BEDDERS.

"I wish all the Mesembryanthemums were swimming down the Trent, the bothering, miffy, finical little beggars! Why can't her ladyship be content with Scarlet Geraniums and yellow Calceolarias like other folk?" "Have patience, my good fellow." "If you preach patience to me I'll shy one at your head!" "Rather a rough reception, you will say. Yes, to a stranger it might appear more raspy than friendly; but to us, who knew the evanescent nature of our friend's wrath, it did not appear so. We quietly sat down in the potting-shed where he was at work, potting-off some young Mesembryanthemums, and waited. We did not wait long before he broke out into a laugh, and said, "Her ladyship has seen some of these things (still fingering them contemptuously, and we're to have a bed or two in the flower garden; they're rather ticklish customers to deal with, and I've a hundred and fifty jobs wanting me." It was in the throng of the spring propagation.

One bright summer day we called again, and had scarce got within hail, when our friend sings out, "You're just the fellow I want to see, come on;" and, as if he possessed the seven-league boots he strides off, leaving us to trot after him, wondering what now the wind brings down to us. "By Jove! you never saw such a hed." At last he stopped in the centre of the flower garden, and, before we had time to get breath, he takes us by the shoulders and places us before two beds, one mass of star-like flowers of a lilac rose, or rosy lilac colour. "Arn't

they glorious!" "They are," we reply. "Pray, what are they?" "Mesembryanthemum ——" (we forget what). "Well, but the last time we were here, you were storming at some Mesembryanthemums," we slyly said. Shaking his head, he smiling says, "Come, none o' that, and thou lov'st me, Hal!"

In pondering over what we must sow or get for two neutral beds in our floral arrangement, we remembered these Mesembryanthemums; and, as our knowledge of them is limited, we write now to ask some of the curious plant-collecting readers of *THE JOURNAL OF HORTICULTURE*, "NICKERBOR," for instance, if they can tell us something about them. Now then, "NICKERBOR," you oddly-named man, tell us all you know. Where are they to be obtained? when to sow and how? when to plant and how?—N. H. P.

[These Mesembryanthemums have been used for the last twenty years in all large gardens in the country, and at the Crystal Palace. McIntosh brought them out first at Claremont about 1835 or 1836.]

### SYRINGING VINES.

My Muscats in a thirty-two-foot house are nearly all set; those at each end of the house, where the pipes by turning the corner give more heat, quite set. My gardener contends that it is right to recommence syringing overhead, in order to prevent red spider. I, on the other hand, relying upon the authority of Mr. Sanders on the Vine, discourage the practice, more especially during the present cold and sunless weather. Which is right, Sanders or my gardener? Of course he confines the syringe to the Grapes that are already set.—T. F.

[These are matters as between employer and employed that we do not like to give an opinion upon without knowing all the particulars, nor yet agreeably then, as more depends on thoroughly carrying out a system than in the mere superiority of one system over another. The gardener would be quite right in syringing the Vines when fully set to clear off all refuse of flowers, &c. If deficient in evaporating means, or afraid to use sulphur with them, he might continue syringing for some time with propriety if quite certain the water was pure and left no sediment. For ourselves, after one syringing we rarely repeat it, because the water at command is not pure, and enough of evaporation is obtained from troughs and plants growing in the house. A little air all night at the top or early in the morning will, under such circumstances, be as much opposed to the spider as constant syringing. When these aids cannot be obtained there can be little harm in syringing if the water is pure until the fruit is stoned. Of course in dull weather less will be wanted.]

### INK FOR ZINC LABELS.

No better, more lasting, nor more easily applied ink can be than that so often recommended by *THE JOURNAL OF HORTICULTURE*. Mine was made up in 1857, and I have what will last me years yet, it seems to gain strength with age; in fact, I suppose it does by parting with the lighter parts of the mixture in the form of invisible vapour.

I have noticed many inquiries and opinions lately on this subject, the last one being "M. S.," page 26, April 8, 1862, who says, that on application to a druggist to make up the ink-compound that he, the druggist, has made up the recipe many times, but the parties never renew it, finding it not indestructible. The druggist recommended bi-chlorate of platinum as a substitute, being more indestructible. The expense will be a fatal stumbling-block towards its general adoption; 1s. for a drachm is rather dear.

"Use a quill pen in writing with this ink, bi-chlorate of platinum, the same as in your recipe." I have quoted the substance of "M. S.'s" communication, as I have to differ in many points from it. My practice is in few words thus, Cut the pieces of zinc to any shape you like. I prefer thin strips 3 inches to 4 inches long, and 1 inch wide. On a wet day get all your materials in some of the houses that are heated by either hot-water pipes or flue. Make yourself a seat near the pipe or flue, arranging your pen and ink beside you, put a piece of board across your knees, and with an old knife scrape one side of the zinc label the width and length of your name, then with a steel pen (a quill draws too much ink and often makes either foul strokes or a blot), write it legibly, put the label on the pipe or

fluc, and go on to the next. As quick as they warm and dry they are ready for removal, and anything more black and indelible need not be desired. I marked labels for a miniature fruit garden of Pears, Plums, Cherries, &c., some hundred or two, and I discovered the fixing process by accident. The steel pen ought to be wiped after use. The old knife is quicker than sand or emery-paper.—N. H. P.

### DESTROYING WORMS BY GISHURST COMPOUND.

A WANT has been long felt, and that I believe very generally, of a simple and efficient cure for worms in lawns and gravel walks. This, it has accidentally occurred to me, may be supplied by Gishurst Compound. I therefore beg to give you my experience on the subject.

A short time since, while using a weak solution of the Compound on a large plant that had been removed out of doors for the purpose, some of the wash, of course, fell to the ground, when it was discovered that a great number of worms had been drawn up to the surface of the ground for the last time. It struck me at once that this was the thing wanted—viz., a cheap and easily-applied remedy for an unsightly nuisance. What can be more annoying to a gardener, or to the owner, to see (only perhaps the morning after mowing) his refreshing green lawn thickly studded over with little black heaps of dirt, to be disposed of only by dint of much labour in sweeping, rolling, &c.

No doubt by giving publicity to this, if it be a new idea (and I believe it is), further experiments will be made, and further information given.—JAMES PONSFORD, *Loughborough Park Nurseries, Brierton.*

### SCARECROWS, AND CRAFTY BIRDS.

I NEVER have had such trouble as this season with the small birds. They have devoured my early-sown seeds, and I am afraid they will finish my principal sowing; they are such a hungry lot here by the south coast, for they seem to be continually feeding. We want Mr. Frost to pay us a long and severe visit next winter to devour some of these old wide-awake customers, they seem to know every dodge.

I heard of a gardener a few days ago, who stuck up a scarecrow to frighten the birds away. This was in the image of a man, and a Robin forced a passage under the hat of the scarecrow and built its nest there. Was that not enough to make that gardener give up all thoughts of sticking up a scarecrow?

I performed the same in this garden, and am in the habit of moving it at different times of the day, and almost as soon as I turn my back they are on its poll, turning up in their way; not only that, but they will even strip the old hat of its fur to build their nest; so I advise your readers to knock the crown out if they want to keep the small birds from building in it—also strip it of its fur. But that was not the only means I tried to prevent their attacks. I laid four lines of netting, one on top of the other; they were not very close knitted, it is true, but these vermin would find their way to get in, and took good care to get out. The chaffinch and linnet are the worst. I also used that scarecrow recommended by McIntosh, and which I have found very useful in other localities, but here it is a total failure. It is a long rod, 6 feet or 8 feet long; from the point drops a line of small cord, and at the other end of the cord is fixed a Potato stuck full of feathers of different colours. Now, these south-coast birds might live to an old age, when they enjoy such a lovely breeze as we get and scarcely any winter; this last we have scarcely caught sight of any snow, and the thermometer not falling below 22°, they get more crafty every year, so that they will not partake of a little adulterated food as a change. Out of so many thousands of your readers, perhaps one might be kind enough to give a plan that would prove successful.—J. VICKARY, *Aldwick Pavilion.*

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

As soon as the seed-leaves of the Cabbage tribe appear, sprinkle root or wood ashes over them, for the purpose of preventing the attacks of insects. It should be frequently repeated until the plants are an inch or two high. Continue the destruction of all

noxious insects and vermin. *Capsicums*, repot the plants of the larger varieties intended for turning-out next month. Harden them off when they have taken fresh root-hold. The small sort, commonly called Chilies, should also be potted as they require it in rich soil, and be kept in some warm place. *Carrots*, the frames may be removed from the early sowing if required for other purposes. Thin and water them as may appear necessary. *Celery*, some of the earliest sowing that has been pricked into boxes may now be planted in a frame; no artificial heat is required, but the light should remain on in cold wet weather. Prick-out the successional sowings. *Lettuce*, forward the spring-sown plants where there is a scarcity of autumn-sown ones. Water them in dry weather, and loosen the soil around them. Sow seed of the Paris Cus and other good sorts. *Onions*, thin the autumn sowing. The plants drawn out may be replanted into beds after they are thinned to regular distances. Loosen the soil carefully between them. *Peas*, earth-up and stick the advancing crops. Before earthing, strew some soot beside the rows to prevent the attacks of grubs. *Radishes*, make a sowing of the Turnip-rooted kinds. Water those in frames when dry, to preserve their juicy and mild qualities. *Rhubarb*, sow seed to produce roots for forcing.

#### FLOWER GARDEN.

When the whole stock for bedding-out is potted-off, attention must be paid to the hardening of them gradually for their final destination in the open air. This should be done by degrees, avoiding too sudden changes, and stepping straggling growth in order to have bushy plants. All pruning is probably finished, but if not it should be completed immediately. Plant *Gladioli* and *Ferarias*. Plant evergreen shrubs if you are obliged, and take care when so doing to preserve every fibre, the holes to be much larger than the balls and roots will fit into. Attend to watering, and fix stakes to prevent the injurious effect of the plants being wind-waved. Commence in earnest with mowing and cut down close, it will mow better for it all the season. Finish edging walks, and clip Box-edgings.

#### FRUIT GARDEN.

Where wall trees are protected by netting or other such materials used as curtains they should be drawn from the trees in the day, unless there is a bleak-cutting wind, when they may remain. Remove suckers from fruit trees as soon as they appear. Hoe between Raspberry, Currant, and Gooseberry bushes. Plant out early-forced Strawberries.

#### STOVE.

The plants here are now in vigorous growth, they must be assisted with a lively bottom heat, a brisk-growing temperature with plenty of moisture and air, and weak liquid manure to such plants as require it. *Clerodendrons* should now be in vigorous growth, at least the first lot, and, therefore, must be assisted; and the younger stock of these plants must also be encouraged. *Allamandas* of all sorts, *Rondeletias*, *Gloriosas*, young *Ixoras*, *Dipladenias*, *Franciscas*, and many more free-growing plants must be encouraged by potting when necessary, and due attention to cleanliness. *Stephanotis* now showing bloom to be properly attended to, and give plenty of manure water to the young specimens. *Ixoras*, now expanding their bloom-buds, to be set close to the glass, and where they can have plenty of air to colour the blooms properly. Young *Cactuses* for early bloom next year to be induced to make an early growth. Start a fresh stock of *Gesneras*, *Gloxinias*, and *Achimenes*.

#### GREENHOUSE AND CONSERVATORY.

As the *Camellias* in the conservatory are nearly out of bloom, they and the Orange trees and climbing plants will be benefited by a little extra heat to start them into growth. Advantage must be taken to close the house pretty early in the afternoon, at the same time sprinkling the borders and the plants lightly with tepid water to produce a moist-growing temperature. If not previously done, the borders should also receive a good soaking of weak tepid liquid manure. Although it is not advisable to use shades unless under peculiar circumstances, nevertheless it sometimes happens at this season that sun-bursts, after the late sunless weather, are too powerful for the plants to bear, and, therefore, will require the intervention of a shade to protect them from their scorching influence. In the greenhouse many plants are advancing into bloom, and care must be taken that they, especially the large specimens, are duly supplied with water, and that they receive no check. All the principal plants have been potted long before this time, and are now making

root, therefore, guard against east winds, and shade when the weather is very bright. Give such plants as young *Boronias*, *Pimeleas*, *Polygalas*, *Dillwynias*, *Leschenaultias*, *Eriostemons*, &c., a tolerably close corner of the house; keep them clean, and repot them when necessary. Attend closely to stopping the young growth as it requires it. Remove flowers of young *Leschenaultias*, and, indeed, of all other young plants where growth and not bloom is the first object to be attained. Syringe the plants occasionally, and a little weak manure water will be found beneficial to the strong-growing kinds. Guard the *Heaths* against strong currents of dry air, more especially the newly-potted ones. The young specimens should now be removed to a pit or frame where the lights can be put on or off at pleasure; the pots to be placed on cinder ashes.

#### FORCING-PIT.

This being nearly done with for the season may now be appropriated to the young *Azaleas*, which should now be forced into vigorous growth as soon as possible. Those choice kinds which have been forced and have done blooming may be potted and brought in here at once. Stop the shoots as the plants progress in growth, so as to make them strong and bushy, and maintain a brisk-growing temperature, with plenty of air and moisture. Guard against thrips by syringing the plants and sprinkling the pots with clear soot water, and fumigate slightly every week for several weeks consecutively if insects make their appearance. The thrips may also be kept in check by the timely use of tobacco water. Syringe the plants daily at the time of shutting up the pit, and introduce the specimen plants of *Azaleas* into the pit as fast as they go out of bloom.

#### PITS AND FRAMES.

Graft and inarch *Camelias*; keep them in a close gentle heat. Divide and pot *Lobelias*. Pot-off rooted cuttings of *Dahlias*. The old roots of common sorts which are not required for propagation may now be placed in the forcing-pit, and when they break may be divided and planted out as soon as all danger from frost is over.

W. KEANE.

### DOINGS OF THE LAST WEEK.

MUCH the same as to routine as the previous week. Transplanted *Sea-kale*, prepared ground for *Asparagus*, and planted a quarter of *Cauliflower* plants. Thinned out finally those under hand-lights, and top-dressed with rotten dung and a little lime to frighten the slugs. Sowed *Broad garden Beans*; also in boxes under protection *Scarlet Runners* and *Dwarf Kidney Beans* for transplanting. Nipped the points of *Peas* in pots full of bloom. Potted *Cucumbers* and *Melons*, watered the first in a bearing state.

Among fruit—thinned out *Figs* a little, fresh regulated *Vines*, and stopped where showing. Changed *Strawberry-pots* when done with, bringing pots into heat by degrees, and took great care in giving air in such cold, fitful weather.

Pricked-off seedlings of all sorts that could be got at, finding that is the great and only secure remedy against shanking, even though we lift and prick-in little patches, instead of individual plants; still, when the seedlings do not stand too thick in the pots a little stirring of the surface with a bodkin-like stick, and a fresh dusting of fine soil and charcoal dust, will generally keep them all right. When time prevents any of these modes being tried, avoid watering overhead with a rose, as you would fever or plague. In very particular cases give moisture from beneath, by setting the pots in a tub, within an inch of their rims, or even less. In other cases flood the pot by pouring on a potherd at the sides, but without wetting the tops much. Planted out in earth and turf beds *Calceolarias* and *Gersaniums*.

#### MILDEW.

The dull weather has been rather productive of mildew in many places, and sulphur is in general the best preventive, and the fumes of sulphur best of all. The great thing is to get the fumes without being so hot as to approach ignition. In houses heated by hot water, or flues, the safest plan would be to put the sulphur in evaporating-troughs and basins. We think 170° is as high as sulphur ought ever to be exposed to, and we would prefer 160° to go among tender plants. Mr. Lane, the great *Rose-grower*, who seems to get myriads of them on their own roots, for the trouble of saying, "I want you," for in great batches in autumn and spring it is rare to find a cutting wise, has used a very simple mode for destroying the mildew which appeared in one of his large houses.

Some time ago I stated that Mr. Lane is one of the few men that thoroughly understand the Polmaise system of heating. In a large house so heated by a small brick stove, there is a funnel-opening for throwing the hot air into the house. In fact, a wooden box without bottom or top, unless when it is desirable to cover it—say 2 feet in length by 16 inches in width, and some 2 feet in depth, communicating directly with the chamber over the stove. Now, sulphur if it could have been thrown on the top of the stove might have got too hot, and carried destruction to the plants as well as the mildew; but this is all avoided by a very simple process, and we like it all the better, and think it well worthy of being recorded because it is so simple. A slate is suspended in the opening of this shaft, with plenty of room for air passing all round it, and the slate is daubed, and the daubing renewed with sulphur. If an experienced person put his nose over it, he would know that the odour he inhaled would do for the mildew, and not hurt the *Roses*. Mr. Wright the well-known forman showed us plants where the mildew had been, and which was thoroughly shrivelled up and gone. Now, those who force with flues or resort to iron stoves or brick stoves, may here cut a leaf out of Mr. Lane's book, and use it for themselves, without any danger of igniting, or over-heating the sulphur, and thus pretty well set red spider and mildew at defiance; and I need not add, that if much benefited by such a simple and safe mode, they will easily find a legitimate way for expressing their gratitude.

#### WEATHER VICISSITUDES.

I had intended saying something about the care required in the sudden change of the weather, from fog and rains to frost and sunshine. The frost, we fear, will carry destruction with it. Our *Apricots*, though protected with *Nottingham netting*, are much blackened. *Peaches*, as yet, are safe. *Gooseberries* are a little touched, though they had a little litter and old hay sprinkled over them. *Cherries*, &c., were protected with a rather close net, and seem, as yet, to have escaped. A few degrees in an orchard-house, all being dry, have done no harm. We hear of rather dismal accounts where no protection was resorted to out of doors, and of scalding and burning in houses and pits, even though plenty of air was given. Many of these accidents were due not only to the sudden change from dull to bright cold weather as we had on the 12th and 13th, and continued on to the 16th, but to want of allowance being made for the change. I cannot, however, enter on the subject, but must be content with the following hints:—

First. In such a case there should be as little fire heat as possible to meet with the sun heat. It would be better to make a fire, if necessary, in the middle of the day, than put on the fire wanted for weeks past in the morning, when there was every prospect of the sun shining. It would be better also to shut up houses earlier with sun heat, and get the fires merely to come in as the sun heat was going.

Secondly. The coldness of the heating medium would necessitate the giving comparatively little air which was biting and cold behind the sun, and that air in lean-to houses should be chiefly given at the apex. We have heard of cases, where houses with rather tender plants in them were well opened top and bottom on the 12th and 13th, and a good heat kept on at the same time, and then surprise was expressed that the leaves were blotched and curled at the edges. The poor things must have had a treat, with the air from a furnace roasting one side, and a frosty air playing on the other. In such days we would say, Put out the fires, let the sun be the only or almost the only heater, and give air almost entirely in tender cases at top, so that it shall be heated and moistened before reaching the plants. It is surprising how, even in such days, people will at once pull back the lights from frames and pits, and give front air so freely to forcing-houses, and then shut them up at night in a stifling heat. In all such weather air should be given gradually, and taken away gradually, and it is amazing how little frosty air need be admitted if that little is given early, and heat by artificial means is reduced or taken away. And

Thirdly. In such sudden changes, with cold air, bright sun, and artificial heat combined, it is next to impossible to keep tender plants and newly-potted plants from flagging, when such bright weather follows damp, cloudy, and foggy weather, because the plants are unable to meet the sudden change. It is no use watering if the soil is wet enough, but a syringing overhead, and a close atmosphere, with attention to air-giving, and artificial heat as referred to above, will generally keep all right. If that will not do, it is better to give a slight shading in preference to

inundating the plants, or giving them much frosty air. For shading much glass in a hurry, nothing is better than water just coloured with whiting. This thrown on the glass with a syringe or engine, will give a slightly clouded appearance to the glass, which will be removed in a slight breeze, or a shower of rain. Of course, those who have regular shades will use them in preference, and remove them as soon as the sun loses power or is shaded. These are some of the little essentials to success. The giving great quantities of frosty air to tender plants is much on a footing with the practice of taking tender plants into a cold shed, allowing them to stand as objects of attraction there for a considerable time before and after potting them afresh in cold wet soil. Such plants are sure to suffer though they may not show it at once, just as a man may die from a blow on the head, received months and years ago, though showing little bad effects at the time.—R. F.

### TRADE CATALOGUES RECEIVED.

*A Retail Catalogue of New, Beautiful, and Rare Plants, offered by William Bull, King's Road, Chelsea, S.W.*—This is an excellent catalogue and contains a great many novelties. All or most of the plants are fully described, some of them so minutely as to convey a pretty correct idea of what they really are.

*A Descriptive Catalogue of Bedding Plants, by John Scott, Merriott Nurseries, Crewkerne.*—This, too, is a most respectable catalogue, very copious, and appears to contain everything worth growing in the way of bedding plants. The information communicated is good.

### TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**HEATING BY GAS** (*A Lady Gardener*).—For a small greenhouse 20 feet long, heating by gas is quite effectual. We heated one for several years merely by an ornamental stove placed at one end, with a tube to carry off the gases evolved running along in front to the other end of the house. The heat may be increased readily by having two or even three rings of burners instead of one ring. In that case the upper rings should each be of a smaller diameter than that below it. It is better to have more than is ordinarily required, because the heat can always be kept down by only turning on the gas partially.

**HEATING BY GAS** (*Curiosity*).—See what we have said in answer to the above correspondent. If you apply to Messrs. Smith & Co.'s book-stall at the Railway Station, Liverpool, you can have our Journal on the afternoon of the day of its publication.

**VINE LEAVES DISEASED** (*Edgarley*).—The leaves were so withered that we could find no trace of spider living, though signs of where they had been. There seemed also something like signs of mildew. If you use lime be sure you do not make the sulphur too hot. Did we know how you heat the house we might advise differently. It is not safe to have the sulphur above 160° or so. The *Acucba* is very careless as to soil. Give it a little heath soil and loam, if very particular; but it thrives alike in shade and exposed, and will even stand a good coating of smoke and soot with comparatively little injury. Of course in such a sooty place it is glad of having its stems and leaves washed.

**CHERRY BLOSSOMS FALLING** (*H. Mathews*).—We suspect your Cherry tree wood was not ripe enough, or had got too dry in winter or autumn, or, perhaps, had not been sufficiently established in the pot. Any of these causes will produce such a result. When blossom-buds are very thick on a small tree, if time could be spared, the weakest and those which may not show an embryo fruit, should be thinned out. We have a fine Elton tree, producing a fair crop every year, but still a good many drop, and a great many after setting never swell, but gradually shrivel up. The tree seems in self-defence thus to get rid of the redundancy. Cacti cannot be named from such scraps as you sent.

**PLUNGING MATERIAL IN A PIT** (*A Constant Reader, Stoke Ferry*).—We presume that you mean your propagating-pit to be above hot-water pipes or flue; and if you have plenty of heat nothing is better than rough stones, smaller ones above, a layer of smaller ones still, and then fine sand for plunging. If a worm should get in soak the whole with lime water. The same would clear the mould and gravel. That would be the cleanest. The cocoa-nut refuse or tan would also answer, but sand would be the cleanest. The cocoa-nut fibre refuse you enclosed is the right kind.

**DIVIDED FLUE NOT DRAWING WELL** (*L. C. W., Warwickshire*).—We do not quite make out the size of the flue owing to the obscurity of the figures. Divided flues require a little coaxing by means of dampers to regulate the draught, and then there is generally little difficulty. We do not see your object in thus dividing your flue. Why not return a single flue instead? Your flue rises from the bars to the dividing, 15 inches; but we do not know how far that distance is. A fire will always draw better when the rise from the bars is sudden. Then from that point for the most of the length there is a rise of 2 inches, and from thence round the end to the base of the flue a rise of 12 inches. We think so many different levels may check the smoke, the strength of draught may differ in the two divisions, and may make the smoke waver whether to go on or to return. Is your chimney high enough? Try a chimney-pot without making other alterations. In such circumstances with a good rise from the bars to the base of the flue, and a gradual rise all the way, such a flue, single or double, ought to burn anything.

**WORMS IN LAWNS** (*R. B. W.*).—Watering with lime water as often as the worm-casts appear is the usual remedy; but see what Mr. Ponsford says to-day about the use of Gishurst Compound for the purpose.

**CULTIVATING WATER CRESSSES** (*E. E.*).—The following is extracted from the *Cottage Gardeners' Dictionary*:—"Planting in Water."—The trenches in which they are grown are so prepared, that, as nearly as possible, a regular depth of 3 inches or 4 inches can be kept up. These trenches are 3 yards broad, and 87 yards long, and whenever one is to be planted the bottom is made quite firm and slightly sloping, so that the water which flows in at one end may run out at the other. If the bottom of the trench is not sufficiently moist, a small body of water is allowed to enter to soften it. The Cresses are then divided into small sets or cuttings, with roots attached to them; and these are placed at the distance of 3 inches or 4 inches from each other. At the end of five or six days a slight dressing of well-decomposed cowdung is spread over all the plants, and this is pressed down by means of a heavy board, to which a long handle is obliquely fixed. The water is then raised to the depth of 2 inches or 3 inches, and never higher. Each trench is thus replanted annually, and furnishes twelve crops during the season. In the summer the Cresses are gathered every fifteen or twenty days, but less frequently during winter; care is taken that at each gathering at least a third part of the bed is left untouched, so that neither the roots may be exhausted nor the succeeding gathering delayed. After every cutting, a little decayed cowdung, in the proportion of two large barrowfuls to each trench, is spread over the naked plants, and this is beaten down by means of the rammer above mentioned. After the Water Cresses have been thus treated for a twelvemonth, the manure forms a tolerably thick layer at the bottom of the trench, and tends to raise its level. To restore it to its original level, all the refuse should be thrown out upon the borders which separate the trenches from each other. These borders may be planted with Artichokes, Cabbages, or Cauliflowers. The drainage from a dung-heap might be allowed to flow into the stream if it did not foul it much; and if the water were so enriched we question whether any annual addition of cowdung would be needed.

**SOWING CINERARIA AND PRIMULA SINENSIS** (*A Subscriber, Clapham*).—If only a new beginner do not think of striking Moss Roses from cuttings, better buy a few that are established in pots. Sow *Primula sinensis* now, and again in June for succession. You may also sow *Cinerarias* now, and again in July. These will most likely give you a great variety. If you wish to have a few first-rate sorts get some half-dozen of the best from some tradesman florist, and when done flowering cut the flower-stems off, and turn the plants into a shady border. Water them as they require it, and by August and September you will find each plant possessed of a number of healthy suckers or young plants, which divide and pot. *Cinerarias* may also be raised by cuttings, but they do not make such nice plants as suckers. The *Cineraria maritima*, cuttings of which were advertised to, is used for flower-gardening purposes.

**NOTCHING FRUIT TREES** (*An Old Subscriber*).—"Notching" is cutting a notch above a bud through the sapwood as well as through the bark, to induce that bud to become a branch rapidly by preventing the upward flow of the sap and diverting it to the bud.

**HEATING A SMALL GREENHOUSE** (*Tyro*).—A small iron or a brick Arnett's stove would heat such a house nicely, but being connected with the drawing-room it might be unsightly or troublesome. These would be cheapest. The next best and cheapest would be a flue; and if you can get deep enough for a small stovehole we would have the flue under the floor. Then for the arrangement inside. The house being 16 feet long and 10 feet wide, the centre at back being the drawing-room door, and the centre in front and opposite to it the door into the garden. Such a house would look best with a pathway right across it, say 3 feet wide. This would leave 6½ feet on each side; and if the ends were opaque a sloping stage on each side would hold the greatest number of plants. But if the ends and fronts were chiefly glass, then we would have a shelf of 9 inches all round ends and front, a border at back for climbers, &c., for back wall, a walk all round of 2 feet besides the central, and a small flat or pyramidal stage on each side. By this plan every plant may be easily examined, and neatness will be secured. If we did not floor all the house with tiles we would do the pathway, and under that we would have a flue all round—the pathway, in fact, forming the top of the flue. This also would make the pathway dry and comfortable in winter.

**CYCLAMEN CULTURE** (*A. G. L.*).—Yours is a nice red variety of *Cyclamen persicum*, not in a very strong condition, owing to having been too much dried last summer, or being a very young root. All the family do best turned out in their balls into the open border while they are at rest during the summer, and to be repotted in the autumn when they show signs of growth; then to be kept as cool as possible during the winter with *Ixias*, and such like bulbs in a cold frame, but not to let the frost to them, nor give them too much water, or confinement from free air in all fair weather. They all require the very best drainage and a generous soil, such as would do for nice pot *Geraniums*, and if there is any dung in it be sure it is very rotten, as for *Anriaculas*, and quite dry and crumbly when it is mixed with the loam and sand. Very good sorts and good flowering plants of *Cyclameus* are sold in Covent Garden at about 1s. 6d. the piece on the average; but the best and cheapest way would be to bargain with a nurseryman for a dozen of sorts as so much, and to raise seedlings from the whole lot, then there would be no end to the variations and the markings of the flowers. A selection of the very best flowers might be made from time to time for a family stock, and the rest be given away, if only to extend the knowledge of such beautiful flowers which require so little trouble, and pay for it in such abundance of gay flowers.

**SOWING WINTER CHERRY** (*J. S. A., Wanstead*).—This, *Physalis Alkekengi*, may be sown in the open air at the end of April, or sown in a slight hotbed, and the seedlings planted out. If it is *P. peruviana*, it should be sown in a hotbed, potted-off, and grown in a greenhouse, or planted out in June; but it would be best kept in the greenhouse for the first season, and most likely it would produce plenty of fruit the following year, which may be eaten, or used as tart. There are so many things that go under the name of Winter Cherry, Cape Gooseberry, &c., that we really cannot say how to treat exactly, unless we knew which was the one in question. However, a little heat at first can do no harm, and keeping in the house the first season, will be sure to make all right.

**GERANIUM LEAVES DISEASED** (*J. Z.*).—The "frizzling," as you term it, is caused by insects, either red spider or thrips, for the specimen sent was defaced by the post-office stamper. The air of the house has been kept too dry and not sufficiently ventilated. Flowers of sulphur, syringing, and more ventilation are the remedies.

**GRUBS IN CARBAGE-BEDS**.—*R. Hodgkin* says, he saved his plants, entirely destroyed the grubs, and has not seen one since, by putting 4 lbs. of common salt upon every 9 yards in length and 3 yards in breadth.

**OVAL BEDS** (*A. G. T.*).—We never say what should be planted in beds. We only give notice of everything worth planting, and tell if the plantings of others are in the fashion. In a large oval like yours, with a mass of scarlet in the centre, most people would put a row of *Perilla* round the scarlet, then *Flower of the Day* round *Perilla*, and *Lobelia* in front; and some would put yellow *Calceolarias* instead of *Perilla*; and some one thing, and some another. A *Camellia* greenhouse with *Passion-Flowers* is just the place for *Mandevilla*, and just not the place for *Stephanotis*.

**COCOA-NUT FIBRE REFUSE** (*G. W. H.*).—The sample enclosed was the right kind.

**CERASTIUM TOMENTOSUMS FROSTED** (*Idem*).—Your *Cerastium* are done for; they came out of a hot forcing-place, and Oaks and Elms from hot forcing would have just gone the same way. Probably the bottoms are not dead, and if not the plants will do just as if they had no hurt, only they will be a month or six weeks later, that is all; and you may as well plant them out at once, and put a little mulching of some very light stuff down each side of them, and see they do not want for water.

**CYCLAMEN AND ITS SEEDLINGS** (*E. W.*).—No wonder at all at their admiration of your most admirable *Cyclamen*, which is the very best of them all. No name short of a Sultan could give people any idea of the grandeur and richness of "fifty blooms" on such a plant. According to the leaf, you have done it as a Sultan ought to be done; yet, nevertheless, the name is merely *Red Persicum*, or *Cyclamen persicum rubrum* of nursery catalogues, but there are ten rubrums, not one of which is so good as the real one, and you have it. You have a treasure in it that few know anything about, it is the best mother breeder in the family, and it never yet produced a bad seedling. We have seen magnificentums from it, and of all colours, too, without crossing; but then it stood while in flower among such beauties as must tell on its seedlings for two or three generations. Save every seed from it, and sow them the day they are ripe, which will be about the first or second week in July. Plunge the seed-pots in the open ground, and put a bigger pot upside down over the seed-pots to keep off everything; they will then want no water till the seedlings are up one month, and by that time they will need to be taken to a cold pit; and if you could plunge them there for the winter they would want no water till the end of January. The seedlings might remain two years and two months in the same pots; then to be divided out into separate pots, and then for the grand secret of seeing flowers such as few had ever the chance of seeing before.

**CYCLAMEN** (*C. T. H.*).—Your seedling *Cyclamen* from rubrum is the handsomest that has yet been raised as far as we know. It is as densely spotted on a light ground as *Sinningia guttata*; rubrum is a sport, and never comes true. No one can tell a *Pinus* from the seeds.

**SPELLING AND PRONUNCIATION** (*Plants*).—The *Cottage Gardener's Dictionary* gives the correct spelling, and shows which syllable the emphasis should be laid upon. There is no book published showing how names are pronounced.

**DAHLIAS** (*R. Hodgkin*).—Buy our "Florists' Flowers for the Many." For five penny postage stamps you can have the book from our office free by post. It gives fuller directions for cultivating the Dahlia and other florists' flowers than we can find space for in answers to correspondents.

**VERBENAS** (*An Amateur, Tavistock*).—Robinson's *Defiance* for scarlet; *Purple King* for all blues, purples, and darks; and Mrs. Holford for white, are the three principal *Verbenas* which have been used for the last seven years for what you want. We cannot recommend one set of plants in preference to other plants, or one nurseryman, or house of business before another.

**TAGETES TENUIFOLIA** (*Subscriber from No. 1*).—This *Tagetes* will not do instead of *Calceolarias* in a ribbon-row in front of *Scarlet Geraniums*, it grows too tall for that row; but just behind the *Scarlets* it would make the cheapest yellow row in the kingdom, and probably one of the very best—say if *Punch* were in front of it, and the seedlings were to be transplanted 6 inches apart in the row, and the row to be a foot or 15 inches beyond *Punch*. This is a most permanent and bright yellow for a row a long way back from a walk, where other plants would hide so much of the stems and leaves as would render the line conspicuous for tidyness.

**AGATHEA CÆLESTIS** (*Idem*).—This is usually called *Cineraria amelloides*. We have often placed the merit of *amelloides* before our readers, but must leave it for their own decision.

**SCROPIELARIA NODOSA VARIEGATA** (*Idem*).—We have not yet seen it tried as an edging against *Mangles* or any other plant, but we have the very highest opinion of the parties who have seen it, and who have used it, and also who recommend it and offer it for sale; but we ourselves would prefer using this plant as we would four-year-old plants of *Flower of the Day*—that is, in the third or fourth row of a ribbon or such arrangement. But Mr. Beaton seemed to think last autumn the proper place should be at the back, as between evergreens and the *Scarlet Geraniums*, such as were suggested for Sir Joseph Paxton's sash-pattern planting.

**VERBENAS** (*Idem*).—You will see all the best *Verbenas* in our lists; but choose for yourself, and ask us then what we think of your proposed selections and combinations.

**TRITOMA UVARIA CULTURE** (*E. S.*).—It is about the same way as for bedding Dahlias. Look for whole dissertations on the plant in back Numbers. *Veratrum*, which of them? What would do for some would be undoing it for others.

**CERASUS JAPONICA FL. PL.** (*G. S. A.*).—Your pretty little *Cerasus* is quite right, but is not quite strong enough yet to flower. Leave it just as it is, it never wants much pruning. Once in six or seven years will be quite often enough to prune it, and all the pruning it wants then is merely to thin out the branches where they are too close or getting bare at the bottom. We know another *Cerasus* just like it which has not had any pruning since 1848, and it is one sheet of blossom every spring; also, a splendid *Ribes sanguineum* which has not been pruned since Her Majesty came to the throne. Why are you so anxious about pruning such nice little bushes which do so much better without it? Your seeds are of the Black-eyed Susan, the yellow *Thunbergia* with the dark eye or "purple heart."

**PLANTS FOR SMALL STOVE** (*Yorkshire*).—The things grown in such a house must be regulated by the height, of which we know little. The finer Ferns, as *Adiantums*, *Gymnogrammas*, &c., and *Gloxinias*, *Achimenes*, and fine-leaved *Begonias*, would just be at home, and in fact any stove plant for which you may have room. We think you should have some means for securing atmospheric moisture. The iron will often be too hot for pouring water upon it. Instead of the flats we would have preferred rough pebbles, and smaller pebbles on the surface. If the flats reversed get too hot you might use neat pieces of wood with a ledge on two sides, which would keep the base of the pot coolish, and enable the heat to pass from underneath the board.

**TEEE CARNATIONS** (*M. H.*).—The nurseryman who informed you that no reliance can be placed on tree Carnations coming true from seed either as to habit or colour was quite correct. We remember as many as twenty-five years ago seeing a tree *Picotet* which had been so trained by an amateur in Dublin, and we imagine the plan is that very much adopted now. It would be well to obtain the seed advertised as such, because there may just be the probability that it has been saved from varieties which are inclined to make leggy growth. In the earlier stages of their growth the material would be the same as that adopted for the ordinary *Carnation*, but they should not be allowed to flower the first year. The side shoots, too, should all be pinched off—and, in fact, the treatment very much resembles that adopted for the tree *Mignonette* we should imagine.

**FLOWER GARDEN** (*Novice*).—You have planted the beds very well. Unless the ribbon is shaded from the other side as well as by the house, the kinds you have in it will take no hurt from the house; and *Defiance* is still at the top of the scarlet *Verbenas* as all the world knows by this time.

**NAMING PLANTS FROM SEEDS** (*A Subscriber, G. B.*).—This is very difficult to effect, and requires more time than we can spare for one query. Yours are the seeds of *Acacia melanoxylon*.

**KEEPING CUCUMBERS FRESH FOR A FEW DAYS** (*A Two-years Subscriber*).—Cut the fruit with an inch or two more of stalk than usual, and slightly burn the cut end with a hot iron, and place it in a cool cellar on a plain flat board, without any packing material till the day of the show. We do not recommend standing Cucumbers in a dish of water as is sometimes done, as we think that they lose more than they gain in that way; whereas, sealing-up the wound, and the atmosphere not favouring evaporation, they will keep longer that way than any other.

**QUICK AND HOLLY HEDGE** (*G. B.*).—A *Quickset* hedge with *Holly* plants a yard apart looks very well, and is a more impregnable fence than *Quickset* and *Privet*, but the latter is of quicker growth, the *Privet* taking the lead, and throughout appearing the more prominent plant. The *Ossage Orange* (*Maclura aurantiaca*) has been used as a hedge, and its glossy green leaves look well in summer, but the tips of its shoots never yet ripened, and in winter it is not so compact and ornamental as *Quickset* in planting *Holly*, *May* is said to be the best time.

**KEEPING POTATOES** (*Idem*).—A dry, cool place is the best for keeping *Potatoes* to as late a period in the season as possible; but it must be quite dark, and they must not lie too thick, as that generates heat, and they sprout, and, consequently, lose weight. If the place be not dark, put them thinly into the bottom of a box or bin, and place the lid over them. A covering of straw, ashes, sand, or similar substance, encourages growth, which it is advisable to prevent, and the season having arrived for their doing so, a cooler atmosphere than the natural one is the only thing that will arrest their growth. Keeping them dry at the same time.

**WIRE FENCE** (*Idem*).—There is great variety of wire fencing. The best we have seen is a kind of galvanised wire cable, consisting of seven small wires twisted into a sort of rope. The best standards are also galvanised tubes, through which the wire rope passes. The straining standards are much larger, and being notched and shod at the bottom are not easily removed. A brace secures them on the side the strain is on; but there are many other kinds of strained wire fencing, ordinary wrought iron standards with six wires of the kinds in the trade called No. 4 and No. 5, make a very good fence, the standards being not more than 5 feet apart, and the height of the top wire about 3 feet 9 inches. The standards are best if secured to stone blocks; but rough timber ones will do, only these seldom last more than four years. A stout wooden post with a good brace is best to strain to, but lengths of about 200 yards may be strained in one piece. A wooden post in every fifth place strengthens it much; but it need not necessarily be so, and without these the fence is less visible, and if painted a dark green is nearly invisible at 200 yards distance.

**SLUGS AND EARWIGS** (*J. M., Londonderry*).—The slugs first make a wound in your *Nectarines*, and then the earwigs may take advantage of the wound; but we think they have nothing to do with the injury. Syringing with lime water would kill the slugs if they harbour in holes in the wall; and sowing salt over the soil will settle them there. We have suffered from snails eating our *Nectarines*, and hand-picking is the best remedy then.

**INSECTS** (*Ipstones*).—There was nothing in the box except a little dry soil and a few white fragments which might be skins of insects, but not detectable. The insects, probably, are *Acaris*, and if so are not injurious to plants. They live on decayed vegetable matter.

**NAME OF FERN** (*M. B., Staffordshire*).—It may be an *Asplenium*, perhaps *lancoletum*, perhaps *Adiantum nigrum*. No one can tell which from so immature a scrap.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### WILD FOWL.

(Continued from page 36.)

It is necessary the fence should be close to the ground, because however tame birds may be when they are bought, the tameness is only to place. Their nature is not changed, and they will for many days examine every part of their new abode. No weak spot will escape them. Wire is not the only fence that will answer the purpose, a wattle fence will do as well. We had such a one that lasted well for seven years. Whatever the means may be that are used for confinement frequent inspection is necessary, not only to prevent the inmates from getting out, but to prevent enemies from getting in. Thus, if the fence be wire, it is necessary to look for places where scratching has been begun to get under the wire. If a wattle fence, there will be signs of gnawing. Attention to these trifles will prevent many losses and disappointments. Most people are familiar with that exclamation, "I wish I had seen this before!" We wish to prevent it.

As soon as the birds have satisfied themselves they cannot get out, they become tame, they are "tamed to their cage," and reconciled to confinement. They should always be fed at stated times, and it is a profit to feed with that which will swim. Food should be thrown on the shallows, the places made for landing, and the bottom of these even in the water should be of hard gravel pebbles well rammed in, nothing is then lost. But if the water is clear, and dun birds and tufted Ducks are among the birds kept, it is most amusing to throw in some grains of good barley that will sink, the divers will be seen to follow their vocation, and to go after every corn as it sinks. In this, as in keeping poultry, we advocate a bare sufficiency of food. Nothing makes birds so tame as to look for the usual feeding time, and it is a pleasing pursuit to collect the crumbs from the breakfast table, and to feed wild fowl with them. They soon learn to look for it. Everything like a hopper or feeder is bad. As soon as the birds are satisfied they go away and hide. Half the charm of these pursuits is to be able to show the pets in which we take an interest to a friend, and this can only be depended upon when they are lightly fed, and learn to associate the coming of their owner with food. We can give little hope of breeding. They do so sometimes, but only after a long lapse of years, in most cases fourteen or fifteen. We know many instances of their breeding after this time. We also know exceptions. We know a case where some Sheldrakes were turned into a small pond in a rick-yard, and within a month they burrowed into a hay-rick and bred there. Where space permits, the smaller kinds of Geese may be kept. These are much tamer than Ducks. The Barnacle has beautifully pencilled plumage, slate-coloured and black. The Brent is most elegant in shape, with taper neck, very small head, black plumage, and white ring or necklace. The white-fronted; the Bean; the Egyptian, with pink legs and bills, and plumage of varied colours; the Canada, all these are easily kept and cheaply, their chief food is grass. Where space is at all limited, the small Barnacles and Brents are most desirable.

We have endeavoured to show how all these beautiful birds are to be kept, and we have, we think, shown at how little cost. They are inexpensive to buy, they are not subject to disease, and they consume little food. They are among the charms of a country residence, and they form part of the out-door, and, consequently, healthy pursuits of a country life. We have tried to dispel the idea that an indulgence of these tastes is only to be permitted to those who have long purses; and as we write from experience, we know those who may be induced to try to carry out our suggestions will find they may be depended upon in every particular.

### RATS VERSUS POULTRY.

THE complaints that this spring have reached me respecting the depredations of the rats on the early broods of both chickens and ducklings, very far exceed anything I can call to mind in previous years. One party who had succeeded in raising, to nearly a month old, ten Egyptian goslings (and who plumed himself not a little on so doing), lost all ten of them in a single night; the very first, too, that they were allowed to pass out-doors.

Every breeder of either useful or merely ornamental poultry will admit that the annoyance to the mind, from such unlooked-for disappointment, quite overbalances the loss, as only regarded pecuniarily. The breeding season passes on with a feeling that no outlay will make up this deficiency of early stock, and, indeed, sometimes provokes only to the abandonment of the pursuit altogether. The pest seems this year almost universal, as, within my own knowledge, both Spanish, Dorkings, and Cochins have fallen victims to these marauders.

The sagacity of these vermin is certainly far greater than most persons would credit, nor could a more striking proof be given than that of the ornamental gulls above referred to. They had reached the size of Moor-hens, and were strong and heartwell, having the protection of a large Rouen Duck as foster-mother. On inspecting the place very early the next morning (attention having been called by the movements of the old Duck), it was evident that a portion of the youngsters had been killed and eaten likewise on the spot, but that four or five were simply scalped and brained by the rats, and afterwards dragged away to some neighbouring sewers. On one of these birds strychnine was placed, and on the others white arsenic; but for a fortnight or more they remained untouched, consequently were removed to prevent mishap or unpleasantness. The owner, thus hopeless, unfortunately disposed of his old birds.

Strange to say, as evidence of the dexterity of rats in obtaining access to places thought secure, the owner of the Dorking chickens actually saw a rat walk along a clothes-line that a washerwoman had put up temporarily—the line being only a quarter of an inch in diameter, and 18 feet long, but which his servant had tied to a hook in the lintel of the chicken-house. After walking "Blondin-like" the whole distance from a stable, along these 18 feet of cord, the rat forced its way through a small aperture at the top of the door, 6 feet 6 inches from the ground. She was now killed, and was proved to have had young ones suckling at some not very distant place, and doubtless was one of the party that destroyed the young Dorkings.

The old adage says, that "ill-luck always grows in clusters," and so it seems, for on employing a neighbouring ratcatcher, a ferret was lost; and, although seen several times since, it had not, when I last heard, been recaptured. The owner despondingly remarking, "I'm afraid I am out of the rain, but only to get into the river."

With a hope to turn this to some beneficial issue, I will briefly narrate a plan, that, if carefully pursued in its entirety, seems to be the most perfect way of giving rats and mice their quietus I know of. Get some Scotch oatmeal, or barley-flour will do, and place it at first sparingly in a small heap at some spot well-frequented by the rats. On examining it in the morning it will be soon seen if any portion has been eaten; if not, let it remain night after night until you find they have consumed the greater proportion. Now place more, but not too lavishly; you will find, in a few nights onwards, the rats greatly increase in numbers; but never give more food than appears to be well eaten up. In the next place provide yourself with some newly-made plaster of Paris; if not good and recently manufactured it is valueless for this purpose altogether. Mix, in a perfectly dry state, without any water whatever, in equal proportions this ingredient with the same kind of meal previously used; but not in a greater aggregate quantity than the previous nightly supply. Carefully managed, after such lengthy enticements, rats or mice will consume ravenously their "last meal;" for, in a very short time after eating it, the plaster causes intense inflammation of the bowels to set in, with fearful thirst; whilst water instantly produces death, though they will invariably take it if within reach. The great advantage over "poison" of this plan is this—after the death of a mouse or rat, even should cats or other domestic animals eat the defunct no injury will arise to them, as the plaster has become powerless altogether, and they may therefore consume it with impunity. In conclusion, the bait should be nightly laid for at least a fortnight, to inspire thorough confidence and secure a full attendance.—CHANTICLEER.

BATH AND WEST OF ENGLAND SHOW.—We learn that the various departments promise the greatest success yet attained by the Society; the entries of implements exceeding by many hundreds those in previous years, and those of stock promise to be even greater. The poultry department does not close until the 1st of May. Certificates can be still obtained from S. Pitman, Manor House, Taunton.

THE CANARY AND THE BRITISH FINCHES.

(Concluded from page 20.)

CLASSIFICATION, EXHIBITING, &c.

In now drawing this series to a close, I may as well give a few hints on the classification of the different breeds and varieties of Canary birds. Shows and exhibitions of Canaries and singing birds are becoming so general throughout the country, that it is desirable to see a better arrangement of the various breeds than exists at many of them, by which many excellent breeds or varieties are discouraged or entirely omitted. In different localities one or two breeds only are cultivated, and it often happens that the other sorts are omitted, discouraged, or have not even an extra class in which they could be shown, even if their admirers were sanguine enough to exhibit them under the cold shade of neglect. This, in my opinion, is narrow-minded and false economy, as the more varied the show, the more interesting it becomes, and the larger will be its general support. Desirous that every variety should have a fair chance and a position at all good shows, I offer a sketch of a model list of classes for the guidance of secretaries and committees in framing their prize lists.

MODEL PRIZE LIST FOR CANARIES.

Class.	CRESTED OR TURN-CROWNED.
1st. Wild Canaries	Class.
2nd. Grey Canaries'	22nd. Clear Jonque or Yellow.
3rd. Grass or Parrot Green	23rd. Clear Mealy or Buff
4th. Quakers, Cinnamon, or Dove	24th. Crested Cinnamon or Dove
NORWICH BIRDS.	25th. Crested Green
5th. Jonque, Orange, or Yellow	26th. Crested Pieds, Piebalds, or Variegated.
6th. Mealy or Buff	Extra Class.
7th. Pied Norwich	27th. Any other variety or colour not previously named
ERECT BELGIAN OR DUTCH.	MULES OR HYBRIDS.
8th. Jonque, Orange, or Yellow	Grey Linnet Mules.
9th. Mealy or Buff	28th. Pied or Variegated Linnet Mules
10th. Pied, Marked, or Variegated	29th. Whole-coloured Linnet Mules
BOWEN BELGIAN OR HOOPER FANCY.	Goldfinch Mules.
11th. Jonque, Orange, or Yellow	30th. Jonque Pied Goldfinch Mules
12th. Mealy or Buff	31st. Mealy Pied Goldfinch Mules
13th. Pied, Marked, or Variegated	32nd. Other coloured Goldfinch Mules
SCOTCH FANCY.	Extra Classes.
14th. Jonque, Orange, or Yellow	33rd. Any other kind of Mules or Hybrids having the Canary for one parent
15th. Mealy or Buff	34th. Mules or Hybrids not having the Canary of either parent
16th. Piebald, Pied, or Variegated	
LONDON FANCY.	
17th. Jonque, London Fancy	
18th. Mealy ditto	
19th. Old birds ditto	
LIZARDS.	
20th. Golden-spangled Lizards	
21st. Silver-spangled Lizards	

This arrangement embraces all the varieties of Canaries which I am aware of as cultivated by the English fanciers, and to prevent jealousy and disappointment, each breed at least should have a separate class at every show. There are, doubtless, many other breeds or varieties that may be introduced to swell the already long list of English varieties; but Class 27, the extra for any other variety or colour not previously named, would receive them when they make their fitful appearance among our longer-established breeds.

Exhibitors should send their birds in good health and feather, putting them in neat clean cages, and pay particular attention to the schedule of prizes that they enter them in the correct class; for a mistake of this kind must prevent their obtaining a prize. However meritorious their birds might be, the Judge, in justice to other exhibitors, could do no more than commend the wrongly-entered bird. Judges are, however, liable to make mistakes in their task of awarding prizes, yet I think exhibitors are more frequently prejudiced to their particular fancy, and are apt to overlook defects in their own birds. If, therefore, these chapters may be found successful in drawing the opinions of exhibitors and judges to the same conclusions, my descriptions of the various breeds, their various properties and points of excellence which I have endeavoured clearly to explain, will not I trust be in vain.—B. P. BRENT.

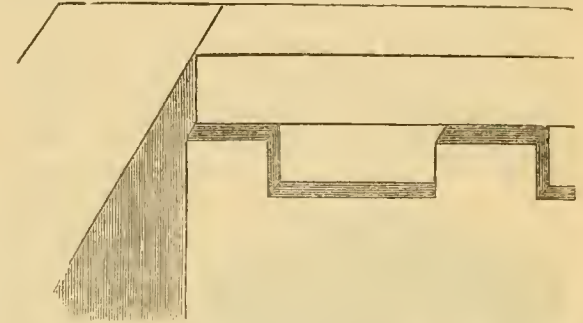
THE WOODBURY FRAME-HIVE, COMPOUND BAR-FRAME,

IMPROVED COMB-BAR, SUPERS, &c.

In compliance with the wishes of numerous correspondents, I have much pleasure in submitting to the readers of THE JOURNAL OF HORTICULTURE a description of my frame-hives, supers, and outer cases, as at present in use in my apiary.

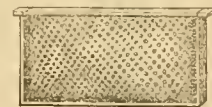
FRAME-HIVES are made of inch wood, 14½ inches square, and 9 inches deep inside, dovetailed and put together with paint, the ends of the dovetails being pinned through with stout iron wire driven from the top and bottom, and meeting in the centre. A window, 7½ inches long by 4 inches deep, affords a slight view of the interior from the back (not the front as engraved), but is much obstructed by the frames. The crown-board, which is raised in the engraving, is keyed to prevent

warping, and is secured by four long brass screws passing through the ends of the keys. A two-inch central hole for feeding is the only aperture, and this is closed when not in use by a circular block of one-and-a-quarter-inch wood 5 inches in diameter. A three-eighth rabet is cut out of the top inner edge at the back and front, and below this are notches seven-eighths wide by three-eighths deep, in which rest the ends of the frames. This arrangement affords the bees a free passage above the frames as well as below and at their sides. The annexed sketch of the interior angle of one of my hives is drawn the full size, and will



serve as a guide for the arrangement of the frames, which are ten in number, and are placed at equal distances apart.

COMPOUND BAR-FRAME.—This is a contrivance of my own, which I have found very advantageous in enabling me to use frames in stock-hives and bars in supers without forfeiting the advantages arising from the unlimited interchangeability of every comb in every hive and super in the apiary. Its construction will be readily understood by an inspection of the annexed sketch, in which the comb-bar is shown slightly raised from its frame. The bar itself is 13¼ inches long by seven-eighths of an inch wide and three-eighths of an inch thick; these dimensions must be rigidly adhered to, as every comb-bar should fit every hive and super in the apiary.\* The slips of wood forming the frame are seven-eighths of an inch wide and five-sixteenths of an inch thick, with the exception of the projections at the top which are the same thickness as the bars, and are five-eighths of an inch long. When the comb-bar is in its place the whole forms a frame 13 inches long by 7¼ inches high (inside measure), with a five-eighth projection at each end, which rests in its appropriate notch in either the back or front of the hive. The accompanying engraving represents the frame filled with comb, in which state the bar becomes so



firmly cemented to the frame as to admit of its being handled with the greatest facility.

\* It is a good plan to commence by making a pattern bar of mahogany, which should be taken care of and used as a guide whenever comb-bars are required.

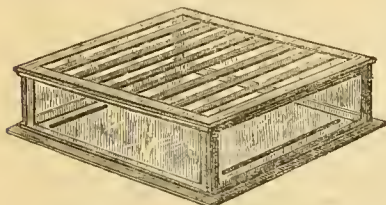
**IMPROVED COMB-BAR.**—This little contrivance has proved very effectual in securing straight combs when guide-combs are not attainable. The annexed sketch is a section of the new bar. It will be perceived that the lower angles are rounded off; whilst a central rib is added of about an eighth of an inch in breadth and depth. This central rib extends to within half an inch of each end, where it is removed in order to admit of the bar fitting into the usual notch. All that is necessary to insure the regular formation of combs is to coat the underneath surface of the central rib with melted wax. My practice is to use plain bars whenever guide-combs are attainable, as these can be attached with much greater facility to a plain than to a ribbed bar; but whenever I put in a bar without comb I always use one of the improved ones. By this method crooked and irregular combs are altogether unknown in my apiary.



**FLOOR-BOARDS.**—My floor-boards are made of one-and-a-quarter-inch wood, keyed to prevent warping, are 18 inches square, and show a projection of about an inch beyond the exterior of the hive, from which they are chamfered down on all sides nearly three-eighths of an inch. An entrance 3 inches or 4 inches wide is cut in front out of the substance of the board commencing at the edge, and continuing on the same level until inside the hive, where it slopes upwards. The entrance formed in this manner is five-sixteenths of an inch in height where the hive crosses it.

**ALIGHTING-BOARDS** are moveable, being attached to the floor-boards by means of a couple of pins of stout wire; they are made from a piece of a silk-roller, 2 inches in diameter by 8 inches long, rounded off at the ends, which when quartered makes four alighting-boards. The surface should be roughened by a toothed plane.

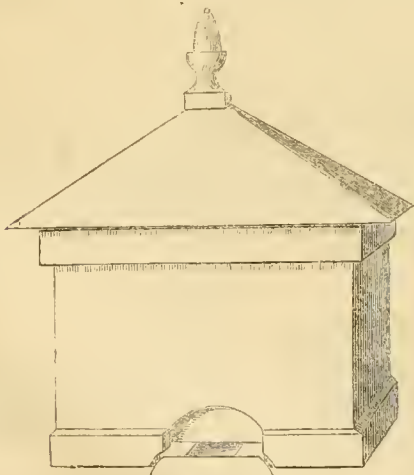
**SUPERS** are 13 inches square inside and of various depths.



6 inches deep is a convenient size and when filled will contain nearly 30 lbs. of honey. The engraving represents a very neat glass super of this size, which is manufactured by Messrs. Neighbour. It shows

also the adapter with its longitudinal communications near the sides of the hive, and which replaces the crown-board when a super is put on. As the honeycombs in supers are better when made of a greater thickness than those intended for breeding, I place only eight comb-bars in a thirteen-inch super.

**HIVE-ROOFS AND OUTER CASES** are made of half-inch wood 11 inches wide. The former is separate, and is cross-braddled

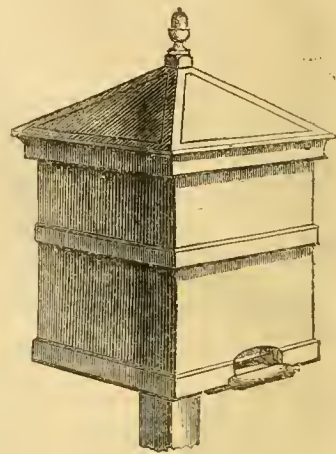


together at the angles with a two-and-a-quarter-inch turned acorn in the centre; its frame fits loosely over the cover and

rests on angle-pieces at the corners. A half-inch opening is left under the eaves all round for ventilation. The hive-cover is dovetailed together and glued, with a brad driven through each of the tenons; it rests on the exterior projection of the floor-board, and is retained in its place by a plinth 2 inches wide, which fits loosely outside the latter. It must not be forgotten that all wooden roofs and outside cases require to be kept well painted, whilst no paint should ever be applied to the hive itself.

When a super is put on a second outer case becomes necessary, and this fits loosely on the first, when the hive appears as it is represented in the annexed engraving.

In conclusion I may add that the Woodbury frame-hive with all its appurtenances is manufactured from my designs by Messrs. Neighbour and Sons, 149, Regent Street, and 127, Holborn, London, to whom also I am indebted for the use of many of the engravings, by which I have been enabled to illustrate my meaning.—  
A DEVONSHIRE BEE-KEEPER.



#### THE BEE SEASON IN NORTH LANCASHIRE.

IN your last I see that a correspondent predicts a cold wet spring, and that denotes a late one, or, at least, when combined they are the materials that such is made of. In comparing notes I find that so far we are at least a month earlier in this district than in 1861. The first pollen gathered in that year was on the 16th of March; but this year the first was on February 6th, making a difference of nearly six weeks. Upon the whole it was a warm month; on the 22nd and 23rd the thermometer rising in the shade, a north aspect, to 50° and 52° respectively, a height never reached in March of last year. On the 22nd and 23rd of that month we had 3" and 5" of frost accompanied with a heavy snow storm.

April with the exception of to-day (the 11th), has been favourable, the wind north and only 42°, yesterday 56°. On the 8th the young bees were out in great numbers. Last year I did not see any until the first week in May, but, perhaps, they had not shaken off the dull cares of 1860.

It is an old saying, "Early drones, early swarms." If so, I shall expect them early, as I had one drone turned out to-day dead but fully matured. Last year no drones made their appearance from the same hive until the swarm had issued, June 11th. A second issued on the 23rd, and a third on the 25th, by this time rather too much; and to add to this it came home from the moors in the beginning of September queenless. I selected one of my strongest stocks with a young queen to be mated to this. After this "ventilation" became a necessity in all. I had three ventilated at the top until the latter end of February, and they are the most forward stocks at the present time; but it must not be taken for granted that I recommend it in all cases, it entirely depends upon the strength of the stock. If weak, my plan is to keep them as snug as possible after the cold sets in. I have practised the above since 1858 with the best results, and with confidence I recommend it to those who have had some experience in the management of the bee.—  
A NORTH LANCASHIRE BEE-KEEPER.

#### THE QUEEN IN DANGER.

I STATED in page 19, that my experience induced me to think it likely that Dzierzon was correct in declaring that a queen bee cannot pass beyond the limits of the "brood-bed" except at the risk of her life. This opinion was very strongly confirmed no longer ago than yesterday (16th April), when, on opening one of my hives for examination, I immediately found the queen a

close prisoner amidst a cluster of workers, of the size of a bantam's egg, on the floor-board and quite away from the brood-combs. With some difficulty I effected her majesty's release much against the will of the workers, several of which attempted to end the skirmish by piercing their sovereign with their stings. Having freed her from these disloyal traitors, I introduced her between two of the bars, to which I knew brood-combs were affixed, and proceeded with my examination. On arriving at the comb on which I had placed the queen I found her again a close prisoner, and had again the same difficulty in releasing her. Being willing to see if she would be better received in the centre of a brood-comb, I laid one on its side and placed her just in the middle of the brood-cells. No sooner had she touched the comb than she was seized and attacked in the same manner as before, and once again I had the same difficulty in releasing her. There could, therefore, be no doubt that a similar spirit pervaded the entire colony, since three different sets of bees had acted precisely in the same manner in three different parts of the hive. Not knowing what better to do, I separated two brood-combs which had not before been meddled with, placed the queen in the middle of one of them, and, putting them again in their places, closed the hive as rapidly as possible without waiting the result.

This circumstance caused me no little anxiety, owing to the queen being a beautiful Ligurian, and also the last survivor of those originally imported from Switzerland; but this anxiety was completely allayed on examining the hive this morning, when I found her majesty once more parading the brood-combs in all the pride of undisputed sovereignty, and receiving the voluntary homage of her erstwhile rebellious subjects. — A DEVONSHIRE BEE-KEEPER.

### ROBERT SYDSERFF.

THERE is a rather rare little volume having this title page: — "Sydserrf's Treatise on Bees; being the result of upwards of thirty years' experience. Executed on a more general, extensive, familiar, and useful plan than any other work of the kind yet published. By R. Sydserrf, Leigh-on-Mendip. Salisbury, printed by B. C. Collins, 1792."

The perusal of the volume at once enabled us to conclude that its author was a thoroughly practical bee-keeper; and no sooner was he thus established in our good opinion than, as is our wont, we wished to know all that could be known about one really so worthy.

The only clue justifying a hope that from some old survivors of Sydserrf we might glean fragments of his biography was furnished by the fact, that in 1792, as the above-quoted title-page states, he resided at "Leigh-on-Mendip." Now, this little hamlet lies about eight miles westward from Frome in Somersetshire; and the hope at once arose that we might enlist for our research that mortal, characterised by energy and common sense, who is so favourably known to our readers as "THE DOCTOR'S BOY." We were not deceived by that hope, nor in our estimate of our coveted agent. This is testified by the following letter we have received from him:

"I took the first opportunity, after receiving your note, of visiting Leigh-on-Mendip, which is about eight miles from Frome. I at once inquired for its "oldest inhabitants," and was soon in company with one of them, but he was too deaf to be of any service to me; but his daughter directed me to another old man that was not deaf, and a native of the place.

"I soon found him out, and at the first appearance I thought I was all right, as he was an active, lively, old man. But in him was a greater disappointment; for although he could hear and understand, and seemed very desirous to give information, his memory was "no worth a prun;" and when I tried to refresh it by taking him back to his earlier days, he had forgotten which was his oldest child, or where he married his wife from—i.e., from what house. I then asked the grand-daughter if there were any farmers or other respectable people about the age of her grandfather, natives of the place, still residing there; and she recommended me to one, Dr. Moon, a retired army surgeon; to whom, after a short delay (he being at tea), I was introduced. After attempting to make an apology for thus intruding I handed him your note, believing that to be the quickest and best way to make him acquainted with my business. But he declined reading it, and wished me to do so; at the same time desiring me to draw a large arm-chair, the ditto of the one he sat in, near to his and be seated.

"I then began the note; and as soon as I mentioned 'Robert Sydserrf,' I found I had deposited the pinch of salt on the right spot at last.

"This gentleman deserves a chapter for the benefit of posterity by a pen that can do him justice in the transactions of your Journal, as he belongs to a class that is fast disappearing from amongst us, and much to be regretted. He had been much abroad, had seen both sides of the globe and both sides of mankind, and he retains a vivid recollection of, and likes to dilate on the beauties of both. But I must return to Robert Sydserrf.

"Dr. Moon knew Mr. Sydserrf well; and I will briefly give the information I received from him without the garnish of anecdote or raciness with which it was delivered.

"ROBERT SYDSERFF was a native of Scotland, by trade a tailor, and by calling a local preacher of the Methodist Connection. He married in the neighbourhood and had two sons, both regular preachers, and one daughter, now all dead. During his residence at Leigh-on-Mendip, he had some property left him in Scotland, but had not the means to go there to receive it, and it was to raise the means to do so that he published his treatise on bees. Dr. Moon was well acquainted with him, as he used to make the clothes for the family at their own house. He showed me a bust of Sydserrf by himself, and he assured me it was an exact likeness, but I forgot to ask whether it was a cast or a model. Sydserrf had what the Doctor called a cherry lip, about which he told a humorous tale.

"Sydserrf left Leigh-on-Mendip, and went to reside at Mells, about four miles from Frome, and there he died and was buried; but with regard to dates Dr. Moon could tell me nothing.

"Since then I have been to Mells, and called on some distant relatives of Sydserrf's, where I saw a grand-daughter of his. Still they could only just remember him. So I then called on the parish clerk with a view of getting the register of Sydserrf's burial; and he, being an old man, could remember him well, but he could remember no dates.

"He referred me to the curate for the register, and fortunately the curate called on the rector to ascertain the fees to be charged; and the curate having your note showed it to the rector, the Rev. J. S. H. Horner, and, fortunately, he had been a subscriber to THE JOURNAL OF HORTICULTURE from its beginning: therefore, to render all the assistance he could to promote the interest of the Journal was to him a labour of love, and he cheerfully made the copy enclosed gratis. Nor was this all, for he obligingly showed me over the gardens, which owe their chief attractions, which are not a few, to his own personal attention, as he informed me he kept no regular gardener but had a handy labouring man—which leads me to the remark I have often made, that it is really surprising what some gentlemen, and ladies too, can accomplish with the assistance of a handy man. Finally, the rector desired me to say he would be most happy to give any further information on the above if it was in his power, or at any time upon any other subject connected with his neighbourhood."

The extract from the Mells Parish Register is as follows:—

"Burials in the Parish of Mells, in the County of Somerset, for the year 1815.

Name.	Abode.	When Buried.	Age.	Officiating Minister.
Robert Sydserrf.	Mells.	June 30.	71.	J. Higgins, Curate.

When you once get hold of the end of a thread, whether of a silkworm's cocoon or of a biography, you are always enabled to unwind more than was at first apparent, so the above dates enable us pretty clearly to establish Sydserrf's birth-date and birth-place.

As he was 71 when he died in 1815, he must have been born about the year 1744; and, confirmatory of this, we find the following passage in his "Treatise:"—"The first part of my life—viz., from December 1, 1743, to December 4, 1769, I resided, unless at intervals, at Stalbridge in Dorsetshire."

We may conclude, therefore, that Stalbridge was his birth-place, and December 1, 1743, the date of his birth. So far, then, Dr. Moon is wrong in calling him a Scotchman; but we have no doubt he was of Scotch extraction, for Sydserrf is a Scottish family name.

Dr. Moon's narrative that the "Treatise" was written to raise a fund to enable him to obtain property which had devolved to him in Scotland is quite compatible with Sydserrf's own statement, that the completion of the work was hastened by his narrow escape from death. He says in the preface, "When I had wrote about thirty pages, I laid it by inclosed in a book,

without thinking any more about it; but some time after, a person, opening the book, saw it, and, unknown to me, took it away. He showed it first to one, then to another, till it was no longer a secret. Being under many obligations to different persons, I was under a necessity of lending it from one to another. Most of those who had then seen it, earnestly intreated me to get it printed; this was a measure I could think nothing of. I was then desired to write it over again (as much of it as was lost), and finish it, which I promised to do, but postponed from time to time, until I was importuned by the Rev. Mr. Watkins, of Leigh-on-Mendip, for that purpose. On assuring him that I would get a book and do it, he then gave me one, telling me at the same time that now I had no excuse for delaying it. Though I fully intended to do it, it was still put off from time to time, until the latter end of the year 1783. I was then seized with a putrid fever, and soon became insensible. Being given over by the physician, and nothing but death appearing probable, it lay much on my mind in the interval of my senses, and I was determined (if I should be spared) no longer to put off the business till to-morrow.

"Having thus informed the reader by what steps this treatise has arrived to its present state, I have only to add, that there is not, in the whole book, one page, nor even a line, which I do not know, or have not reason to believe, to be true."

Tailoring and preaching, though Sydeserff's chief occupations, were not unassisted as a matter of revenue by his apiarian knowledge, for we find this postscript to his preface:—

"Any gentlemen whose bees have omitted swarming until the latter end of June, and are desirous of increasing their stock, may have swarms taken out of any old hive, by Mr. Sydeserff, the author, which shall do as well, or better, than those which come forth of their own free choice. In like manner bees are taken out of hollow trees, walls, or any other places on the following terms, if not farther than four miles from his house:—

For taking a swarm from an old hive .....	£0	5	0
Out of a hollow tree or other place of danger .....	0	2	6
Taking the honey and comb without hurting the bees ...	0	1	6
For a common swarm from a bush or tree .....	0	1	0

This leads us to make a few extracts as evidence of his knowledge of bee-keeping being in advance of his age.

"The queen or mother bee is of a comely and stately shape, brown of colour, as other bees, about the shoulders, but her hinder part darker; under her belly she is of a brighter red; her legs proportionable, and of the colour of her belly, but her two hinder legs more yellow. She is longer than a working bee by one-third part, and much larger. I never knew one of them to sting either man or beast, although I have often tried to provoke them to it that I might know the efficacy of their poison. Her office is to reign over and direct the other bees in all they do, to head the swarm, and to raise a new brood. She brings forth ten, fifteen, or twenty thousand young ones in a year, so that she may literally be said to be the mother of her people."

"Close under the honey, at the upper part of the combs at the bottom of the void cells, is the place where she first begins to lay her eggs, which are about the bigness of those that the butterfly leaves upon the cabbage; but they are of a different colour, those of the butterfly being yellow, but those of the bee are white. She first puts in her head to examine the cell, and, if void, she lays her egg, and so goes on, from one cell to another, until an egg be laid in every upper cell."

"If there is a sufficient number of bees let them not be taken barely because of their old age, for there is not a bee in the whole hive which is a year old, although the hive may have stood more than ten; and such hives seldom fail swarming twice or three times every year. I had a hive of bees which I kept near seven years, and then spared them to Mr. Isaac Budgett, in 1783, and this hive was one of the best in his garden in the summer, 1790, and I do not recollect that ever they missed swarming once a-year, and in general twice, and often three times. Bees which are designed to be taken should stand until all the young are come forth, and if any remain they should be separated from the sealed comb, otherwise the honey will be but of little value."

**SARRACENIA PURPUREA, A NEW REMEDY FOR SMALL-POX.**—The *Medical Times and Gazette* reports an interesting discussion at the Epidemiological Society, upon a paper sent from Nova Scotia, by Mr. Miles, surgeon in the Artillery. Captain Hardy, of the Royal Artillery, an accomplished and intelligent officer, who has been for years among the Indians, says that "the old

squaw's remedy had long been known to them as an infallible cure for small-pox," and that "the Indians believe it to be successful in every case." From the information gathered from the Indians, the following observations have been carefully sifted:—1. In the case of an individual suspected to be under the influence of small-pox, but with no distinct eruption upon him, a large wine-glassful of an infusion of the root of the plant *Sarracenia purpurea*, or Pitcher-plant (several specimens of which, including the root, were exhibited on the table) is to be taken. The effect of this dose is to bring out the eruption. After a second or third dose, given at intervals of from four to six hours, the pustules subside, apparently losing their vitality. The patient feels better at the end of each dose, and, in the graphic expression of the "Micmac," "knows there is a great change within him at once." 2. In a subject already covered with the eruption of small-pox in the early stage, a dose or two will dissipate the pustules and subdue the febrile symptoms. The urine, from being scanty and high-coloured, becomes pale and abundant, whilst from the first dose the feelings of the patient assure him that "the medicine is killing the disease." Under the influence of the remedy, in three or four days the prominent symptoms of the constitutional disturbance subside, although, as a precautionary measure, the sick person is kept in camp until the ninth day. No marks of the eruption (as regards pitting, &c.) have been left in cases examined, if treated by the remedy. 3. With regard to the medicine acting (as is believed by the Indians) in the way of a preventive in those exposed to infection, it is curious to note, that in the camps where the remedy has been used the people keep a weak infusion of the plant prepared, and take a dose occasionally during the day, so as to "keep the antidote in the blood." A discussion followed the reading of this paper, in which Mr. Marson, Dr. Copland, Dr. Waller Lewis, Dr. Babington, Dr. Morehead, Dr. Milroy, Mr. Radcliffe, Mr. Lord, and Dr. M'William, took part. All of the speakers concurred in the desirability of requesting Mr. Miles to procure a further supply of the root of the *Sarracenia purpurea*, with the view of having its anti-varioid properties tested in this country.

OUR LETTER BOX.

**DORRING WITH DISEASED LEG (C. P.).**—The bone of the thigh was carious and greatly enlarged, and the periosteum or membrane covering the bone was highly inflamed. No treatment could have cured it, or averted a lingering death. The disease was, probably, caused by a severe blow.

**SPANISH FOWLS' FEATHERS DISEASED (E. Brown).**—The feathers enclosed are not in a healthy state. The white points are immaterial. All Spanish chickens are hatched with white flights, and many of the best birds throw white spots and stripes in their plumage. When there is any defect in the quill, it is the result of a fevered state of the skin, which prevents due nourishment being conveyed through the soft pipe which afterwards becomes the quill. The cure is to purge freely with castor oil, to feed on light ground food, and to give the birds a grass run. A change of weather will cause the earth to teem with food and medicine for tows. It is a common thing for feathers to turn the wrong way; it generally happens to the flight-feathers, and is hereditary in some strains. If the birds are in good health we always pull out these feathers as soon as they are found. It is always wrong to pull out growing feathers; it causes a hard substance to form, and frequently prevents after-feathering. When the fowls are in full health the feathers will come right.

**DESTROYING VITALITY OF EGGS (H. B.).**—Pierce one end of the shell with a needle.

**BANTAMS LOSING HEAD-FEATHERS (A Subscriber).**—Continued wet and cold winds have contributed to injure the health of fowls. When feathers fall it is evidence of a bad state of body; if they are picked off by their companions it is the same. Give them castor-oil, a table-spoonful, every other day, and rub the bare spots with compound sulphur ointment; the oil need be continued only so long as the disease exists. The comfortable appearance of the birds will tell when they are cured.

"A STEWARTON APIARIAN" would much oblige "A DEVONSHIRE BEE-KEEPER" by stating the result of the experiment with the Woodbury comb, which he mentioned in page 286 of the last Volume of THE JOURNAL OF HORTICULTURE.

LONDON MARKETS.—APRIL 21.

POULTRY.

There are not wanting proofs in the market that the winter has been a mild one. For the last day or two small chickens have been more plentiful, and there is reason to believe we shall not have a recurrence of the scarcity that has marked the last two or three years during the months of May or June.

Large Fowls .....	Each—s. d.	4	6	to	5	0	Ducklings .....	Each—s. d.	4	0	to	4	6
Smaller do. ....	3	6	to	4	0	Pigeons .....	0	8	to	0	10		
Chickens .....	2	6	to	3	0	Rabbits .....	1	3	to	1	4		
Guinea Fowls ..	3	0	to	3	6	Wild do. ....	0	8	to	0	9		
Geese .....	7	0	to	7	6	Hares .....	0	0	to	0	0		

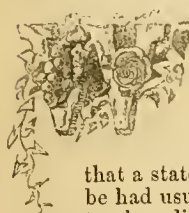
WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	APRIL 29—MAY 5, 1862.	WEATHER NEAR LONDON IN 1861.				Sun		Moon		Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	Rises.	Sets.	Rises and Sets	Age.		
29	Tu	<i>Protea longiflora.</i>	30.178—30.128	deg. deg. 53—23	—	—	m. h. 38 af 4	m. h. 17 af 7	m. h. 20 a 8	1	m. a. 2 46	119
30	W	<i>Struthiola erecta.</i> [BORN, 1850.	30.250—30.203	61—39	W.	—	36 4	18 7	21 9	2	2 54	120
1	Th	St. Phil. & Jas. Prince Arthur	30.255—30.191	62—30	N.W.	—	33 4	22 7	18 10	3	3 2	121
2	F	<i>Dillwynia sericea.</i>	30.219—30.160	64—43	N.	.01	32 4	21 7	6 11	4	3 9	122
3	S	<i>Diplacis glutinosus.</i>	30.074—29.944	63—37	N.W.	.04	30 4	23 7	47 11	5	3 16	123
4	SUN	2 SUNDAY AFTER EASTER.	30.115—30.047	55—33	N.E.	.04	29 4	25 7	morning	6	3 22	124
5	M	<i>Diosma.</i>	30.161—30.117	55—38	N.E.	—	27 4	26 7	20 0	7	3 27	125

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 61.6° and 39.2° respectively. The greatest heat, 81°, occurred on the 4th, in 1833; and the lowest cold, 20°, on the 2nd in 1855. During the period 149 days were fine, and on 96 rain fell.

SUPPLY OF KITCHEN VEGETABLES.

THE TIME WHEN EACH MAY BE IN USE, AND THE CASUALTIES WHICH MAY PREVENT IT.



I have allowed this subject to be a theme for our pages with some reluctance, not because it is unimportant, not because we have had few relative inquiries, but because we apprehend that a statement of what culinary vegetables may be had usually, will be liable to induce employers to be dissatisfied, when really soil, season, locality, disease, or depredators may be in fault, and not the employed. With this warning we will publish one of the letters we have received, and the reply of one of our most experienced contributors, to whom we submitted it.

"I am one of the numerous class of masters who have plenty of gardeners, but get little or no return in the vegetable department for the money laid out. Day after day nothing but one vegetable (the Potato) adorns the board. You would be doing no small service to gardeners' masters, if you would kindly publish a weekly list of what ought to be brought to table, where no expense or trouble is spared; we should then know whether we justly complain, or are merely crotchety.—ONE OF YOUR EARLIEST SUBSCRIBERS."

I confess having some hesitation on commencing a series of articles describing what vegetables may be reasonably expected at different times of the year by those who possess a kitchen garden of about an acre or so, occupying a fair average site in localities which for distinction will only be called north and south. The former being the less favoured by natural means, the other having these advantages yet lacking some advantages which the other possesses. But independent of these distinctions there are so many considerations to be taken into account, and so many contingencies to act on, crops depending on their principal success on natural agencies over which the most skilful cultivator has no control, that it is only fair to state some of the many uncertainties a kitchen gardener has to contend with, in order that when everything proper for the season is not forthcoming, some allowance may be made for deficiencies which may be from causes which if not impossible to avoid, are certainly difficult to foresee. At the same time, the uncertainties here mentioned ought not by any means to be put forth as excuses on any occasion but where they can be legitimately used, and these cases in the ordinary course of things will not be very often.

With these preliminary observations, I will at once enter into the subject of casualties as likely to befall the various crops the kitchen gardener has to deal with, and must beg all those whose tables are not only supplied with the vegetable that may be said to be due at the time that will be mentioned, to carefully consider whether any of the reasons here given, can, or can not, be justly put forth as an excuse for the absence of the article in question; and as the culture of the various kitchen garden productions has been given in another place, the uncertainty which each is liable to, is more

particularly recorded here, where the weather, soil, or other feature bearing on their well-being, is of an adverse kind. A due allowance for this will enable both employer and employed to form a more correct opinion of what shortcomings may be reasonably and fairly accounted for, and what ought to be present, and the conditions here entered into are such as may be met by most small gardens, where one man or more is kept; but for distinction it is only fair to say that there are two men employed, as very often other things as well as those connected with the kitchen garden, are to be thought of at the same time.

*Artichoke.*—The Globe Artichoke suffered very severely in the winter of 1860-61, so much so, that very few plants were left alive in many gardens where they had stood unscathed for many years. A little protection round the collar will, in most instances, preserve them; but a very severe winter by destroying all the larger leaves, necessarily retards the plant in furnishing the large heads expected; but when planted on a dry soil, and some rough dung laid round each plant early in December, it will usually survive the winter with little injury, and bear heads in the south of England by the end of June, and continue doing so during July and August. Of course, a few plants will only produce a proportionate number; but as it is not in general one of the popular vegetables, only a few plants will be wanted.

*Artichoke (Jerusalem).*—Unlike the last, I do not know of anything likely to injure this, and where there is space to grow it, its appearance on table may be reckoned on at any time from September to May; but like the last-named vegetable it is not one of the popular class, but as a change, deserves attention. Good ordinary garden soil not too dry suits it best. In fine autumns like that of last year it flowers; but this does not seem to have any influence on the root.

*Asparagus.*—Few vegetables present greater apparent cause for dissatisfaction than this, for it is but comparatively few gardens that yield such fine heads as those sent to Covent Garden. The vale of the Thames is certainly unrivalled for this article, and the inexperienced amateur can hardly hope to equal the produce of this district on a soil of an opposite character to the one it is grown in to so much perfection. I have seen the stiff loamy soil of a district that produced some of the best Wheat in the kingdom, trenched 2 feet deep, and a deep layer of brickbats and other rubble laid in the bottom, as well as drains of the most approved fashion, and dung lavished without stint, and salt, sand, and the other ingredients thought necessary to form a compound resembling the one it flourishes in to so much perfection, but the result fell far short of the expectation. Medium-sized Asparagus may, however, be grown in most places, and it is possible it may be in reality better at table than the large London kind; but in soils adverse to it the plant does not thrive so well, and in very wet or severe frosty winters there are often great losses amongst the plants, that due allowance must be made by those whose table may not be so abundantly served as they would

wish; but, in a general way, heads fit for table may be had from the end of April through May, but it is not good policy to cut it too late in the season, as that weakens the plants for another year. Young plants especially ought not to be overdone that way.

**Beans (Broad).**—These hardy legumes accommodate themselves to all soils, and after the middle of June a dish of Beans may usually be had all the summer, where there is sufficient ground to admit of the repeated sowings required to keep up a supply; but usually a few early ones, and a second crop suffice for small gardens, for other things coming in at the same time Beans are often set aside. The Mazagan is the best to stand the winter, but the Long-pod or Windsor is more admired for the main crop. The cultivation, however, having so often appeared need not be repeated here.

**Beans (Dwarf Kidney).**—These universal favourites may be had all the year round where there are heated glass structures to furnish them; but in small gardens this cannot well be the case. Plant, therefore, the first crop about the 20th of April, and succeeding ones up to the end of May. Generally speaking, the Dwarf Kidney Bean is admired as coming in before the Scarlet Runner, and when the latter commences it is thought sufficient. If, therefore, Dwarf Kidney Beans can be had in July, the other will fill up the rest of the season.

**Beans (Scarlet Runner).**—Certainly this is the most prolific of all the legumes used at table, and the fact of cottagers growing it extensively is a sure token of its being worth its place. Plant the first week in May, and again about the 20th, and if you like plant another row at the end; but usually the first planting, if successful, will carry on the supply to the end of the season. In average seasons, from the 12th to the 24th of July, is as soon as the first will be gathered in the south of England, in the north later, but as this vegetable furnishes so great an amount of food of a kind relished by all classes, where ground is scarce, and the situation a dry one, it would be better to omit the late sowings of Peas entirely, and have more of this, as it is the more certain cropper. Remarks on its culture, however, having appeared in other papers, it is needless repeating it here, only it is fair to say that in cold, wet situations it does not answer so well, and may be reasonably excused if not forthcoming. The cultivator and his employer must, therefore, both exercise their discretionary power in this case, and in the cool, damp situation sow more Peas, which are better bearers in such a place.

**Beet (Red).**—A little care at sowing time to prevent the slugs injuring, or rather destroying the young plants, will secure a crop of this; but another and much more difficult matter arises. All Beet seeds do not produce roots of the requisite good colour: hence the propriety of only dealing with the best seedsmen, as many complaints of Beet of indifferent quality arise from causes over which the gardener has no control whatever. If he saves his own seeds, which many do who have once possessed themselves of a good variety, he may insure the article being good, and many seedsmen also send out only good varieties; but there is nothing more likely to sport and degenerate, if not duly kept up to the mark, and the appearance of the salad bowl is sadly marred by a coarse, stringy substance of a half Mangold Wurtzel breed.

**Borecole, or Kale.**—A useful class of vegetables, especially in spring, as it is principally the young shoots that are admired. The Curled Green or Scotch Kale is one of the hardiest, but the class partaking more of the character of Chou de Milan is a greater favourite at table, the Cottager's Kale and Asparagus Kale are also useful and good, and it may fairly be set down that a dish of Greens of one or other of these kinds will be forthcoming every day in February, March, and April; but for autumn and mid-winter use, the services of the following are more decidedly useful.

**Brussels Sprouts.**—Of all the vegetables the garden can boast of, perhaps none can be so certainly depended on to fill up a gap at the most inclement season as this. Brussels Sprouts are usually to be had in good condition for table from October till April, and the hardest weather has but little effect on them: therefore, to the owner of a small garden it is prudent to plant a considerable breadth of this, quite as much as of all the other kinds of winter Greens and Savoys put together. For cultivation see former articles.

**Broccoli.**—This popular vegetable often deceives the most experienced, as the mildness or severity of the season has so much influence on it that it is difficult to foresee with anything like a certainty when it may be likely to come into use. The best way is to plant three or four sorts, as the Purple and

White Cape for autumn, Walcheren and Snow's Winter with Knight's Protecting for winter, and the Portsmouth and any other large kind for spring; the Wilcove being about as late as any. In very severe weather throwing a little litter over the most forward heads will protect them much, and in ordinary winters the kinds above will furnish a supply all the autumn and winter up to within a short time of when the first Cauliflowers are expected. Where there is space for planting a good breadth, with a late border for the latest Broccoli, and an early one for the first Cauliflower, there should not be more than a week, or at most ten days intervening between the one and the other.

**Cabbage.**—Second in importance, perhaps only to the Potato, a good bed of Cabbages affords a something to cut from nearly all the year round; for after cutting the Cabbage, the second and third crops of shoots furnish an exhaustless supply of greens until severe weather in February arrests their growth; and the ground being wanted for something else, the old stalks of the preceding year may be then removed, as it is expected another bed of young ones is coming on. But common and accommodating as this plant is, it is by no means exempt from the uncertainty which all vegetation is subject to. An unusually hard winter kills many of the plants; and a very mild one, by allowing their growth to go on almost uninterrupted, they arrive at too large a size in March, and not unfrequently run to seed instead of forming useful compact hearts or heads. This evil is the case in more places than one in the present spring, while the other misfortune befell a still larger number the year before. Cabbages and Cabbage sprouts may be reckoned on for the most part of the year.

**Cauliflower.**—When well managed and a few early plants are preserved through winter in hand-glasses, and allowed to stand on the same spot, they will generally come into use by the middle of May; and from thence up to November Cauliflowers ought generally to be forthcoming, excepting in very hot seasons and dry situations, when a gap must be excused in the supply. Some other misfortunes now and then occur in their cultivation, but usually the Cauliflower is a constant and acceptable accompaniment to the good things of the dinner-table.

**Carrot.**—A few sown very early in a hotbed will be found very useful, after which a bed on a south border will come in well, the main crop being sown the third week in April. Some soils are, however, not adapted to the Carrot, in which case it is better to buy the winter stock than struggle against difficulties to grow them; but by all means sow some for early and general summer use, and as an article for table April and May may be regarded the scarcest months.

**Celery.**—Good ground and a liberal allowance of manure will generally secure good Celery, and if the seed be from a good solid kind there is no difficulty in obtaining a good article; but the fastidious admirer of Celery must not be unreasonable in requiring too large a quantity, for to have it good it requires a large space, and the due supply of other things does not always allow of this. Nevertheless, a large breadth of Celery may be, or ought always to be planted, and its presence at table may be reckoned upon from September to the end of March. A little for soup may be also had in the intervening time, but an article for salad cannot well be had in good condition before September. Dry weather and a dry place check its growth, so that in the north of England it is often earlier than in the south, where its growth is mostly confined to the autumn.

**Cucumber.**—Up to the middle or end of July these must be looked for under glass; but in August and September favoured situations produce them plentifully enough out of doors. With the assistance of a frame and hot dung they may be had without any great amount of care or skill by the middle of April, and from thence up to October may be regarded as plentiful. After then, being less cared for, the frames we presume may be wanted for something else. It is right, however, here to mention that the Cucumber is subject to a singular disease—a gummy substance exudes from the fruit on the places where the spines ought to be, and often destroys the whole crop. It, however, is not of frequent occurrence; but where it does appear its virulence is only equalled by that of the Potato disease, and, like it, it is equally difficult to cure or prevent. J. ROBSON.

(To be continued.)

ARRIVAL OF MR. J. GOULD VEITCH.—We are happy to announce the safe return of Mr. J. Gould Veitch from Japan. He arrived in London on the evening of Saturday, the 19th inst., in excellent health. It is now just two years since this young

gentleman set out on his maiden journey to a land which to Europeans was a land unknown. He went, not to follow a trodden path, or to visit scenes that had been depicted by former travellers; but with the stout heart and firm resolve that were necessary for such an undertaking, he set out prepared to meet the dangers and difficulties incident to such an expedition. How he has carried out the object of his mission is now pretty well known. To him we are indebted for many of the rarest Conifers of Japan, besides many other plants which had never before been introduced, and we understand he has brought home with him seeds of numerous plants hitherto unknown.

### THE GENUS HIPPEASTRUM.

WHEN Linnaeus named the original species *equestris*—a bright orange flower with a green star at the bottom—he meant it to signify the Equestrian Star, or Knight's Star, a badge of an ancient order of knighthood, and *Hippeaster* means the same thing. Singularly enough, *equestris*, the species on which the genus was founded, was the first plant of the order of Amaryllids which the first collector of the reformed, and Royal, Horticultural Society had met with in Brazil last August; and no less singular, if we date back to the time of Linnaeus, that *equestris* is now met with, in a wild state, within sight of a railway station.

He found it on the woody hills above Belem, forty miles from Rio (see our "Proceedings," 1862, page 53). He found more of them also there, but he missed some good ones up the gorges of Corcovado, and on the south side of the bay. The whole family are natives of Brazil, except *vittatum*, which is from the opposite side in Peru, and *regium*, or *regina*, a native of nobody knows where, but somewhere on the low coast of Mexico. A very fine variety of *solandriiflorum*, with red stripes on the outside, was sent from Lima to the Glasgow Botanic Garden; but whether that was a garden plant or a native has not been stated. As there is now no difficulty in procuring all the best kinds for garden use from some one or other of the Brazilian ports, and as the Royal Horticultural Society have them in their schedules for prizes, and also because there are very few of them now in England, and still fewer who know much of the high estimation they acquired in the latter part of the last century, and the first quarter of this, I mean this contribution to be half historical and half biographical of what was known of them, and what they had been brought to by the skill and industry of a race of growers now nearly gone to their last account.

No plants in the world were in higher repute, in my younger days, than these very plants; no race of plants is more easily improved by cross-breeding, and crossing is yet very far from producing results such as were effected in this family forty years back. The nearest to it will be the crossing of the large-flowering Sikkim Rhododendron. Even then I do not see how you could excel some of the crosses I have seen from *Hippeastrum solandriiflorum*, the flowers being full 10 inches long, and from 5 inches to 7 inches across. What you see of them now are merely the dregs of a former world, not worth talking about, and to make a fresh start with what you can muster, without fresh importations, would be as wise as to graft at the wrong end of the stock as they do Manetti.

With the above limitation the genus is confined within the tropics in Brazil; but on account of the various elevations at which the different species are found, some of them are hardy greenhouse plants, some prefer an intermediate treatment between stove and greenhouse plants, some are hardy stove, and some very tender stove plants—meaning hardy and tender in respect to treatment, not as to the degree of heat. One is an evergreen the year round, and one or more are inclined that way, if encouraged; the rest cast their leaves and remain dry during the winter, and a section of them, if well managed, will rest in winter and at midsummer, flowering both in the spring and in the autumn. There are only ten or a dozen wild species known to be good crossers; but some of these have several local wild varieties, and some of the wild varieties are better garden plants than the species; but let me take the species in alphabetical order, and tell the tale of each, and where a figure and full description of it may be found and verified.

1. *HIPPEASTRUM AULICUM* (*Bot. Reg.*, vol. vi., 444), with two varieties—*glaucophyllum* (*Bot. Mag.*, vol. lvi., 2983), and *platypetalum* (*Bot. Reg.*, vol. xii., 1038). These have only two flowers on a scape, the flowers chiefly a crimson and a green throat. The glaucous-leaved sort is the best to cross, and the three are hardy stove plants.

2. *H. BULBULOSUM*, under which eleven varieties or kinds come in, because they produce blind offsets, and only vary in the shades of colour, or leaf, or stature. They have different degrees of orange and red to crocatum (*Bot. Reg.*, vol. i., 38), which is coppery orange. They are all of easy growth. The following are the best breeders of them—*ignescens*, with a small fiery orange flower; *rutulum* (*Bot. Reg.*, vol. i., 28), a brilliant scarlet; *fulgidum* (*Bot. Reg.*, vol. iii., 226), pale orange scarlet; and *pulverulentum* (*Bot. Mag.*, vol. xlix., 2273). All these kinds grow in the vicinity of, or not very far from Rio, and some of them may now be in Chiswick garden, from Mr. Weir, the Society's collector. They made an exquisite strain by crossing with *solandriiflorum*, and quite another strain of high orange scarlet tinged with purple, and very tender, by crossing with *fulgidum*, and *rutulum* with *reticulatum*; but the two races have been extinct for the last thirty years.

3. *H. CALYPTRATUM* (*Bot. Reg.*, vol. ii., 164).—A tender stove plant with two flowers on a scape; colour greenish, and the green netted over with red. With the least encouragement it is an evergreen, but crosses from it and by it are very beautiful and require rest in winter.

4. *H. EQUESTRE* (*Bot. Mag.*, vol. ix., 305).—A hardy stove kind with bright orange flowers, with a green star at the bottom. This was the original kind, and was from Trinidad, Surinam, and West India islands. It is not so good as *stylosum*, with the same colour, to breed from; but *stylosum* is difficult to get.

5. *H. PSITTACINUM* (*Bot. Reg.*, vol. iii., 199).—A hardy greenhouse plant. A most valuable breeder with two flowers only on a scape. The colour a dark green richly netted and margined with bright red.

6. *H. REGIUM* (*Bot. Mag.*, vol. xiii., 453).—Bright scarlet flowers with a green star. A much better plant than *equestris* for crossing, the flower is of better substance and colour, and of much better form, while the bulb is equally hardy in the stove. Named *Regina* from having first flowered in England on the Queen's birthday, in 1728. Said to be a native of the shores of the Mexican Gulf.

7. *H. RETICULATUM* (*Bot. Mag.*, vol. xviii., 657).—A delicate, tender stove plant of exquisite brightness and beauty. Colour purplish-red, as in some of the new *Nosegay* *Gersniums*, and that regularly netted or reticulated with a darker colour, and a clean clear white star at the bottom. The locality of this splendid bulb has never been recorded, but as the collector of the Society found the only known variety of it, *striatifolium*, near Belem, we may presume the species is not far from Rio, and, perhaps, nearer the coast. *Striatifolium* with a white band down the middle of the leaf, has a larger and a paler flower than the green-leaved *reticulatum*, and it is now at Chiswick garden, from the collector.

8. *H. SOLANDRIIFLORUM* (*Bot. Mag.*, lii., 2573, and another variety of it, *Bot. Reg.*, xi., 876).—Two forms of this magnificent plant with the flowers from 8 inches to 10 inches long, which are of the same form and nearly the same colour as those of *Solandra grandiflora*—that is to say, creamy white with a tinge of pale green in it, and faintly striped with red on the outside, and a deeper red at the end of the tube. This is a tender stove plant, but has been the parent of a hardier race of the most magnificent crosses ever raised, and with the pollen of *vittatum* and *psittacinum*, the seedlings require only the treatment of the greenhouse. The *rutulum* and *fulgidum* varieties of *bulbulosum* made another race with it, which were as hardy in the stove as those of *aulicum*.

9. *H. STYLOSUM* (*Bot. Mag.*, xlix., 2273).—A tender stove plant from near Maranham, with a more coppery orange than *equestris*, and giving a deeper tinge of orange to the cross seedlings than that species.

10. *H. VITTATUM* (*Bot. Mag.*, vol. iv., 129, and *Bot. Reg.*, 988).—Two varieties of the most valuable of all the *Hippeasters*, being the hardiest of the race. It lived out of doors at Mitcham, in Surrey, for many years, and even ripened its seeds in the open air, and had nothing but a coat of ashes over the border in winter. It is the male parent of *Johnsoni*, now the hardiest and the oldest cross we have of them, *regium* having been the mother. But a free florid race between it and *psittacinum* was still more hardy, yet they have all disappeared. *Vittatum* is soon weakened in stove heat. A strong bulb of it would have as many as nine flowers on a scape. It is a white flower with double stripes of red in it, and a green eye in one variety.

These were all the wild kinds that we have crossed, and there were only two more that I know of which were worth crossing

the longiflorum variety of ambiguum from Lima in the Glasgow Botanic Gardens, which was very like vittatum, with a larger and longer flower, and another red one found on the Organ Mountains, by Mr. Gardener, which is a hardier form of alicium, with better-shaped flowers. This last I had through Mr. Wailes, of Newcastle, as soon as it came over, and I had a fine race of hardy, stout, well-formed flowers from it at Shrubland Park, but less brilliant than those from alicium. Dr. Herbert also bred from it, but I never heard the result. It seemed as hardy as psittacinum, and it ought to be still at Woburn Abbey.

D. BEATON.

(To be continued.)

## ROYAL HORTICULTURAL SOCIETY.

APRIL 22ND.

FRUIT COMMITTEE.—Mr. Robert Osborn in the chair. At this Meeting the following prizes were offered:—

Class A. For the best and second best dishes of dessert Apples, distinct sorts.....	20s.	10s.
„ B. ditto ditto ditto kitchen Apples.....	20s.	10s.
„ C. The best and second best dish of Strawberries, not less than 50 fruits.....	20s.	10s.
„ D. Best three heads of Broccoli.....	10s.	

In Class A, Messrs. Ivery & Son, of Dorking, were the only competitors. They exhibited Mickleham Pearmain, a fine dessert Apple so late in the season, but considerably shrivelled; Hertfordshire Pearmain, also much shrivelled; and Court of Wick, very good, but small. To this collection a second prize was awarded.

In Class B, Messrs. Ivery & Son exhibited French Crab, Norfolk Bessin, and Bess Pool; and Mr. Hall, gardener to Captain Tyrrell, Fordhook, Ealing, exhibited French Crab, Dumelow's Seedling, and Bess Pool. Those of Mr. Hall were much superior to Messrs. Ivery's, and the first prize was accordingly awarded to them; the second prize being awarded to Messrs. Ivery.

Mr. Charles Turner, of Slough, sent three heads of Broccoli of the Frogmore Protecting variety, which appears to be a form of Knight's Protecting. The prize was awarded to them because of their being the only exhibition for the prize. The heads were "leafy and frothy," and not good specimens of what a good Broccoli ought to be.

Mr. William Thomson, gardener to the Duke of Buccleuch, Dalkeith Park, sent a bunch of Lady Downe's Grape in very fine condition for so late in the season. The berries were as plump and fresh as if it had been autumn, and still the bunch had hung on the Vine till the young shoots had begun to break. So highly did the Committee appreciate this example of horticultural skill, they awarded a Certificate of Merit to the exhibition.

Mr. Cox, gardener to H. Coore, Esq., Scruton Hall, Bedale, sent a very nice bunch of Barbarossa Grape of large size, produced in a greenhouse where plants were grown. The berries were rather small and shrivelled, but their flavour was excellent.

Mr. David Thomson, of Archerfield, near Dram, N.B., sent berries of the Archerfield Early Muscat Grape, the Bowwood Muscat, Tynningham Muscat, and Muscat of Alexandria. The Archerfield Early Muscat was quite soft and ripening, while the others were quite hard and green; and it exhibited all the character of being fully six weeks earlier than the others.

Mr. Pring, gardener to the Hon. Mrs. Vernon Harcourt, sent a seedling Apple which was very richly and highly flavoured, but which proved so like Russet Nonpareil, which was also exhibited at the Meeting, that the Committee could not distinguish the difference between them.

FLORAL COMMITTEE.—J. J. Landy, Esq., in the chair. The first plant brought forward was Lithospermum fruticosum, from the Messrs. Lee, of Hammersmith, for which a Second-class Certificate was awarded, the plant being considered a useful rock plant to be treated and used as a rock Cistus. The aspect of the plant at a short distance was that of a free blue Anagallis, but is more woody than that; it blooms from May to October out of doors, and cuttings of it taken in September, should be kept over the winter with Verbenas and other bedding plants to be turned out at the end of the spring.

From Mr. Anderson, the great cross-breeder near Edinburgh, were cut flowers of a fine seedling Clematis, a cross between cœrulea and lanuginosa, distinct in colour between the two parents, for which an award was made.

Also a pale blue Gentiana received from Dr. Jameson, from

Peru; it is one of a class of numerous alpine plants of the same genus, natives of high localities on the Peruvian Andes, and was considered a nice botanical herbaceous plant.

Also some nice cross-seedling Rhododendrons between ciliatum and Edgworthii, a numerous race now springing up from different quarters, of which the best in habit we have yet seen is Countess of Haddington, a cross between ciliatum and Dalbousiæ, which was exhibited by Mr. Parker at the Azalea Exhibition recently held in the garden of the Society.

From Mr. Bull, of Chelsea, was a free-looking green-leaved Dracæna, called Ghiesbreghtii, for which a Second-class Certificate was given; and a slender Fern-like-leaved Lomatia, named elegantissima, which had the same award. Also Alsophila elegans, a strong-growing Fern, which was requested to be sent again when more advanced.

There were several other Ferns, and many seedling Azaleas, Rhododendrons, and Epacrises, among which were several Bhootan seedling Rhododendrons of the kinds sent out a few years since from the Clapton Nursery, from Mr. Tillery, of Welbeck.

Also Centaurea argentea from Mr. Salter, who sent besides a strange tinted sport of Scrophularia nodosa.

Mr. Standish, among other plants, sent a most beautiful new Solomon's Seal recently brought from Japan by Mr. Fortune. It is one of the most beautifully-variegated plants yet seen from Japan, the leaves being dark green and beautifully broad-banded with two or three silvery white ribbons on each leaf. It should be called Vittatum, and find a place in every good collection; a First-class Certificate was unanimously awarded to it. The whole beauty is in the leaves, the flowers being just the same as those of the Lily of the Valley.

Another most useful plant was from Mr. Everest, near Reading, and named by the Committee Genista Everestiana. Without being in flower you would take this plant to be the same as the old Cytisus or Genista rhodophena, and it must be a seedling from that race, with dense spikes of deep golden yellow—a most profuse bloomer, which will some day displace all the varieties of Cytisus racemosus, or yellow spring Cytisus now in use. This also had a unanimous award given to it as being likely to be "everybody's plant."

There was a "remarkably sweet" Dendrobium from Japan from Mr. Standish, a little alpine-like plant with small white flowers.

A large wide-spreading flower on a Hippeastrum from Mr. Williams, called after himself. It is distantly affected by vittatum, and is a better kind than is generally seen about London; but would not have been a great acquisition five and thirty years back.

Here Mr. Eyles reported favourably of the "Amaryllises" which the collector of the Society sent home from the neighbourhood of Rio; the Brazils being the native country of almost all the Hippeasters, and no Amaryllis has yet been met with in the new world.

From the garden of the Society were the same well-grown Anæctochilus which we mentioned from a former meeting, together with some interesting variegated plants from the collector of the Society, which are soon to be set up for Fellows of the Society to ballot for, that there may be no more room for complaints about the plants introduced by the Society being given away to those Fellows who might soonest hear of them and had the boldest face to ask for them. We consider this balloting for plants to be one of the best rules of the new Council.

## OXALIS SPECIOSA PRODUCING BULBS ONLY.

In the autumn of 1860, I planted several bulbs of Oxalis speciosa in No. 32-pots, three bulbs in each. Not one, however, made its appearance above ground.

Supposing the bulbs had rotted, I recently turned out the mould, when to my great surprise I found a cluster of bulbs at the bottom of each pot, or about treble the number planted. I have repotted them 1½ inch deep, but shall be thankful for any information as to the habit and culture of these bulbs.—Z. A.

[We expect that the bulbs had been kept too dry and too long out of the ground, as naturally the bulbs should have been in leaf and flower when you planted them. The bulbs also were, most likely, rather deep, and, in self defence, wasted their strength in throwing off small offsets. You are right in planting these rather shallow, in sandy loam and peat, and encouraging them to grow. It is doubtful, however, whether they will bloom

this autumn or not; but by watering as long as the leaves are green, and wintering in rather a dry state afterwards, you will be sure to get flowering bulbs next season. It is just possible they may greet you with their pretty flowers this season.]

## A FEW DAYS IN IRELAND.—No. 21.

(Continued from page 47.)

### CLONMEL HOUSE.

RESIDENCE OF J. M. NELIGAN, ESQ., M.D., MONKSTOWN, BLACKROCK.

THERE can be no question of the pleasure obtained and the improvement gained from visiting large princely places employing their scores of under-gardeners and laborers; or if more limited in extent, sparing no expense that everything alike rare and common should appear in the best possible condition. No greater misconception however can exist, than the somewhat-too-general idea that such only are the places worth seeing, or capable of exercising a beneficial influence on their possessors, and through them on the general community. In the first place, it is seldom that the smallest garden can be visited even by the greatest gardeners, without presenting to them some objects of interest which in their great establishments may either be wholly overlooked, or not so well attended to. From the very nature of things, it often happens that in small places many productions individually show more signs of careful unremitting attention than they do in larger places, just because in the latter attention is not only much more divided, and the gardener must often depend upon mere directions imperfectly carried out, or even counteracted; whilst in the former the principal operations will be performed by the gardener himself, or under his direct and immediate supervision. These circumstances will not so much apply in those very large places where several regular continuous foremen are kept and encouraged to stay; but they will more or less apply in such largish places where under-gardeners, to suit themselves, seldom remain more than one or two years in a place. At any rate the fact remains, that smallish places are not the least worthy of notice.

Again. But for the increase of these small gardens, the publishers of such serials as this could not expect a remunerative circulation, and thus gardening as an ameliorating influence would exercise but little power on the general community. Rejoicing, then, as we do in the neat profitable garden of the cottager, because other things being equal, and, humanly speaking, the man possessing a well-kept garden is likely to be a better man than his neighbour without one; and delighting in the princely establishments of the Trenthams in England, the Dalkeiths in Scotland, and the Cartons and Woodstocks in Ireland; we have equal pleasure in contemplating the great increase of gardens, in every possible position between the two extremes referred to, that is now taking place, not only in the country, but in the streets and suburbs of our towns, ranging in size from the so-many-days-a-week of the jobbing gardener, up to those that require a gardener constantly, and on to one or several assistants.

Our touching upon this subject naturally leads us to notice another great misconception as to the social position which such gardeners are presumed to occupy—in other words, the remuneration that is deemed sufficient for them. We are far from assuming that gardeners, even in the best places, are overpaid—quite the reverse, though we see reasons in daily operation why there will be no general improvement in this respect for the better. But we see no reason why there should be something like a recognition of a sliding scale, to the effect that the man who superintends a score pair of hands may be worthy of £100 a-year; whilst a clever man who has only to superintend his own pair of hands, is well paid with from £20 to £30. Of course, every employer has the undoubted right to decide what he is able and willing to give to his servant, and if wise will proportion his expectations accordingly. He should be well aware, that except in extreme cases of necessity, a man will not continue to serve unless on suitable terms. The expecting so much by the employer, and the receiving so little by the worker, are too generally the simple causes of the heart-burnings, the dissatisfaction, the constant changing that take place, and the wrecks of all that is economical in the garden premises as a consequence. What else can we expect, when almost every week we find advertisements for gardeners who must know this, and must do

that, be conversant with hothouses, forcing-houses, greenhouses, and, to make the most of them in fact, possess a good deal of the genius of a Fleming, and the talent of a Thomson, and then be paid munificently with from 12s. to 18s. per week? Not but that there are plenty of gardens, and plenty of men for whom such wages would be ample payment. The error is in supposing that a small place with any pretensions, requiring the best talent to make the most of it, can have that talent at such wages. The late Mr. London long ago advocated, that to make the most of a small garden, the best talent must be had, and suitable remuneration should be given. In large places more general intelligence may be necessary, and the faculty of directing and regulating men, and of properly organising and managing with efficiency labour-power—a matter altogether different and far more important than the mere seeing that men are actively employed, and which faculty also should be paid for as it deserves. But this faculty though less developed, will be necessary to make the most of comparatively small places, and the practical ability must not be behind. It is true there will be no comparison in the extent of responsibility; but, on the other hand, instead of chiefly observing and regulating, the gardener in the small place will have to observe, think, decide, and carry out with his own hands chiefly at one and the same time. When all these matters are taken into consideration, we trust it will be seen, that gentlemen who are ambitious to make their little gardens distinguished—that is, to make the very most of them in the way of pleasure and profit, must not only endeavour to get good gardeners, but keep them by paying them liberally.

Some such ideas swept through our mind in looking in upon Dr. Neligan's suburban or rather street garden, suggested chiefly by the size of the garden. Otherwise the remarks have no relative application, as Dr. Neligan unfortunately was from home, visiting the "land of the mountain and flood," so that we missed the pleasure that numbers told us we should have in meeting with a thorough enthusiast; and we know nothing of how he and his gardener Mr. Byrne, stand to each other, further than like most gardeners in Ireland, he seemed as if he could not speak too highly of his employer, which we always take to be a favourable sign, and in his shirt-sleeves, and active industry, seemed as enthusiastic and eager about his little paradise as his neighbour Mr. O'Brien could well be in superintending the rare and splendid plants of Mr. Bewley. We could not help wishing then and now that such gardens and gardeners were multiplied, not a hundredfold, but thousand by thousandfold in old Ireland, and Britain too, just because thoroughly believing that every one of these thousands of homes would or might be the recipient of new and pure sources of pleasure.

The whole extent of the ground of Clonmel House is 240 feet by 150 feet, the most of it being behind the house. On one side is a small elevated greenhouse in which, in addition to some nice Epacrisae and other plants, were some huge plants of Fuchsias, past their best, which not long before had carried off the honours at the Show of the Royal Horticultural Society of Ireland. Mr. Byrne does not approve of the roots of Fuchsias being dried too much when in a state of rest in autumn and winter. When he wishes to start them, he cuts or prunes them in pretty freely, and then places them in the stove, in a heat of from 50° to 60°. When the plants break their buds nicely he takes the plants out of the pots, shakes the old soil from them, thus reduces the balls, and prunes the roots if very long or weak, and repots in smaller-sized pots, keeps them in the stove in such temperature until the roots are coming out at the bottom of the pots, when they are transferred to the larger pots in which they are to bloom, kept in the higher temperature a little longer, and then placed in the greenhouse. The compost used is three parts good mellow loam, and one part dried horse-droppings, with a little silver sand. The plants had been very massive and full of flowers.

The other houses consisted of a vinery 50 feet by 12 feet; a plant-stove 24 feet by 14 feet; and an orchard-house 30 feet by 14 feet, with a pit in front of the stove 24 feet by 6 feet, assisted by the flue that heats the stove. These are low houses of wood and glass, on Mr. Rivers' system—for instance, the orchard-house is 8 feet to the ridge, and 4 feet high at the sides, with ventilating-boards there and no ventilation at the top, the side openings being found to be quite sufficient. In this house were some beautiful Pear trees, and others were standing in different parts of the ground in pots receiving the necessary treatment. A few Pine-Apple plants were grown in the stove, which seemed to us rather out of place where so many things were attempted.

Part of the stove was devoted to Melons up the roof, the kinds said to be some grand Indian sorts, of which we failed to be impressed with their value, so far as appearance went; but, perhaps, the flavour when ripe might neutralise our opinion. We should certainly be agreeably disappointed if any amount of sugar or of wine would render them delicious. We notice this because we have observed that the worthy proprietor and others have been, of late, sending to different places foreign Melons—we mean raised from foreign seeds—for the opinion of connoisseurs. It is a good thing that there are some who will take the trouble to test unknown kinds for the benefit of the public. For ourselves, after having a fair share of trying Melon and other foreign seeds, we politely decline receiving such seeds from obliging unpractical friends now, as our space is too limited to permit of these trials. There is such a pleasure in giving such things and asking about them afterwards, that we feel that pain is often given by a plain statement of the case. The receiving such packets with thanks, and then getting rid of them by placing them in the fireplace, might be more gratifying to the givers;—the result, "O no! we never mention it;" but in so doing we could hardly keep a clear conscience in the matter. There are so many good Melons, scarlet, white, and green-fleshed, that generally those with little room would do well to keep to these well-tried, well-known kinds.

Altogether in such a little garden there might be quite enough of the general-collection principle; but still Mr. Byrne had the good taste to concentrate his attention upon a selection of articles, and this, as we have often stated, would constitute a great charm in street and suburban gardens, and increase the pleasure of friendly neighbours, be they proprietors or gardeners. We have instanced *Fuchsias*; another plant to which special attention is devoted is the *Chrysanthemum*. These were standing on and by the sides of walks, and undergoing a tying and training process before being placed in the orchard-house to bloom, after the trees were placed outside. The training by hoops, &c., is done much the same as described in Nos. 3 and 4, only that Mr. Byrne, instead of having his plants flattish, gives them more the form of a hemisphere or semicircle. We did not think his plants were so large as those of Messrs. Smith and McNeill; but we had either been mistaken, or the plants had been trained and filled-out well before the exhibition at the end of November, at which Mr. Byrne stood first for six Pompons, and first for the special prize of twelve in pots, where distinctness, health, symmetry, and bloom of the plants, were the tests of success. Some Pompons in these twelve plants were the largest exhibited, measuring 4 feet 6 inches in diameter from side to side, and 6 feet across the arc of the hemisphere formed by the flowers, which on some plants were more than 1000 in number. Some readers may not think this notice is penned in vain, if they are made acquainted with the minutiae of Mr. Byrne's treatment.

Whether for large or small specimens, he prefers suckers to cuttings. For large heads to be bloomed in 13-inch pots he proceeds as follows. At the end of December or the beginning of January he selects three of the strongest suckers from the old plants, picks out all the lower eyes and buds; and if one or more sucker should be longer or more leggy than its neighbours, its centre is nipped out, or it is stopped or shortened. These three suckers are then potted in a 6-inch pot, using three parts turfy loam and one part fine sea sand, in which they soon root freely. These are placed for a fortnight or three weeks in such a stove as has been already referred to, to encourage rooting, &c. Then they are moved to the greenhouse for a similar time. They are then moved to a cold frame, where they continue until about the middle of March, when they will need potting into 9-inch pots. They are then kept in the frame for several weeks, and are then moved to a south border, where they remain until the May frosts have gone. By the 1st of June the plants get their flowering 13-inch pots, and from thence to the 1st of August the plants are kept on the north side of a wall. Then they are moved to the most open parts of the garden, then by-and-by to the front of a south wall, and from thence by the second week in September to the orchard-house. We may be mistaken, but we noticed little plunging of the pots, and to that we attributed the robnerness of the plants partly. The strength of the compost is increased at each shifting, until the last consists of half turfy loam chopped roughly, and half well-rotted stable-dung and sand. Stopping the shoots goes on to the middle of July, not later. When placed in the flowering-pots, two sticks are placed across it, and galvanised iron rings placed round as previously described, the hoop being about 3 feet in

diameter at first, and the size increased as the shoots grow. From that time the shoots are gradually brought down, and tied into shape, taking care not to be too rash at first. Water is given at the root when necessary; and when the flower-buds show, liquid manure is given once a-week, or twice if the weather is sunny and warm. When the plants are moved to the orchard-house each pot is set upon the top of another pot reversed, so as to raise them above the ventilators on each side, which are generally left open night and day, except in very cold and stormy weather. In our opinion the great secret of success under such a course of treatment, so as to secure fine healthy foliage as well as fine and numerous flowers, is the very free use of clear water all over the plants with the syringe morning and evening until the flowers begin to expand.

The same plan is adopted for specimen masses in 9-inch pots, with this difference—that a single sucker is selected, placed in a 4-inch pot, shifted into a 6, and finally transferred to a 9-inch.

If disposed to be critical, we might have wished that the main walks in such small gardens were done with flagstones, or asphalt, or gravel and tar, the latter concealed. Opportunity ought to be given for free motion whenever it is fair abovehead. The walk, if of stone, might be high enough to serve for edging as well, and thus be dry a minute after a shower. No edgings are worse than Box for such places, as it retains the wet and other things besides; and we like to see ladies walk in their own gardens with gracefulness and ease, instead of making frights of themselves by their sole concern about preserving their garments clean. Such places, to yield the greatest amount of pleasure, should be the very pink of cleanliness, order, and neatness.

If we have been somewhat slovenly in the minutiae of details, we feel confident that Mr. Byrne will kindly correct all that is amiss.

R. FISH.

#### RHODODENDRON NUTTALII.

WELL, I have seen a sight at last! but I ought to have seen it two years since at Kew, and in some of the London nurseries. I have just seen a noble specimen of *Rhododendron Nuttallii* in most noble bloom, in the garden of A. Mongredien, Esq., at Forest Hill, two stations from the Crystal Palace on the way from London Bridge, the celebrated garden for the *Spergula pilifera*; and this *Rhododendron* and that *Spergula* are now two good sights, such as you will not see elsewhere round London as far as I know.

I never said one word too much in favour of *Spergula* at all events, and if I say aught too much in favour of *Rhododendron Nuttallii*, it is big enough to bear it. It is the grandest flower in the order to begin with, and it is all but one of the cheapest plants in the country if you take it as a little seedling. I was told by several nurserymen, that they were now selling their seedling plants of it cheaper than the new *Verbenas* and *Nosegay Geraniums*; but the plants will not stand much frost. That which I went on purpose to see is about 8 feet high, and has six noble, if not most noble, trusses of flowers on it just now, and the trusses from six to eight flowers in each, and all the flowers on the same level in each truss. When the flower-bud is opening, the colour inside is a beautiful soft tinge of yellow; but, as the flower expands, it gets lighter and lighter, till at last it is purity itself in whiteness, and looks as firm as a piece of polished ivory. No white Lily is of firmer texture, and few more wide across the opening. When it is just at its prime the flower is 6 inches across, 4 inches deep, pure pearly white inside except at the bottom, where the original soft yellow tint remains to the last; and the back of the flower is tinged most delicately with pink, as in some specimens of *ciliatum*. The anthers are dark grey, and full of pollen; and if there are ten of them in each flower, as there should be, this plant would pay itself well by selling the anthers at one guinea the piece—and I am quite satisfied that no anthers were ever sold so cheap; equally so, that a good crosser could use them till the end of next June if he had bought some and took them home with him this week. But, of course, the gentleman who owns the plant would not think of selling the anthers or anything else that way; and of course, also, he will not think much of me for making the suggestion.

Now, as never was such another opportunity in my day, I will just observe that I would take three of the smallest anthers and shortest stamens I could find, wrap them well up in blotting-paper, and send them down by post to Mr. Anderson, the great Scotch cross-breeder and hybridiser, near the heart of Midlothian.

The anthers of all the flowers of this order, in which also

Heaths and Epacris are included, do not split along the side as most anthers do. The pollen gets out of the anthers by pores or an opening at one end: therefore, all the anthers in all the plants in all this order are the easiest to carry about for the purposes of crossing; and as far back as June, 1837, I put it in black and white, that you might gather the anthers of Rhododendrons on the Alps of Thiber, bring them home to England, just as I would send these to Edinburgh, and cross your own stock with them as freely as if the pollen travelled no farther than from Sydenham to Arthur's Seat. And from that day to this I have not seen any reason to alter or amend that story. See London's "Gardener's Magazine," for 1837. So if the notion of selling pollen or of carrying it about for crossing purposes should seem odd or strange, I should say it is not for its novelty at all events.

Now, the first thing Mr. Anderson would do, on receiving these dark grey anthers, would be to look out one of his medium-sized plants of Rhododendron ciliatum, and pick out the three or four strongest flowers out of so many trusses, and throw them away and prepare the medium and the weakest flowers by taking out their own anthers so as to apply the pollen from Sydenham in order to obtain a new race of Rhododendrons having very large ivory white blossoms, a close, comfortable habit of growing, and a constitution which would, after three more turns of crossing with others, which he well knows, render the new race quite as hardy as the Rhododendron ponticum, and better growers even than ponticum.

On the other hand, I would select half a dozen of the longest and stoutest anthers and send them down to Mr. Standish, of Bagshot, to be crossed with some of the very largest flowers there on the biggest standards they have in these quarters, for another race of close-growing giants; and as Nuttall is deliciously sweetly-scented, I would get a bill from Parliament to put an entire stop to crossing ciliatum or any other sort with Edgworthii, and all the other bare legs of the family.—D. BEATON.

### MY AURICULAS IN 1862.

I HAVE, as yet, only talked and written upon the subject of Auricula-growing, but to such an extent, that I fear that many of your readers have regarded me much as the House does some Hon. Mem. when he annually brings on some favourite motion which it votes an immense bore. "Ah! here is poor —— with his hobby again!" But as my doing so has, I humbly believe, led not a little to its reinstatement in the favour of the public, I may be excused for once more taking my ride; and as I have been permitted this year to show that it is not merely talk with me, but practice, inasmuch as I was enabled to take the first prize for six at the Royal Horticultural, and the small silver medal for twelve at the Royal Botanic, any observations I may make will, perhaps, be taken as having a little more weight. The homely old English proverb is never more true than in flowers—"The proof of the pudding is the eating;" for I know people who are always theorising, always fancying what they can do, always taking up every notion that anybody puts forth, and, of course, always failing. Let a thing be well done, and it is worth all the talking in the world as to what we can do.

It may seem strange after doing this that I should be compelled to say that, taking into account the size of my collection, which has gradually increased each year, I never had a worse bloom than this year. Fortunately for me, some of my earlier plants were the best; but I very much question whether I shall have anything very good for the 30th, when the National Auricula Show takes place. And this is only another example of the very great capriciousness of this flower; for my stock never looked more healthy, the plants are, generally speaking, in excellent heart, and yet the bloom is defective! My own county is famous for growing a crop (Hope), of which it is said you never know what sort of a crop you have had until the money is in your pocket; but I really question if they are more uncertain than this favourite flower. As yet I have not heard much of other collections: I know my friend Mr. Jeans' is not as good as usual, but that he attributes rather to not having potted the plants himself, and its having been done late in the year than to any other cause. My good brother, who, alas! by the fortunes of war, or rather the whims of the War Office, has been ordered off to Gibraltar, was with me last week, and told me that Dr. Plant considered his collection by no means in such fine order as usual. Of the more general

character of the season's bloom we shall most probably hear on the 30th, when we may hope to have a good muster of various growers from all parts of the kingdom, and shall then, perhaps, be able to say whether climatic influences have anything to say to it—whether, in fact, a mild weather is more injurious to a good bloom than a severe one. The general statement last year was, that the bloom was a very excellent one: it will be somewhat strange if the reverse is the case now.

Last year I made a statement as to the little dependance that could be placed on heart or centre blooms, and asked for any *rationale* on the subject. And it is a very singular thing that nearly two-thirds of my blooms this year are centre blooms. But what cause them at one season to run so much in this way, and in another to be quite the reverse, passes my comprehension; or why this centre bloom should not be as good as a side one is equally a puzzle. It may be asked, How is this shown? Here, for instance, is a Waterhouse's Conqueror of Europe with hardly any colour at all in it, and there a Dickson's Duke of Cambridge nearly all colours, both these being centre blooms. Now the ordinary failing of these two flowers runs in that direction—that is, the former is generally deficient in body colour, and the latter has a superabundance; but being centre blooms the fault is exaggerated in both cases. Then, again, here are two plants of Headley's Conductor which sometimes has the fault of producing a little green floret in the centre of the pip. In this centre bloom this is so excessive, that in order to make the flower presentable at all, I must pull these out. Why, again, should this be? The fault of the flower, in a florist's eye, being thus exaggerated by its being a centre bloom. But the strangest thing of all has been the production of flower-stems without a single trace of bloom on them. Two of these I have cut off and sent by post to Mr. Darwin. The plants Dickson's Apollo and Leigh's Colonel Taylor are in excellent health. I have examined their roots, and these I find all right, and vigorous growth being made. In both cases there is apparently an attempt at the formation of the sexual organs, but nothing like a flower. Not being a botanist I may here be perhaps mentioning a very ordinary matter; but it has struck me as odd that it should only have occurred in the case of these centre blooms. In three or four plants I have also had what I think my friend the Vicar of Alford called chlorosis—a deficiency of colour in the leaves. As they have all been subjected to precisely the same treatment, I cannot account for this.

There is yet another point which strikes me as singular (and when one is continually noticing a class of plants you get to see many little things which in wider fields one never thinks of)—viz., that the goodness or otherwise of a bloom affects the individual members of a variety. Thus I have six or seven good plants of Spalding's Blackbird, and I have not one good bloom among them; while in the same number of Fletcher's Mary Anne, even though some be small, yet there the bloom is all equally good. Last year the former were all good, the latter poor. Last year my Waterhouse's Conqueror were all good, this year they are all inferior. Making, however, all these deductions, my bloom is very pretty, and I am quite charmed with the blooming-stage which I erected this year. The plants are all so nicely in the range of the eye, and there is no risk whatever of the cover being forgotten, and, consequently, the bloom spoiled. And I feel quite confident that no one who has anything of a collection will have half as much satisfaction in looking at it as he would by adopting this plan; and I hope also to make it useful by-and-by for other things.

I hope to be able to give, by-and-by, a few notes on the different varieties of Auriculas which have bloomed with me this year; and shall hope to have my say next week on the National Auricula Show.—D., Deal.

### SWEATING APPLES BEFORE STORING.

THE following discussion occurred recently at a meeting of the Missouri State Horticultural Society:—

Flagg.—"I would like to ask whether there is any truth in the popular belief that Apples 'sweat,' and that this is essential before putting them away. I find Apples moist in the piles and in barrels opened in spring. Is this anything more than ordinary condensation from the atmosphere?"

Muir.—"I have seen Apples sent from France with the stems sealed to prevent evaporation, and have noticed that the stems shrivel first."

Mason.—"I do not believe there is any evaporation except

from the stem. I think the sealing of the stem of the Grape prevents evaporation."

Redfield.—"Pear-growers consider the perfection of the stem essential in keeping Pears."

Dr. Claggett.—"It looks reasonable that moisture should leave the Apple where it entered."

Dr. Edwards.—"I think the fact of sealing the stem shows there is no evaporation from the surface of fruit."

Dr. Claggett.—"I do not believe in 'sweating.' It is a mere change of temperature that produces moisture."

Smith.—"An Apple will 'sweat' all the time, and you can wipe off more moisture than the Apple weighs during the course of the winter without diminishing its weight."

Pre-ident.—"The point is whether there is a process of evaporation after picking from the tree."

N. J. Colman.—"I would contend that an Apple does not sweat—sweating is a heating process. The process is one of evaporation. I think the Apple shrivels and passes off moisture, and that it is so with all fruit."

E. B. Colman.—"A shrivelled Apple has no moisture. I believe Apples keep just as well barrelled-up right from the tree."

N. J. Colman.—"I remember that when I was a boy my father used to barrel-up Apples direct from the tree, and they were apt to rot. My uncle put his up-stairs and sweated them first, and his kept well. Such is my own experience also."

Dr. Edwards.—"I put up two hundred barrels direct from the tree, and they kept well."—(Prairie Farmer.)

### CERASTIUM BIEBERSTEINII.

I HAVE now two nice little plants of this Biebersteinii, and we shall soon prove what is said about it by "NICKERBOR." I have my plants from a good practical gardener who knows all our wants and all we possess. His account is this—that *Cerastium Biebersteinii* has been in private collections for a length of time, and as an herbaceous plant it always looked better than tomentosum. It does not spread out so much or look so "thin" as tomentosum, that the leaves are twice the size, and that the plant altogether is much in the way "NICKERBOR" put it. My friend is quite full of it, and is getting it up like steam; for he knows where there is an old plant of it in some private gentleman's garden from which he took his cue of it last season, and was going to write to me about it just when "NICKERBOR'S" account of it appeared.

As I expect, Suffolk like, that my two little plants came out of a tremendous close forcing-atove, I cannot trust them out from my cold pit before they are completely hardened—and they seem to me to have begun a fresh growth naturally—say towards the middle of May.—D. BEATON.

### IDENTIFICATION OF PLANTS.

THE *Yampah* (not Yampa), inquired about at page 64 is, according to Fremont, the same as our common Dill (*Anethum graveolens*), or a very nearly related kind, which he found growing in the bottoms along the north fork of the Laramie River, and to which his attention was first directed by observing the Snake women engaged in digging the roots in the low timbered bottoms along the creeks. The Indians along the Rocky Mountains, especially the Shoshonee, or Snake tribes, in whose territory the plant is very abundant, consider it the best among the roots used by them for food, and take great pleasure in offering it to strangers. It also grows very abundant and in great luxuriance along the tributaries to the Colorado; particularly along that stream to which the Snakes are accustomed to resort every year to procure a supply of their favourite plant, and on which they have bestowed the name of Yampah River, but which the Trappers call Little Snake River. Colonel Fremont says the Yampah forms a very interesting link between a savage and a civilised life; for, he observes, "We had for supper on the shores of the Great Salt Lake, *Yampah*, the most agreeably flavoured of the native roots, and again in the morning we breakfasted on the 'Yampah' and 'Kamass' (*Camassia esculenta*); but a cup of good coffee still distinguished us from our digger acquaintances."

The *Mansonita*, or chocolate-coloured shrub of Fremont, is the *Arbutus procera* of Douglas; a fine hardy kind, which grows from 15 feet to 20 feet high, and one deserving to be more extensively planted than it is, on account of its singular appearance.—G. GORDON.

### NEW JAPANESE CONIFERS.

*ABIES MICROSPERMA*, Lindl., The Small-seeded Spruce.



THIS is one of the Conifers sent home by Mr. J. Gould Veitch, who found it at Hakodadi, and who describes it as a tree 40 feet to 50 feet high. The under side of the foliage very glaucous and resembling the Spruce Fir in point of colour; but the leaves are as long as those of *Abies amabilis*, and perfectly silvered underneath.

Mr. Gordon's description in the Supplement to the "Pinetum" is as follows:—"Leaves solitary, about 1 inch long, and three-quarters of a line broad, more or less arranged on the upper side of the branchlets; linear, narrow, flattened, and terminating in a small prickle, or somewhat blunt point; bright green above, and glaucous below. Cones cylindrical, 2½ inches long, and three-quarters of an inch in diameter, and as broad at one end as the other; scales loose, rectangular, with the apices toothed; bractees very small, ovate, and terminating in a spine or micro. Seeds pale, cinnamon-coloured, one line long, with ovate wings two lines long, sometimes acutely notched on the margins."

Dr. Lindley considers it "a beautiful tree, quite unlike any other Spruce, with slender delicately-toothed cones as broad at one end as the other, and the smallest seeds of the genus."

Our figure was drawn by Mr. Fitch from specimens sent home by Mr. J. G. Veitch.

### THE ARRANGEMENT OF FLOWER GARDENS.

BY MR. JOHN CAIE, GARDENER TO THE DUKE OF ARGYLL, INVERARY CASTLE.

NOTHING can be of greater importance, as regards the ultimate effect to be produced in a geometrical flower garden, than the proper arrangement and distribution of the various plants which are to develop the colours upon which that effect is dependant. This is of far more consequence than the actual shape of the beds; although there is no doubt they should be as void of acute angles as possible. The following practical instructions in these matters will be useful to those of our amateur readers who are in the habit of purchasing their bedding-out plants, and may not as yet have determined how to fill their flower-beds for the present season. This is a kind of procrastination, however, in the case of those who propagate for themselves, which, to say

the least, is blameable; for a due provision of plants can hardly be expected to be made, unless this matter has been duly decided at the propagating season. The annexed lists all refer to the accompanying plan, the figures corresponding with those on the plan.

*Arrangement for February and March.*

- |                                     |   |
|-------------------------------------|---|
| 1 Helleborus niger, white and pink. | 6-6 Erythronium dens-canis, light purple. |
| 2-2 Crocus reticulatus, blue.       | 7-7 Erythronium dens-canis album, white.  |
| 3-3 Eranthis hyemalis, yellow.      | 8-8 Corydalis tuberosa, purple.           |
| 4-4 Galanthus plicatus, white.      | 9-9 Erythronium lanceolatum, yellow.      |
| 5-5 Narcissus minor, yellow.        |   |

*Arrangement for April and May.*

- |                                     |  |
|-------------------------------------|--|
| 1 Anemone apennina, blue.           | 7-7 Tulipa oculus-solis, red and black.  |
| 2-2 Arabis praecox, white.          | 8-8 Polemonium mexicanum, blue.          |
| 3-3 Cibiranthus alpinus, yellow.    | 9-9 Vesicaria utriculatum, light yellow. |
| 4-4 Aubrietia purpurea, dark lilac. |  |
| 5-5 Alyssum saxatile, yellow.       |  |
| 6-6 Iueris saxatile, white.         |  |

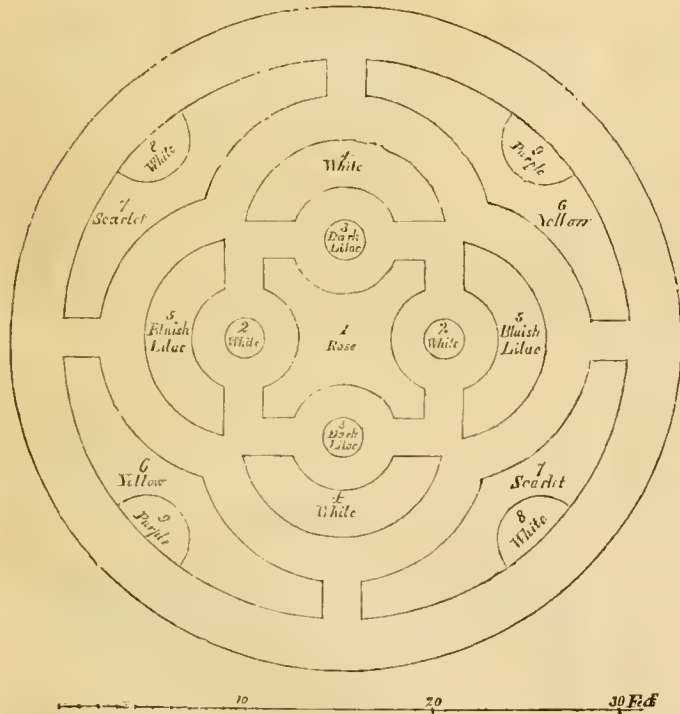
*Arrangement of Hardy Annuals for April and May.*

- |   |   |
|---|---|
| 1 Silene pendula, pink.                   | 6-6 Collinsia bicolor, white and lilac.   |
| 2-2 Nemophila atomaria, white.            | 7-7 Clarkia pulchella alba, white.        |
| 3-3 Nemophila insignis, blue.             | 8-8 Clarkia pulchella, reddish-purple.    |
| 4-4 Eschscholtzia crocea, orange yellow.  | 9-9 Erysimum Perofskianum, orange yellow. |
| 5-5 Collinsia grandiflora, bluish purple. |   |

*Arrangement from May to November, as marked in the figure.*

- |  |  |
|--|--|
| 1 Geranium Lucia Rosea, rose.          | 6-6 Calceolaria viscosissima, yellow.    |
| 2-2 Verbena Princess Royal, white.     | 7-7 Verbena Robinson's Defiance scarlet. |
| 3-3 Verbena Heloise, dark lilac.       | 8-8 Verbena Mont Blanc, white.           |
| 4-4 Verbena White Perfection, white.   | 9-9 Verbena Walton's Emma, purple.       |
| 5-5 Verbena Duc d'Amale, bluish-lilac. |  |

The accompanying figure of a geometrical flower garden is intended to show that it is possible to avoid acute-angled beds to a much greater extent than is generally done; and yet it will be



seen that the beds are not without a good deal of variety in their outline, and also pretty well contrasted in size, as well as expressive of unity throughout the figure, whilst there is a balanced effect conspicuous in every part of it. It will also be observed that the beds are drawn in circles round a central bed, and crossed at right angles, so that the two beds on a line with the centre, or on this side and on that of the centre, are seen to be of one colour, contrasting, of course, with the central mass, but producing of themselves a balanced brightness. When a flower garden is massed, as the present figure is, there is a reflection of one side observed in the other, and, consequently, a uniformity apparent in the arrangement, which gives a dignity of effect to

the figure, that simply contrasting one bed in each circle with the one next it would certainly fail to produce—in other words, planting the four small circles surrounding the centre with four different-coloured plants instead of two colours, as is the case in the annexed figure. The expressiveness of the general arrangement of the beds in the figure, it is possible to work out still more effectively by planting one kind of plant in all the beds forming each circle, taking care that the one circle of beds, in the series of circles of which the figure is composed, contrasts in colour with one another; but in this arrangement it should never be forgotten that what is gained in greatness of expression is so much lost on the side of variety. And although the three modes of planting noticed explain all the principles of massing flower gardens with which I am acquainted, studied care is necessary to a right application of them, so that they may harmonise with the form and features of a place. In a small place, one bed may be planted to contrast with another bed; but, in a larger place, the beds may be contrasted in pairs; and, if larger still, beds completing the whole circuit of the figure, or zones of circles, may be planted with one colour.—(*Gardeners' Magazine of Botany.*)

**ALOCASIA METALLICA AND ALOCASIA MACRORHIZA VARIEGATA.**

THE islands of the Indian Ocean abound in the most extraordinary and gorgeous vegetation. From them we have received the greatest ornaments of our plant-houses, both with respect to flowering plants and plants remarkable for the beauty and richness of the colouring in their foliage. In former times plants were valued by the horticulturist in proportion to the beauty of their flowers; but now none are more highly prized than those with well-variegated leaves. And who can tell what new wonder for the botanist or rare gem for the horticulturist is to be sent us next from these apparently inexhaustible mines of vegetable beauty?

It is not my intention, however, to enumerate the many beautiful things we have received, but to confine my remarks to two plants which stand pre-eminent for decorative purposes—viz., *Alocasia metallica*, from Borneo, and *A. macrorhiza variegata*, from Ceylon. The first from its striking contrast with every other known plant, the splendour of its foliage, which nothing of the kind can excel, if it can equal, and the beautiful metallic lustre which pervades the whole, which must be seen to be appreciated or understood. The blade of the leaf is from 12 inches to 20 inches long, and a foot or more wide, ovate or cordate in shape; the upper surface of a superb bronze colour, richly glossy and metallic; and the under side of a lively purple, if anything more shining and more glossy than the upper. One sight is certainly sufficient to recommend it to any one, and a plant in vigorous health with from ten to twenty such leaves upon it is indeed a glorious sight—an exhibition of itself.

The soil I have found it thrive best in is a mixture of fibry peat, chopped sphagnum moss, and a little dung and sand; being very particular to have my pots well drained to enable me to supply it abundantly with water, and giving it the usual treatment of a moist stove.

*Alocasia macrorhiza variegata* is a plant of a totally different character, but not a degree less beautiful. Naturally a stronger grower, it throws up its splendid broadly-sagittate leaves to the height of 2 feet or 3 feet, which are from 18 inches to 30 inches long and 20 inches broad; the ground colour a beautifully dark green, broadly blotched, and striped pure white, dashed in places with a lighter green and grey, the markings usually extending over fully half the surface. In addition to this, the large bright green footstalks are regularly striped with bands of pure white, running from the base up into the leaf.

In consequence of its being a much stronger grower than *metallica*, a stiffer soil must be used. A mixture composed of equal parts loam, peat, and leaf mould, with a fair addition of sand, I have found to suit it admirably, having the same care to drainage as before mentioned.

So totally different are these two plants, yet withal so beauti-

ful, it is impossible to give the preference to either; but I feel confident they must shortly grace every collection of ornamental foliage plants.—JUVENIS.

### SEEDLING ORCHIDS.

IN reply to "R. C. K." and Mr. Anderson (see JOURNAL OF HORTICULTURE, page 46), may I refer to Messrs. Veitch's catalogue for 1861, wherein, at page 25, three seedling Orchids are described as having been raised at their nursery? They are *Calanthe Dominii*, a hybrid between the purple *C. masuca* and the white *C. furcata*; *Calanthe Veitchii*, a hybrid from *Limatodes rosea* fertilised by *Calanthe vestita*; and *Cattleya hybrida*, from *Cattleya granulosa* and *C. Harrisonia*. All are said to have been exhibited before the Botanic or Horticultural Societies of London.

Mr. Anderson's experiments are exceedingly interesting, and I hope he will succeed in raising seedlings of all the species he names, and let the horticultural world know the result. I have seen ripe seed-pods hanging abundantly from *Broughtonia sanguinea*, from *Angraecum funale*, and from some of the *Oncidiums* and *Epidendrums* in Jamaica; and as we know, of course, that all the species are naturally reproduced from seed, horticultural science ought to be able to solve the problem of their reproduction here. May we not look for seed-packets of the epiphyte Orchids to be advertised for sale before many years as regularly as Balsam and Primula seed, if not quite so cheaply?—P. H. GOSSE, *Torquay*.

### GAS IN HOT-WATER PIPES.

UNDER the above title in the last Volume of THE JOURNAL OF HORTICULTURE, page 473, a correspondent, "JUNIOR," notices a very remarkable circumstance which took place in his hot-water pipes when he applied a light to an air-pipe which he had put on the pipes, the gas bursting in a pale blue flame, and he supposes it to be hydrogen, and you reply, You cannot be certain without more proof as to the gases. Now, to me the proof is positive, because there is no other gas which burns with a pale blue flame but hydrogen; and besides, there is no other gas which was at all likely to be generated in such a place. And it is easily accounted for; but it shows at the same time that there is something radically wrong with the apparatus, and your remedy is not a satisfactory one, as it does not affect the cause. The gas will still be generated, and it is possible that the gas-pipe may not be sufficient to allow the escape of all the gas.

It is well known to all chemists that the first, or among the first, methods adopted to procure hydrogen gas was to heat a gun-barrel red hot in a smith's forge, and pass a current of steam through the gun-barrel. The water was decomposed, the oxygen of the water combining with the red-hot iron of the gun-barrel forming the oxide of iron, and the hydrogen, the other element of the water, being collected at the farther end of the barrel.

Now, it will be seen from this that there is a very great probability of the same operation going on in "JUNIOR's" apparatus. There must be some pipe becoming red hot having but a small orifice for the water to pass through, which enables the fire by its action on the pipe to decompose water, and of course the pipes will soon become oxidised, and wear through.

There is a part of "JUNIOR's" description I do not fully understand, wherein he says, "When the fire draws keen, that in a couple of hours a considerable quantity of water will, if not prevented, boil out, returning through the supply-cistern which feeds the boiler at the bottom of one of the feet." If it means that a small pipe is led from the supply-cistern to the bottom of one of the feet of the boiler, then I can easily imagine that if the fire acts strongly on this pipe that the water will be decomposed, and the result hydrogen; but then the hydrogen would come out at the cistern, and not get into the pipe unless bent in some way to cause it to go there. If it is not caused by the supply-pipe, then it must be by some of the feet, as they are called, of the boiler being too small in their orifice to allow sufficient water to pass through them to keep down the temperature by absorbing the heat generated by the fire.

I would feel obliged if "JUNIOR" would explain it a little more fully how he has it arranged; and would like to know if any other of your numerous readers had experienced anything of the sort with these boilers or any other. But, in fact, there is

no other I am acquainted with which is likely to do so unless the tubular ones. But with "JUNIOR's" experience I must confess that, to me, such an occurrence is likely to happen in others where, from the impurities of the water used and the continual oxidation which is going on in all boilers, the tubes are not unlikely to get partially closed up, and similar results will follow to that of "JUNIOR's."

I would advise "JUNIOR" to be careful, and not light the gas again, as he might have an explosion, because if the hydrogen were to get mixed with the atmospheric air in the pipe, there is a possibility of its doing so, with the ebullitions of the water, in sufficient quantity to blow-up the house. Although I have exploded the gases oxygen and hydrogen from a glass hottle; after having had the bottles blown to dust in my hand, I confess I should not like to light the gas at the tube of "JUNIOR's" boiler, and thence my advice to him to be careful.—ALEX. SHEARER, *Yester*.

[We are glad to have this letter of inquiry and warning from a man so practical yet so scientific as Mr. Shearer, and we hope that "JUNIOR" will afford the additional information he desires. We quite agree with Mr. Shearer in thinking that probably the gas noticed by "JUNIOR" is hydrogen, but we did not, nor do we, think ourselves justified in saying positively that it is that gas, because we do not like to assume as Mr. Shearer has that "there must be some pipe becoming red hot," without which we cannot explain how the hydrogen is formed. It is quite true that hydrogen is the only gas that, when pure, burns with a blue flame; but there are many impurities which tinge a flame blue.—Eds. J. of H.]

### THE ROSE.

*The Amateur's Rosarium, a Manual of Directions Regarding the Culture, Propagation, and Varieties of the Rose.* By the Rev. R. W. THOMSON. London: Hamilton, Adams, & Co. Edinburgh: Paton and Ritchie.

ROSE-CULTURE is one of the most favourite but usually least successful of all the pursuits in the flower garden which amateurs adopt for their own special care. To aid them in escaping from such failures the Rev. R. Wodrow Thomson has just published a cheap little volume, entitled "The Amateur's Rosarium;" and it is an example of what we have often observed—that if an amateur who thoroughly understands his subject writes relative instructions he usually produces a book exactly such as an amateur requires. A professional too readily pools minute details; and the excluding sentence—"Oh! every one knows that!" is accepted too often by his judgment as valid when about to give directions for securing success.

Now, an amateur knows on the contrary that minute details of the commonest practices are just what he wanted to have told him when he was in much ignorance about his subject, and Mr. Thomson has evidently not forgotten what he required to have told him when he began Rose-cultivation. He does not write for the accomplished Rose-grower, but for those who have to become accomplished; and to aid in his instructions being well understood various woodcuts are given of the modes of budding, grafting, and other operations.

We will confine ourselves to one extract.

"A very common cause of annoyance to the amateur, is what is known by the name of the "green centre." In general, this malformation assumes the form of three or four green projections, which occupy the place of the central petals of the flower. In some cases, however, we have seen these develop themselves into little shoots, springing from the centre of the bloom. This tendency is not confined to any particular class of Roses; though it is confined generally to particular varieties. It is found in the vigorous Hybrid Bourbon Great Western, as well as in the dwarf Gallica Ohl, or Boule de Nanteuil. In these, and others, it almost always exists; while in *Coupe d'Hebe*, and *Madame Zoutman*, &c., it is never seen. The class most subject to it is certainly that of the Gallicas. We cannot remember at present one member of this class totally and constantly exempt from this tendency. Kean, Ohl, Boule de Nanteuil, Napoleon, D'Aguisseau, La Tour d'Auvergne, and many others, which are the gems of this family, are all liable to this disease.

"Floriculturists entertain different opinions as to the cause which produces, and the treatment which may cure this disease. So far as our own experience has gone, we agree with those who consider green centres as generally the result of excessive nutrition. We have already observed that the excessive pruning of a naturally vigorous variety of Rose produces in the plant thus overpruned a tendency to increase its individual size, and to diminish its tendency to increase its kind. The way in which this result is effected is this: Overpruning allows the parts which remain to be overfed, and high feeding in the vegetable, as it does in the animal world, induces sterility.

"Now the green centre in a Rose just manifests an effort made by the

plant to increase its size; and if we may be allowed the expression, an unwillingness on the part of that plant, to do anything towards increasing its kind, by the formation of a perfect flower. Such, then, being the apparent cause, let us now consider what may be the probable cure of this disease. This surely cannot be difficult to discover. If the cause is over-nutrition, the cure must be the diminishing of nourishment. We must lessen the quantity of manure, applying what we give in a ripe and well-decayed condition; we must prune the roots unmercifully, and by these means half starve our rebellious protégées. Hunger will influence an obstinate plant as well as an obstinate person."

When another edition is published we recommend something to be said about Rose-stocks, and more about the culture of Roses in pots.

Let us now turn to our note-book for some long-since-accumulated passages in the history of this universally-admired flower. We say universally admired, because though one or two instances are on record of persons who fainted if the perfume of the Rose reached them, yet the only one known to have disliked the Rose, even in a painting, was Marie de Medici, a woman whom it would have been well for if she had loved evil much less and the beautiful much more.

As it is, then, the flower delightful to everybody, so has it been in all ages and in all countries. It is the *Habelzeleth* of the Hebrews, and among them was regarded as the most grateful of flowers. "Come, let us fill ourselves with costly wines and perfumes—let no flower of the spring pass us by—let us crown ourselves with Rose-buds before they are withered," are the words attributed to the sensualist in the Wisdom of Solomon. It is the *Rodon* of the Greeks, and like the Hebrews they chose it for chaplets at their banquets, and as a gift most acceptable to those whom they loved. Anacreon only gave popular customs a poetic dress when he wrote—

"To make the beverage divine  
Mingle sweet Roses with the wine;  
Delicious will the liquor prove,  
For Roses are the flowers of love;  
And while with wreaths of Roses crown'd  
Let laughter and the cup go round."

Sappho joins in adulation of the flower, and our readers will see that the trite epithet of "the queen of flowers" was first bestowed upon the Rose by that "Tenth Muse."

"Would Jove appoint some flower to reign  
In matchless beauty on the plain,  
The Rose (mankind will all agree),  
The Rose the queen of flowers should be;  
The pride of plants, the grace of bowers,  
The blush of meads, the eye of flowers;  
Its beauties charm the gods above;  
Its fragrance is the breath of love."

It is the *Rosa* of the Romans, and though we find less than might be expected in their poetry beyond slight notices of "the twice-blooming Rose-beds of Pæstum," yet passages in Varro and Columella show how assiduously those beds were cultivated; and Horace when he advised his friend Delius to live joyously told him to retire into the country, and

"There bring thy wine, thy odours spread,  
Let blooming Roses crown thy head  
Whilst time, and age, and life permit."

We need not give specimens of what modern poets have written about the Rose, for a volume might be filled with extracts from the works of our own poets, beginning with Chaucer and ending with Tennyson.

Let us turn rather to another phase of the subject, and record some of the emblematic usings of this flower.

With no nation is the Rose a greater favourite than with the Turks; its perfume is especially preferred by them, and they associate with it thoughts of vestal innocence. Lady Montague says, "In the cemeteries of Constantinople the ladies have a simple pillar for a monument without other ornament, except those who die unmarried—they have a Rose at the top of the monument."

"A bed of Roses," used metaphorically for a state of unruffled happiness, is not exclusively a figure of speech, for mattresses filled with the petals of Roses grown in the Jinan Nile, or Garden of the Nile, attached to the Emperor of Morocco's Palace, are used for repose by the nobles of his court. Beds of Roses, however, are not always exclusively luxurious; and the results of effeminate indulgence are well satirised in the Sybarite's complaint that a crumpled Rose petal prevented his repose.

The Rose was dedicated by the Romans to Venus, as well as to Harpocrates, the god of silence—a very fitting association when "the pranks of the goddess be closely thought upon." In 1526 Roses were placed over places of confession as the symbol of secrecy, and they were about the same period adopted, with a similar intent, to overhang the dinner-table. Thus Newton, in

his *Herball* to the Bible, 1587, pp. 223-4, says:—"I will here add a common country custome that is used to be done with the Rose. When pleasaunt and merry companions doe friendly meete together to make good cheere, as soone as their feast or banquet is ended, they give faithfull promise mutually one to another, that whatsoever hath been merrily spoken by any in that assembly, should be wrapped up in silence, and not to be carried out of the doores. For the assurance and performance whereof, the tearme which they use is, that all things there saide must be taken as spoken under the Rose. Whereupon they use in their parlours and dining-rooms to hang Roses over their tables, to put the companie in memorie of secrecie, and not rashly or indiscreetly to clatter and blab out what they heare. Likewise, if they chance to shew any tricks of wanton, unshamefast, immodest, or irreverent behaviour either by word or deed, they protesting that all was spoken under the Rose, do give a strait charge and pass a covenant of silence and secrecy with the bearers, that the same shall not be blowne abroad, nor tattled in the streets among any others."

A relique of this is still to be seen at Lullington Castle, in Kent, the mansion of Sir Percival Dyke. In its hall is a huge representation of a Rose, encircled by this inscription—

"Kentish true blue! take this as a token,  
That what is said here under the Rose is spoken."

In 1453, the White Rose being blazoned on the shield of Richard, Duke of York, and the Red Rose on that of Henry, Duke of Lancaster, their contest for the crown of England was aptly designated the "War of the Roses"—a war so fraught with misery to England before those Roses were united, that Sir Walter Scott's lines are no more than just:—

"Let merry England proudly rear  
Her blended Roses—bought so dear."

Roses are not unassociated with superstitions; for we find it written—"I am told that if I go backwards into the garden, without speaking a word, and gather a Rose upon midsummer-eve, and keep it in a clean sheet of paper without looking at it till Christmas-day it will be as fresh as in June; and if I then stick it in my bosom, he that is to be my husband will come and take it out."

Roses have been adopted for many ages by the Popes as tokens of their good wishes. When a Princess of France was married the Pope then reigning sent her a Rose which he had blessed. Sergius IV., in the year 1009, is said to have been the first on Christmas-night to consecrate Roses and other tokens to be sent to those whom he wished to honour. Leo X. sent a consecrated Rose to Frederic, Duke of Saxony, with a request that he would banish Luther. These Roses were made of gold.

Finally, let us turn to a few jottings relative to the early cultivation of the Rose in England.

When Parkinson wrote his "*Paradisus Terrestria*" in 1629 there were but twenty-four kinds of Roses known, including in that number "the Eglantine, or Sweet Briar Bush," which name we especially quote because it is too usually applied now to the Wild or Dog Rose. Gilbert's "*Florists' Vade Mecum*," in 1693, only enumerates thirty; whereas, now there are about two thousand known varieties, of which every nurseryman who attends specially to their culture keeps three hundred or four hundred.

"I will begin," says Parkinson, "with the most ancient and known Roses of our country, whether natural or not I know not, but assumed by our precedent kings of all others to be cognisances of their dignity, the White Rose and the Red, whom shall follow the Damaske of the finest scent, and most use of all the other sorts." Among the others of his twenty-four sorts is "the Parti-coloured Rose, called of some Yorke and Lancaster;" "the Double Yellow Rose of great account, both for the rarity and doubleness," though "most of them fall or wither away," so that its shy-flowering is not a symptom of declining vigour or of forgotten modes of culture. "It was first procured to be brought into England by Master Nicholas Letc, a worthy merchant of London, and a great lover of flowers, from Constantinople, which, as we hear, was first brought thither from Syria. It perished quickly both with him and with all others to whom he imparted it; yet afterwards it was sent to Master John de Franqueville, a merchant also of London, and a great lover of all rare plants as well as flowers, from which is sprung the greatest store that is now flourishing in this kingdom."

Hakluyt, in his Collection of Voyages, records that the Damaske Rose was brought from Italy to this country by Dr. Linacre physician to our kings Henry VII. and VIII.

The Evergreen Rose was brought from Germany by Sherard, about the year 1727; but it had been cultivated before by Parkinson.

The Dwarf Austrian Rose was introduced about the year 1773 by Messrs. Kennedy & Lee, nurserymen.

The Moss Rose was introduced at the beginning of the last century, for it is not named by Gilbert in 1693, but it is by Furber in 1724; and it is only one among many evidences of the little interest then felt in such pursuits, that neither the time of the introduction, nor the name of the introducer, nor the native country is known of this most beautiful and most fragrant of all the Roses.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

CONTINUE the trenching of ground as it becomes vacant, and during dry weather keep it well forked about. Where Broccoli and Winter Greens are used up, the ground should be deeply trenched, the stumps being laid at the bottom, and quicklime strewed over them; also, if the ground is intended to be again planted with any of the Brassica tribe, it should have some manure incorporated with the soil; but it is best at all times to change the crops as far as practicable. If, however, from circumstances of soil or situation, it is necessary to plant the same kind of crop repeatedly in the same place, such parts should have deep turnings to expose fresh surface to the influence of the atmosphere. *Broad Beans*, sow successional crops, and earth-up the crops above ground. *Broccoli*, sow Early Purple and Myatt's White Cape; also, the Walcheren for late autumn use. *Cauliflowers*, draw the earth well up to the most forward, and give plentiful applications of liquid manure. *Celery*, continue to prick out. This must always be kept well supplied with water, rapid and continual growth being a very essential point in its cultivation if it is required large. Any check from drought is apt to make it run to seed. *Dwarf Kidney Beans*, sow a full crop, and Scarlet Runners. *Lettuce*, repeat the sowings, and thin out and transplant those advancing as occasion may require. *Peas*, sow successional crops, and continue to stake and earth-up the former sowings as they advance in growth. The ground between the rows to be forked-up after the staking is done, even if Spinach is growing between the rows, as that will also receive benefit by having the surface well stirred about it. *Red Beet*, sow a full crop, if not already done. *Savoy*s, prick out the seedling plants of the earliest sowings, and also the seedling plants of *Brussels Sprouts*, to get them stocky for final planting. *Turnips*, sow a good breadth, the ground for which should be well dressed with wood ashes or charred refuse.

### FLOWER GARDEN.

Attend to the pruning of evergreen shrubs. Give standard and dwarf Roses a good soaking with liquid manure, which will excite a vigorous growth and insure an abundant bloom. The autumnal-flowering sorts especially delight in such treatment. The scythe or mowing machine will now be required upon the lawn once a-fortnight. Continue sowing annuals whenever required. The weather is now so inviting that it requires a strong resolution to resist the temptation to begin planting out the half-hardy plants in the flower garden. It is, however, advisable to be cautious on that head, as it is but very rarely that any advantage is gained by planting out before the middle of May, while there is a probability that between this and that time we may have severe frosts.

### FRUIT GARDEN.

The process of disbudding Peach, Nectarine, and Apricot trees will now be in full operation. Watch their growth well and remove but a few of the shoots at a time. Endeavour as far as possible to keep beforehand with the growth in disbudding, and not behind, for if you are behind you are often tempted, I may say obliged, to take off more shoots at once than is proper, and the check thus given to the flow of the sap has very often been the cause of the fruit ceasing to swell, and eventually dropping off. Remove all the foreright shoots, but endeavour to distinguish those which are likely to form short fruit-bearing spurs, which should always be left. Keep a good look-out for the Gooseberry caterpillar. See that the soil is kept well pulverised about the roots of trees, and that all newly-planted trees are sufficiently mulched. Keep a good look-out for the numerous tribe of insects, and apply remedies in time. When Vines have

shot sufficiently to distinguish their fruit-bearing shoots, let all superfluous ones be immediately removed.

### STOVE.

If attended to properly the plants are now growing in earnest, and almost daily will require more room, which must be allowed to the principal specimens or they will sustain injury. Many free-growing plants will now be ready for their blooming-pots, to which they should be removed immediately. Look well to keeping a saturated atmosphere, and shut up early in the afternoon, but keep a free circulation of air with plenty of heat during the early part of the day.

### GREENHOUSE AND CONSERVATORY.

The newly-shifted plants are now beginning to feel the benefit of the new soil, and if properly encouraged will grow rapidly. Do not, however, be in a hurry with them, as elongation is not healthy growth, but endeavour to get clean short growth and strong foliage. Those plants which have got into fresh growth in the new soil and require stopping to make them bushy, should be stopped at once. Use the watering-pot with discretion, and be sure that newly-potted hardwooded plants require water before you give it to them. Keep a moist atmosphere by sprinkling the greenhouse twice or thrice a-day, and keep a sharp look-out for the thrips, red spider, and green fly. Stake and tie-out the Pelargoniums that require such attention in due time. Those that are well established with roots, and are in general good health with the bloom-buds secured, encourage with weak liquid manure. Also, stake and tie-out Heaths and New Holland plants in due time, water them with care, and see that every one has its due space; shade slightly when the weather changes suddenly to a hot arid state. Syringe those plants freely that are making their growth.

### FORCING-PIT.

Another successional sowing of Balsams, Cockscombs, and Amaranths should now be made, and those previously potted should be duly encouraged to make a vigorous and sturdy growth. Another set of Achimenes and Gloxinias may now be started. The cuttings of some of the *Justicias*, *Eranthemms*, and other winter-blooming plants recommended to be put in, will be ready to pot-off.

### PITS AND FRAMES.

The propagation of plants for the summer and autumn decoration of the flower garden should be brought to a close as soon as circumstances will permit. Another batch of cuttings may still be put in this week, but not later. A good deal, no doubt, depends on taking off, making, and putting in cuttings; but, on the other hand, the paying attention to these points alone will not guarantee success, unless they are carefully attended to with regard to light, heat, and moisture. Now is a good time to increase choice collections of Phloxes by cuttings, take off the young shoots when 3 inches or 4 inches in length. Choice alpine plants to be now taken out of their winter quarters and fully exposed to the weather. Large specimens of early-flowering species should be removed to the flower garden and placed in vases or rustic baskets. Clear out some of the hardier bedding-out plants which have been under glass during the winter, place them in some sheltered situation where they can be readily protected in case of frost. This will make room for some of the young stuff lately potted-off. Put a stop to the ravages of mildew by dusting the plants with sulphur vivum.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

FINISHED clipping *Box-edgings*, and getting the walks into their summer livery as the weather would permit. There is nothing after all in fair-sized gardens better to look at for edgings than Box; but tiles of various kinds or even slate is cheapest in the end, and gives little harbour to slugs or other insects. We rarely cut the Box close until at least the middle of April, and for two reasons. First, to save the trouble of giving more than a slight look-over during the season; and secondly, because if done much earlier, the young growth when tender is apt to be blackened by a frosty morning, and then it is a long time before it looks nice and green again. Planted out Cauliflower plants where they would form the second and third succession for heading. Pricked out younger sprig-sown ones, and young Lettuces. Sowed succession Turnips in rows 2 feet apart, with

a row of Radishes between. It is not of so much consequence now, but in early sowing it is advisable to sow some white Turnip Radishes between the rows of Turnips, as they come in for soups, &c., before the Turnips are large enough. In places where Turnips are wanted early, a frame should be sown early in March, and protected from frost. It is of little use sowing before April out of doors, unless some protection is used in frosty nights, as a slight frost causes the plants to bolt into flower, and then the tubers are tough and stringy. Exposed early Carrots and Potatoes in fine days. Sowed the main crop of Carrots and Beetroot, Salsafy, and Scorzonera, &c.; will have a smaller sowing in a month. Staked Peas in dry days, and sowed for succession. Sowed also Scarlet Runners, and a few Dwarf Kidney Beans. Pricked out and potted Chilies and Capsicums, and kept in a warm place; did the same with early Tomatoes, the others for border being left cooler and more hardy. Transplanted Sea-kale, and made cuttings of 4 inches in length of the old roots, forced in the Mushroom-house in winter. Sowed seeds of ditto and Asparagus. Drove the hoe through all crops and borders on a dry day, weeds being easier managed when half an inch high than when half a foot. Planted out the last of autumn-sown Onions, and top-dressed Dwarf Kidney Beans in pots, and gave a surfacing of charcoal-dust, soot, lime, peat earth, and leaf mould to bearing Cucumber plants.

## FRUIT GARDEN.

Regulated Vines, thinned Grapes, shifted Strawberries, keeping the shelves full and moving to greater heat as we wanted the fruit. Drew a dry hand through the flower-stems of Queens to assist the fertilising of the blossoms, the help of the sun being so fitful. Disbudded Peaches and Nectarines in orchard-house, and find the black fly, *Aphis persica*, appearing again; and in addition to syringing, dusted with a little hellebore powder. Watered Fig-house just heavy enough, but we expect no danger from it; but more was given than was intended, as when at all dry a great deluging at once is apt to throw the fruit off. It is better to water round the tree first, in a few days increase the size of the circle and so on; after that, of course, watering all over as required.

## FLOWER DEPARTMENT.

Rolled the lawn, mowed in damp mornings, forked-over borders, sowed hardy annual seeds, removed half-hardy ones up, as Stocks, Zinnias, Asters, &c., to orchard-house, to harden off, sticking little twigs of Laurels in front of them to keep off bright sun. Had here an example of sowing small seeds, which it is worth mentioning, showing that even small seeds should be protected from bright sunlight. Anxious to have a row of *Prince's Feather* rather early, about three weeks ago sowed seeds in small moveable boxes, covered them nicely with fine sandy soil, and placed the boxes under glass on a slight hotbed of leaves. The boxes were at the back of the frame, were forgotten to be shaded, and the dark surface-covering deceived the waterer, as the soil got very dry. No amount of future coaxing has sufficed to bring anything like a regular crop. Four days ago we did what we would not have done except with seeds known to be fresh and good. Other boxes were prepared, the seed sown on the surface, and then watered, and when settled for an hour or two, a covering of fine dryish stuff was thrown over them, and in three days the seedlings were as forward as those few that appeared of those sown three weeks ago. I believe that the dryness and exposure to bright sunshine had deprived the seeds of vitality—in other words, fixed their carbon. The seed when examined looks well enough, but no coaxing will make it vegetate, or if it swells a little it refuses to throw up a healthy plumule. Now, the seed came off the same plant, and was sown from the same saucer. Love-lies-bleeding did not suffer so much as the Feather; but what was sown four days ago is just as forward as that sown as many weeks since, showing that very simple things will prevent good seed from vegetating. I have long proved that large seeds, such as Melons, when well dried, and then exposed to bright sun, especially under glass, so as to be much heated, will lose their vitality. No coaxing will cause them after such treatment to swell and grow kindly.

Pricked-off in wet times Lobelias, Ageratums, &c., and cleared at length our *Calceolaria*-pits, by lifting the plants out and planting them on earth-beds in patches, and will do so with late-struck Geraniums in small pots—say six to nine in a 60-sized pot. When thus turned out ball and all together, the plants increase in size, and can be easily divided at planting time. Gave plenty of water to Azaleas and Cinerarias coming into bloom, and potted other plants as we could get at them.—R. F.

## TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

SLATERS (*J. M., Londonderry*).—These are usually called woodlice. Gas-lime will drive them away if sprinkled occasionally about their haunts. They may be trapped by putting slices of Apple and a little moss between two tiles, kept about a quarter of an inch apart.

MILDEW ON VINES (*Northampton*).—You have kept the air of the house too stagnant. Try Bell's composition—it is highly spoken of, and when we said a short time since that we knew nothing about it, we were confounding it with another composition. When you have removed the mildew, you may prevent its recurrence by a freer and more constant admission of air.

LILY LONGFOLIUM FAILING (*John Tyson*).—You have brought this most beautiful old Lily to the verge of ruin by mismanagement, and you may as well throw the roots away now, for they will never come round or be better, but go on from bad to worse. Your soil is good; but you did not know when a Lily was going wrong for want of water or for too much of it, for red spider, which, by the way, was your enemy from the first, has got the better of your bulbs at last. The leaves of that Lily, and of many mere Lilies, and of all the Gladioluses when they are in pots, ought to be most thoroughly wetted in every part at least twice a-week the whole summer through; and it is easily done with a sponge dipped in water and then squeezed a little, the palm of your left hand being placed behind a leaf, and with the sponge wet the side of the leaf or leaves next to you, drawing the sponge with all your might from the bottom of the leaf upwards six or seven times in succession; then the next side, and so on twice weekly the whole summer through. And the very same thing, and quite as often, ought to be done to every bulb worthy of a pot.

LOAM FOR PINE APPLES (*H. M. K.*).—There is too much clay in the sample sent. Two barrowloads of such loam, mixed with one barrowload of sharp sand, and another of leaf mould might do. It is a raw clayey loam, however, which we should not select for such a purpose.

VARIOUS (*W. G., Ely*).—We do not think the Grapes are injured by an insect. The brown spots look like ulcers, and we think the roots are in fault—either too cold or too dry, or descended into a bad subsoil. The *Cineraria* is a good bold flower, but many of the same colour are far better as florists' flowers. We do not detect any insects on your *Fuchsia* leaves, but there are indications that thrips have been there. We should think your houses would be benefited by a thorough fumigation and more free ventilation.

FLOWER GARDEN (*Young Beginner*).—Your planting is quite correct, but you made a sad mess in describing it. You turned the paper four times and wrote the names of the plants on the beds in four different ways, and on turning your plan round and round to get at the reading, our head got so dizzy that we could not make out if edgings to the beds would improve them, but we think they would. In future write on beds as you would on a page.

TRITELEJA UNIFLORA (*Bulb*).—It is a very pale sky-blue flower at first and turns all but white as it gets older. It was first figured as a blue flower, the plant being under glass in dull weather. Since then the bulb has been proved to be as hardy as a *Crocus*, to come into bloom with the spring *Crocuses*, and to be as desirable a spring flower as *Crocus versicolor* itself. But, unfortunately, no one dares to have cut flowers of this *Triteleja*, for they smell detestably of Garlic.

IMATOPHYLLUM MINIATUM (*Idem*).—No wonder you could not find this name in any Journal. There is not such a name among plants. The plant you mean was first noticed in our pages when Dr. Lindley called it *Valloia miniata*, and we said it was just as much a *Valloia* as an *Imatophyllum*, for it is neither the one nor the other, and it has been mentioned every season since in this Journal.

HYACINTH IN POTS (*L. T. P.*).—You may now plunge the balls in some warm out-of-door place, and see they do not get dry till the leaves turn yellow. They will not do to pot again for two or three years, even although they were not forced, only grown in pots in a cold pit.

TURNING OUT SCARLET GERANIUMS (*Idem*).—All the Scarlet Geraniums, all the *Calceolarias*, and all the *Petunias* may now be turned out into sheltered places, provided there is the means to cover them on cold nights and no more. If the place for them is very well sheltered and they are not set down too close, or allowed to want for water, and if the watering is done the first thing after breakfast, all such plants are now better out than inside, one place out of a hundred. And if all these turned-out pots could be plunged till bedding time, no system could be better, and very little water will be needed; the less water between this hardening and planting out always the better.

FLOWER-GARDEN PLAN (*T. C. G.*).—You have done No. 1 very well except four beds; but 2 and 4, *Gazania splendens*, must not have Geraniums in the middle, nor yet an edging of *Lobelia*. 20 and 21 again will not do together, put both with the *Nierembergia* only. If your house was opposite the centre of this garden, Lady Granville's celebrated Dromore garden, the planting cross-cornerwise, as you have it, would not do; but with one end of it to the house or windows the cross-planting is better. Plan 2 is not so good, and yet not amiss.

SHADING FOR FLOWERS (*A. R., an Old Subscriber*).—We never heard of the sort you mention. Shaw's tiffany of the cheapest kind would answer for the purpose.

**RIBBON-BORDER—DISTANCES BETWEEN PLANTS (A. P. S.).**—Yours is a ridge-and-furrow ribbon-border, with *Ageratum* on the ridge, and Tom Thumb Geranium and *Cerastium tomentosum* on one side of the ridge, and *Calceolaria* and *Cerastium* on the other side, and they will do remarkably well. As to how near Scarlet Geraniums ought to be planted, that depends on the size of the plants. We have planted them as close as 6 inches apart, and from that to 3 feet apart, and the latter were the closest planted of the two sets. A rough guess would say, keep the leaves of small Scarlet Geraniums 6 inches apart, the leaves of medium-sized plants 8 inches apart, and the leaves of ordinary large plants from 10 inches to a foot if the soil is very good; if it is not, reduce the different distances 2 inches, and recollect the distances are not from the stem of one plant to the stem of another, for one could as soon tell how many pieces of chalk would fill an imperial bushel, as tell how far the stem of one plant should be from the next.

**TROPEOLUM CANARIENSE (Idem).**—It would do on the north side of a house in many parts, and in many places it would not do at all. Where is the plant to be grown?

**PEACH AND PEAR BLOSSOMS FALLING (S. W., a Subscriber of Two Years).**—According to your account, if the wood was well ripened, the trees carefully watered, and plenty of ventilation given, we do not see why the blossom on your potted trees should fall, unless Nature was throwing off an extra redundancy, which is not unlikely. Did you examine the blossoms and see if they were perfect? The ventilation in front is high, but that would not injure anything in such a season as this. We have heard of a case where all the blossom dropped with abundance of means of ventilation, but the ventilators remained shut in a sunny morning until eleven o'clock. However, six openings a foot wide and 15 inches long at the base of the front wall, and the back wall too, would be an advantage for securing thorough ventilation in extremely hot weather. The trellis would be desirable, but we think 2 inches from the wall would be enough if there is plenty of ventilation. At 4 inches there would be a strong draught behind the trees, which would be desirable only if the house was apt to be too hot. In fact, at that distance the trees get little benefit of the heat radiated from the wall. See what was said on studding with nails a few weeks ago in "Doings of Last Week." If you heat, you make a hothouse instead of an orchard-house. We do not suppose your trees have suffered from cold. The best mode of heating is by hot water. The cheapest, a brick Arnot's stove.

**DISTANCES BETWEEN GERANIUMS IN A RIBBON-BORDER (Louisa).**—How could you put such a question, and from Hampton, too? It all depends on the size of the plants. You will see our own guess of 6, 8, 10, and 12 inches apart, in another answer to-day.

**FLOWER-BEDS (A Constant Subscriber, North Leach).**—A bed of Golden Chala Geranium, with the *Lobelia speciosa* round it, and another of Bijou Geranium, with the same, will both be as good as any such have ever been—that is, splendid; but they will not make a match pair unless very small plants of Bijou are put against full-sized large plants of the Golden Chain. Your ribbon reads backwards, or else it will be like reading from the bottom of a page, and will never do; but reverse the reading and it is beautiful. 1, Alyssum, next the walk or grass; 2, Purple King Verbena; 3, *Calceolaria*; and 4, *Perilla*. Surely that is how you meant.

**CYCLAMEN SEEDING (Alma Grove).**—The Cyclamens mentioned by "J. A. P." were all red ones, and yours is all white except the eye. The name of yours is *Cyclamen persicum*, of which kind there are now upwards of twenty varieties. You are quite right about the seed-pod, but your plant wants more air and less sun now and until the seeds are ripe. The stalks on which the seed-pods come will presently roll up like a screw, and bring the seed-pod to the level of the bulb, and out of sight from the birds under the leaves. A little before midsummer the seed-pods will get very soft and look ripe; then slit one open a little with a pin, and if the seeds look brown they are ripe for sowing, which do that very day.

**FLOWER GARDEN (A Young Gardener Subscriber).**—We have again to reply that we do not lead people in the way of planting their beds, we only correct the planting of others according to their own style, not our style.

**PRUNING ACACIA DRUMMONDII (J. R. W.).**—Very little pruning indeed is required for a pot *Acacia* with such small leaves, and such good close-growing habit as *Drummondii*. When it and all like it are young the strongest of the shoots need stopping to get up a close bushy plant. After that for the next ten years all the pruning it requires is to thin out the very weakest shoots altogether, and to see that none of the big ones take too much to their own share; and if they do, stop the tops, that is all they require.

**COTTAGE GARDENER'S DICTIONARY (R. Owen).**—The first edition was in 1852, and the last in 1856. (W. Munro).—It cannot now be had in parts. You can have a copy free by post from our office for 5s. 8d.

**VERBENA AS A FLORIST'S FLOWER (Berryburn).**—For five penny postage stamps you can have from our office "Florists' Flowers for the Many," in which are much fuller directions for *Verbena*-culture than we could give in this place.

**DESIGNS FOR SMALL COTTAGES (Rus in urbe).**—You can have from our office for 3s. 4d., free by post, a volume by C. V. Bernard, entitled "Healthy Moral Homes." It contains plans, and estimates, and is a safe guide.

**INK FOR ZINC LABELS (A Lady Subscriber).**—The recipe for it was published no longer since than March 18th, in our No. 51, N.S.

**HEATING A PIT BY TAN FOR MELONS (A Young Beginner).**—You had better get your tan as fresh and well-dried as possible by the first or second week in May, throw it in a heap, and let it ferment for a fortnight, and then put it in your pit; it will thus be warm at once. Then put on your soil at least 15 inches, and when that is warm plant out. Sow the plants at once in a suitable place. It is of little moment whether you train on the ground or on a trellis; but in such a narrow pit, the shoots and leaves should not be more than 15 inches from the glass. When the plants have made two rough leaves nip out the point—a shoot will then come from the axil of each leaf, thin these to two shoots, encourage them to grow to 2 feet, nip out the buds from the axils of the leaves for 20 inches, or so, then nip out the points of the shoots so as to leave four or five leaves, with the buds untouched in their axils. These will soon grow into side shoots, and generally show fruit at the first and second and third joint. Stop these shoots again, a joint before the fruit; fecundate the female blossom. Keep a bottom heat of 75° to 80°, a top heat of 65° at night, 70° during the day, and from 70° to 85° in sunshine with air on. Keep a moist atmosphere when growing at first, a dry air rather when the plants are in bloom, more moisture when the fruit is set and swelling, and a dry air when approaching maturity.

**INDIANRUBBER TUBING (T. W. P.).**—It can be fitted to a water-cart by means of a screw joint. It is dearer than gutta-percha, but much more manageable, being very pliant; but canvas waterproofed tubing would do and is about 6d. per foot. Write to Messrs Warner and tell them what you require and ask for prices. You will see their advertisement in our columns.

**FIGS DROPPING (A Young Gardener, Herts).**—We expect, that in such dull weather as we have had, the Figs have had too much moisture; very likely too much feeding ground, whilst your high stage has kept the light from them. Unless the pipes were very hot which they would not likely be in a greenhouse, we do not think they would harm the Figs. Figs will thrive on such back walls provided they receive a fair amount of light, not otherwise. With a mass of plants in front of them there will be plenty of leaves; but few fruit will show, and fewer still will attain maturity. If Figs will get very dry the fruit will drop. When in a dry state a thorough drenching will often throw them off; they should then be watered by degrees. A full meal at once would be apt to kill a man emaciated by starvation.

**VINES INJURED BY FIRE (Virgo).**—We see nothing after reading your further statement to alter the opinion expressed on your case. It was a misfortune to have the buds injured; it was rendered greater by cutting the Vines back afterwards. If only planted last summer, you should not have taken above a couple of bunches from each at any rate. In alluding to previous replies always point out the page and volume; for we have no time to look over indices, and do for our readers what they ought to do for us and themselves.

**TRIPLETON BLACK CHERRY (W. W. C.).**—We know there is a variety of Cherry so called, but have never seen it, nor are we aware of any one who has. It appears in one or two nurserymen's catalogues, but we do not think it is generally known. We shall be glad if any of our correspondents can enlighten us on the subject.

**PEAS WITH GRANULATED ROOTS (W. W. Bennett).**—The Pea is liable to such granulation on light poor soils. The specimens you have sent show that the plants would be greatly benefited by being watered with liquid manure, and mulching over the roots.

**NAME OF VEGETABLE REQUIRED.**—"Some twenty years ago, in a fashionable locality of this metropolis, I was in the habit of partaking at the dinner-table of a vegetable, the component parts of which had an appearance not dissimilar to light blue starch intermixed with a portion of green pods and a white pearly seed. It was of a glutinous nature, and struck my fancy as being exceedingly nutritious. I have experimented upon Vegetable Marrow in all its forms, and never could bring it to the like consistency. Miss Emma Roberts, in her "Characteristics of Hindostan," vol. i., page 222, refers to an edible named the "ramterye," which approximates nearer to my description than any of the kind I ever met with. Could any of your contributors inform me if it is procurable in this country, or have the seeds been ever imported?—GASTROSOPIST.

[We shall be obliged by information on this subject. We have sought for information in Covent Garden Market and elsewhere. Some suggest that the vegetable was a *Huricot*, and others that it was the *Calavansa Bean* (which we do not know). It certainly agrees very closely with the vegetable mentioned by Miss Roberts, and which we remember partaking of in India, and thought very insipid. It is called also there *ochra*, and is the pod of *Hibiscus esculentus*, and of some other species of that genus.]

**CIRCULAR BED (B. II.).**—Your planting will do very well; *Calceolaria* a *hexiflunda*, in the centre, two rows of *Perilla*, three of *Calceolaria* area *hexiflunda*, and 9 inches of *Lobelia speciosa*. But most people would prefer Punch or Fothergill's Nougay Geranium for the centre, or else put Flower of the Day Geranium instead of the *hexiflunda*; but we can only give fair play to all opinions on planting. We have held, from the beginning, that young plants of *Cineraria maritima* tell best as edgings round all sorts of scarlet, pink, and crimson Geraniums.

**GERANIUM LEAVES TURNING RED (D. C.).**—Your leaves of the Gauntlet forcing Geranium are quite ripe, and no more, or rather they were ready to fall six weeks back; but many, or most plants at that season, are not in such vigour of growth as to cast their done-with leaves, so they turn yellow, or red, or black, or spotted, and still hang on. But good managers effect the autumnal fall for their plants whenever they need it—that is, they pick off every leaf the moment it is of no more use to the plant.

**PETIS ARGYREA (Idem).**—You have grown that *Petis argyrea*, in 5½ feet high and 2½ feet through better than any of the London men; but in London and round it, many people stew their Ferns and roast their bulbs. This *Petis* will do much better in a conservatory than in a stove as you have shown.

**FLOWER-BEDS (Wishful to Learn).**—You have planted very fairly all the beds except 3, which you made of Flower of the Day edged with *Cerastium tomentosum*. That will never do, all edgings being for contrast. The white *Cerastium* is no contrast to the white Flower of the Day. Use the *Cerastium* round the *Calceolarias* instead of the *Lobelia*, and put the *Lobellias* round Flower of the Day Geranium, and you will be as smart as the best of them.

**RENOVATING AN OLD YEW-HEDGE (Verdant).**—The Yew-hedge which was reported by Mr. Beaton from the Highgate Nursery was of the same age as yours, thirty-five years, when every bough and branch of it was cut back to the quick, or old stumps, and which renewed it as close and young-like as a young hedge. Yours will recover in time, but it will be slowly, and we would not touch it any more for some years, not even cut out the dead wood, but tie and train the young wood to it, and stopping in June any shoots that might appear stronger than the rest. What your hedge really wants is a foot depth of the top soil to be removed from it for a space of 4 feet on either side, then to have the bottom forked as deep as a steel fork can go, then to have the top replaced by fresh soil, and to mulch that with good rotten manure liber a couple of inches deep, and let the rains wash down the strength of it by slow degrees. All the old stunted Cedars of Lebanon and any worn-out Conifers could be renewed in a few years by that process, as we can testify from a long experience of it; but very old or injured Yews and Hollies take the longest time to come round.

**TEMPERATURE OF WALTONIAN CASE (T. A. W.).**—Your lamp gives you too much top heat so late as this in the season, and you may let it out from 10 A. M. to 4 P. M. on all sunny days, and leave a little air on at night. 70° to 75° is quite high enough for top and bottom heat now, and for such cuttings as *Verbena*, *Geraniums*, and *Calceolarias*; and the half-inch of sand at the bottom should from this time be kept more damp, or quite damp, and a little air on in the fore part of the day.

**TRITOMA UVARIA SOWING (Manchester).**—If you sow the seeds now—that is, in the beginning of May, 1862, and treat the seedlings just as if they were the seedlings of a first-rate prize Dublin, they will bloom by the middle or end of August, 1861. You can have this Journal at Smith & Co.'s, Railway Station, Manchester, as early as the *Times*.

**PRESERVING GRAPES UNSHRIVELLED (Vinery).**—The way the Grapes were preserved in such good condition, as mentioned in our Numbers for March 11th and April 8th, was by allowing the bunches to remain upon the Vines, in a vinery the air of which was kept dry; cutting them away from the Vine in March with a piece of the spur attached. The end of the spur was stuck into a piece of Mangold Wurtzel, and then the bunch was hung up in a cold dry place.

**ROSES ON THEIR OWN ROOTS NOT BLOOMING (E. M. J.).**—All that is the matter with these Roses is, that they have too much goodness and too much kindness, and too little or no sun at all since they were potted. They should not have had one single "drop" stronger than from the pump the whole of this winter, and till the Rose-buds were all but open. No sort of manure water can be of any use to any plant in our climate, from the 20th of September to the 10th of May following. Giving such liquids is a clear perversion of the plainest facts in natural science.

**NAMES OF PLANTS (J. C. Ireland).**—It is *Orobanchae elatior*, or common Broom-Rape. (S. S.).—Yours is *Tecoma jasminoides*. (C. Drece).—It is Ribes aureum, or Golden-flowered Currant, a native of North America, and very common.

**POULTRY, BEE, and HOUSEHOLD CHRONICLE.**

**POULTRY SHOWS.**

MAY 14th and 15th. TAUNTON and SOMERSET. Sec., Charles Ballance, Esq., Taunton. Entries close April 30th.  
 MAY 27th, 28th and 29th. BATH and WEST OF ENGLAND (City of Wells). Steward, S. Pittman, Esq., Manor House, Taunton. Entries close May 1.  
 MAY 28th and 29th. HULL and EAST RIDING OF YORKSHIRE. Sec., Mr. J. Hooton. Entries close May 14th.  
 JUNE 3rd. ESSEX AGRICULTURAL ASSOCIATION. Sec., R. Emson, Slough House, Halstead. Entries close May 10th.  
 JUNE 4th and 5th. BEVERLEY and EAST RIDING. Sec., Mr. Harry Adams.  
 JUNE 12th, NORTH HANTS AGRICULTURAL SOCIETY. Sec., Mr. H. Downs. Entries close May 21st.  
 JULY 9th, 10th, and 11th. LEEDS and WEST RIDING. Secs., E. Holdsworth and J. Wade.

**IMPORTANCE OF PROMOTING FOWL CULTURE.**

WHEN poultry has been kept for a fancy; when a few chickens have been reared; when some prizes have been taken, and when some pens have been sold at high prices; all that could be done has not been accomplished. The *blasé* breeder need not offer a reward for a new pleasure, nor think himself another Alexander lamenting the impossibility of a new victory. There is yet something to be done. Many of our greatest discoveries are due to accident: such things are crotchety and capricious. They escape the combinations of the scientific and studious, while they present themselves to the careless and idle. Such a one has spent days and nights to discover a power or movement, and that which he has failed in has struck another who was playing science to kill time.

The improvements that are to increase the value of stock, or to augment their food-producing qualities, are due to amateurs. Those who keep animals for profit are, with few exceptions, anxious for the main chance, and all are too much interested in the profitable employment of capital to withdraw any part of it for experiments. Such experiments are made by men who live in towns, or small fancy farms, and who labour under every difficulty, *except* want of capital. But as all classes benefit by the discovery of one, it is wise in a government to give every encouragement to those who devote time, capital, or intelligence to such pursuits.

The French Government has not been slow to see the merits of poultry, and we have before us the conditions that have regulated and the motives that caused the Show. Although it will be closed when this paper is in the hands of our readers, still much of it is so good, we think we do well to print it. It is entitled, "A Communication in the name of the Council, by M. Drouyn de Lhuys," President. Sitting of March 14, 1862.

"The Imperial Zoological Society of Acclimatization should, by article 12 of its statutes, contribute to the progress of practical zoology by publications, honorary and pecuniary encouragements, and, if possible, by exhibitions."

**Report,—**

"There are not two opinions on the happy influence exhibitions have exercised on the amelioration and propagation of the great animal classes—horses, cattle, poultry, swine. In all civilized countries these exhibitions take place periodically; they are the great national festivals of our age. They render people familiar with, and inculcate a taste for the best types of the best classes; they stimulate the emulation of amateurs, and impart considerable activity to the trace carried up in these animals."

It is thought such advantages should be eagerly sought for on

behalf of agricultural ornithology, and the lively interest which attempts of this kind have excited in France, England, Saxony, and all over Germany should encourage their increase. A celebrated breeder writes—"Every one is rearing fowls. It is almost a fashion. I see poultry reared in towns, in the gardens of their suburbs, in parks, in rooms, and even on window-sills in the middle of Paris."

"But if this taste has developed itself with all the impetuosity of a fashion, there is also a general complaint that it has been carried out with thoughtlessness and confusion; without considering the properties of the different breeds, the choice of stock-birds, or their purity: hence many deceptions which would at last cause discouragement and disgust. Exhibitions remedy this evil by placing before amateurs the finest specimens of the best breeds. They educate the public."

"These considerations have determined the Council of the 'Société d'Acclimatation,' and that of the 'Jardin du Bois de Boulogne,' to open in the garden, under the auspices of the two societies, an Ornithological Show."

The proper appreciation by the Government of the importance of breeding poultry arises from the fact that they possess in France accurate statistics of the numbers and value of the fowls and eggs consumed; also their weight as food. They also know the number of eggs exported.

Poultry makes more progress in most parts of the continent than it does in England. It is constantly seen at the tables of the middle classes in those countries, while it is a rare luxury here. It forms a very large item of exportation abroad, and many French and Belgian small farmers' families are mainly supported by the produce of the poultry sent to England. They have not one advantage over the English farmer, except that of not pooh-poohing poultry, and with all the costs and risks of exportation they beat him.

Our market supply of poultry becomes smaller every year, and but for the exertions of the dwellers in towns, we should be fast drifting to a state in which we should be dependant on foreign countries for fowls, just as much as for Ortolans. We have but one ray of light—Scotland is sending eggs, and Ireland fowls, to London. Better management on the part of the latter would largely increase the receipts.

**CHANGING PIGEONS' EGGS.**

MR. BRENT states, that if eggs are exchanged between two pairs of Pigeons, and there be above two days' difference or so, that it will be impossible for the young to live. Now, we gave to a pair of Dragoons, the day of laying the latter egg, a pair of eggs from Short-faced Tumblers that they had been sitting six days. They have reared the young, which are in first-rate condition. Now, another Dragoon cock has taken the hen from the cock of the same pair, and she still served the young hatched with the other cock, sitting on them at night, &c.; and, after laying, still continued to sit on them.—J. T.

[Young Pigeons are, as is well known to all fanciers, fed during the first few days with a curdy secretion formed in the crop of the old birds. It is ordinarily produced about the period of hatching. If that be delayed two days beyond the usual time, the old birds seldom sit longer but leave the eggs. On the other hand, if eggs that are to hatch several days sooner are transferred from another nest, the soft food is produced earlier, and the young are nourished. We have often brought it on at the tenth and eleventh days of sitting.]

TAUNTON and SOMERSET POULTRY ASSOCIATION.—We hope our readers will remember that the entries for this flourishing Association will close to-morrow (Wednesday, April 30th). A schedule, including every variety in separate classes, with prizes amounting to nearly £100, with fourteen pieces of plate value £2 2s. each, presents a bill of fare in the West of England not frequently to be met with in the shape of a poultry show. We hope the catalogue will be well filled with entries, and the Directors thereby encouraged on a future occasion still further to increase the value of their prizes. Considerable additions have been made this year, and we observe in the published Report of the Directors for last year, that "they pledge themselves (if well supported) not to relax their efforts until the Taunton and Somerset Poultry Association shall take its stand amongst the leading societies of this kind in the kingdom."

## BIRMINGHAM FANCY RABBIT SHOW.

THIS, the twenty-fifth half-yearly Exhibition, took place on the 21st—24th inst. The following is a list of the prizetakers:—

**LENGTH OF EARS.**—First and Second, J. Guest's Fawn Doe. Length of ears, 21 inches; width, 5½ inches. Weight, 12 lbs. 6 ozs. Age, 10 months 16 days. Yellow and White Buck, Length of ears, 20½ inches; width, 5½ inches. Weight, 9 lbs. 14 ozs. Age, 5 months 22 days.

**BLACK AND WHITE.**—First, J. Hewitt's Black and White Buck, Length of ears, 20 inches; width, 5 inches. Weight, 8 lbs. 4 ozs. Age, 4 months 24 days. Second, J. Guest's Black and White Doe. Length of ears, 20 inches; width, 5 inches. Weight, 8 lbs. 12 ozs. Age, 5 months 2 d. ys.

**YELLOW AND WHITE.**—First, J. Guest's Yellow and White Doe. Length of ears, 20 inches; width, 5 inches. Weight, 9 lbs. 9 ozs. Age, 5 months 22 days. Second, J. Hewitt's Yellow and White Doe. Length of ears, 18½ inches; width, 4½ inches. Weight, 7 lbs. 8 ozs. Age, 4 months 9 days.

**TORTOISESHELL.**—First, J. Guest's Tortoiseshell Doe. Length of ears, 19½ inches; width, 4½ inches. Weight, 6 lbs. 2 ozs. Age, 5 months 2 days. Second, T. Pinchbeck's Tortoiseshell Doe. Length of ears, 17½ inches; width, 4½ inches. Weight, 7 lbs. 8 ozs. Age, 7 months 4 days.

**BLUE AND WHITE.**—First, W. Howell's Blue and White Doe. Length of ears, 19½ inches; width, 4½ inches. Weight, 6 lbs. Age, 2 months 20 days. Second, T. Pinchbeck's Blue and White Doe. Length of ears, 17½ inches; width, 4½ inches. Weight, 7 lbs. 4 ozs. Age, 6 months 7 days.

**GREY AND WHITE.**—First, W. Howell's Grey and White Buck. Length of ears, 20 inches; width, 5½ inches. Weight, 9 lbs. Age, 7 months 1 day. (No Rabbit for the Second Prize.)

**SELF-COLOUR.**—First, J. Guest's Fawn Doe. Length of ears, 20½ inches; width, 5½ inches. Weight, 9 lbs. 6 ozs. Age, 5 months 22 days. Second, J. Coleman's Fawn Buck. Length of ears, 18½ inches; width, 4½ inches. Weight, 8 lbs. Age, 6 months 9 days.

**WEIGHT.**—First, J. Hewitt's Yellow and White Buck. Length of ears, 19½ inches; width, 4½ inches. Weight, 9 lbs. Age, 9 months. Second, T. Pinchbeck's Yellow and White Buck. Length of ears, 19½ inches; width, 4½ in. lbs. Weight, 8 lbs. 8 ozs. Age, 7 months 4 days.

## EXTRA PRIZES.

LONGEST BLUE AND WHITE.—Prize, W. Howell.

LONGEST GREY AND WHITE.—W. Howell. Commended, W. Howell.

**PRAIRIE HENS.**—Fourteen pairs of Prairie Hens have just been sent from Chicago to England. They are intended for Queen Victoria's henery.—(*Boston Cultivator*.)

## THE DOG.

*House Dogs and Sporting Dogs, their Varieties, Points, Management, Training, Breeding, Rearing, and Diseases.* By JOHN MEYRICK. London: J. Van Voorst.

We have before us a small volume entitled "House Dogs and Sporting Dogs," which we recommend strongly to such of our readers as have, or who intend to have any one of the canine breeds, whether they wish to have sound information as to the good characteristics the breed ought to possess, how they ought to manage it, or how to detect and treat the diseases to which it is liable. It is a thoroughly practical, reliable book, and a few quotations will afford a fair criterion of its contents.

"THE SKYE TERRIER.—The varieties of this breed are innumerable. In the island of Islay alone there are four distinct strains of Skye Terrier, all kept distinct and all highly esteemed.

"The general characteristics of this dog are—a long body, very short legs, long neck, and ears which generally stand out slightly from the head. In deciding upon the purity of any breed of Skye Terrier, the following points should be looked to: his coat, which should be long, wiry, and straight; his eyes, which should be bright and keen, but not prominent; his tail, which should be carried in a line with the back; his legs, which should be straight, and not clumsy in the foot; the hair over his eyes, which should be abundant; his colour, which should be either slate-colour or fawn; black is not uncommon, but is objected to in Scotland.\* A cross with the Spaniel or the Maltese Terrier is often resorted to by dog-fanciers; but it is to be objected to, as it makes the hair soft and silky, and spoils the courage.

"There is no pluckier vermin dog than the Skye Terrier. In the Hebrides he is used as an Otter-hound. For this purpose, a pack of from eight to a dozen of these little dogs is employed, which are able, from their small size, to follow the otter and attack him in the crevices of the 'cairns,' or piles of loose rock on the sea-coast, in which he makes his retreat. The otter is quickly driven out, and generally shot in attempting to reach the sea. As there is no harder-biting animal than the otter, the employment of Skye Terriers in hunting him is a sufficient proof of their pluck. I have myself seen two of these little dogs hanging on to the neck of the otter, and thus saving him from the guns of the sportsmen as he scrambled from the rocks into the sea."

"THE BREAKING OF SPANIELS.—The great object in the training of Spaniels is to accustom them to hunt within a radius of twenty yards or so of the shooter, without the necessity of continually hollering and whistling to them.

"The quickest way of breaking a team of Spaniels is to have an assistant to 'whip in' the refractory dogs which hunt too far for the breaker, while the latter should whistle or call to them at the same time. They can also be taught by the use of the check-cord; when a Spaniel hunts too far off he is made to 'down charge,' and the breaker walks up and drags the dog towards him by it. If a dog is too wild, he may have his fore-paw put through his collar, and be hunted in this way for half an hour or so.

"Spaniels should not be hunted in thick covers till they have shown themselves obedient to hunting hedge-rows, bits of gorse, &c., where they can be seen, and rated by name, for any short-comings. They should not, however, be hunted at all until they are perfect in the 'down charge' and in coming to heel; both of which should be taught in the manner recommended for the Pointer or Setter."

"THE CHOICE OF PUPPIES.—A black nose is desirable in every breed of dogs; and as the nose of a young puppy is invariably red, it is important to ascertain whether it is likely to become black or to remain flesh-coloured. It can be foretold as follows: when the puppy is ten days or a fortnight old, a small, indistinct, bluish-black mark will generally be observed on his nose. If this mark is situated in the centre of the slit which divides the nostrils, the nose will be black; if in any other part of the nose, it will be partially black; if there is no mark at all, the nose will be flesh-colour.

"By far the best recommendation to a puppy is fatness; partly because fat is a sign of a good constitution, partly because the being able to get a taller share of milk than the others is itself a sign of greater strength."

## THE BEE SEASON IN DEVONSHIRE.

I HAVE to give a very different report of the comparative seasons for the bees in the springs of 1861 and 1862, to that of your North Lancashire correspondent. In the spring of 1861 most of my hives were in a forward state. Pollen was carried in freely in February. Breeding was proceeded with to an astonishing extent in March and April, and the hives rapidly increased in weight about the middle of April. One hive, which had filled but two-thirds of its space with combs the preceding year, had, by the end of April, completely supplied the deficiency. On the 4th of May the bees were driven out, and a splendid artificial swarm obtained. Its combs were crammed with brood to the bottom, with a very large quantity of newly-sealed honey in the upper part. Several other hives were in an equally forward condition. Many had drones out in April, and all were becoming crowded with population by the end of the month.

In this present spring a very different state of affairs is to be remarked. I consider my hives generally to be at this date (April 23rd) a full month behind what they were last year, although before the winter they seemed in a much superior condition than at the close of 1860. This is not my own experience only, but applies to all the stocks I have seen in the neighbourhood.

I have but just returned from a visit of a few days at Kingsbridge, where I have inspected many apiaries. Without exception the strongest hives are weak indeed compared with what mine were at this time last year. Kingsbridge has always been rather celebrated for bees, and, being considerably to the south of Exeter, is generally favoured with a more forward and genial climate; but at this time it is far behind our own. Vegetation is by no means so advanced; what there is, seems to have suffered a good deal by nipping winds, and bee-flowers are decidedly very backward. Numbers of hives have ceased to exist. Some that have been fed with many pounds of food have died of starvation. We have had a great deal of warm weather this spring, and bees carried pollen perhaps earlier than last; but certain it is that the breeding has been very far behind. It is not because my own bees are less prosperous that I draw these conclusions. They are, so far as I can ascertain, quite beyond the average of those kept in the neighbourhood. The consumption of stores in the stocks has been most remarkable. Had I not liberally supplied all my stocks with artificial food, it is my belief that none of them would have been in nearly so good a state as they are at present, and several of them would most assuredly have come to grief. But there is no cause of alarm. A few weeks of tolerably settled weather will enable the bees to retrieve their lost ground; and I do not despair of seeing my apiary, by the end of May, in as prosperous a condition as at the same period of 1861.

To every rule there is an exception; for two of my stocks present a very different appearance from the remainder. One of these to-day has been, to use a local term, "hanging out," and is so crowded with bees that no combs can be seen from the back window. A second stock in the same garden is, perhaps, equally strong; but, from being domiciled in a very large frame-bar box, does not show such evident signs of prosperity. The other stocks present a beggarly appearance in comparison.

From the first of these two prosperous colonies I obtained 42 lbs. of super honey last summer; and the second is the artificial swarm made, as related above, on the 4th of May. In both, therefore, there are old queens—I should say at least three years of age. The first stock swarmed in 1859, and not since; the second was a first swarm in 1860; consequently then

\* In the Hebrides, the terms blue and yellow are applied, in reference to terriers, to colours which are properly slate-colour and fawn."

at least one year old. This appears to add another proof in confirmation of a theory I have for some time adopted—that the third year of a queen's existence is generally her most prolific period. In all probability, if not renewed naturally or artificially in the fourth year of her life, the hive becomes comparatively worthless. So I hope before the close of the season to substitute young queens in their places.—S. BEVAN FOX, *Exeter*.

APIARIAN NOTES.

SWALLOWS SAID TO DESTROY BEES.—Your correspondent "E. K." charges that innocent bird, the Swallow, with being a devourer of hive bees. I have been a close observer of Swallows for many years, and never destroy their nests; and I am sorry to say, that when a youngster, I foolishly tried my skill in shooting Swifts, Swallows, and Martins in the month of July, more than once. When these birds were shot, their mouths were invariably filled with flies of a very minute description. I never once found a live bee, or even a large fly of any sort, in the mouth or inside of either of the three species of birds I have named. I hope your correspondent "E. K." will "reconsider his verdict," and am sure he will find this assertion of his is a mistake.

"E. K." is quite right in his charge against the large black-headed Tomtit (the *Parus magnus*). He is called the "bee-eater" in Hampshire. As to the House Sparrow, he sometimes kills a few hive bees; but, after all, is only an occasional destroyer. He prefers grubs, butterflies, caterpillars, and ripe wheat when he can get them. I found the garden mice the greatest enemies to bees; and the bees themselves, in spring and autumn, attack each other's hives and plunder without mercy. A good look-out should be kept to prevent this, and instant measures taken. Where there are many hives, a season seldom passes in which this civil war does not more or less take place.

One disadvantage in "E. K.'s" "Insulation" of bees is this—that in wet and tempestuous weather many bees would be driven by the winds into the water, and, unless the temperature were very high, they would perish.

VENTILATION.—Much has been said about ventilation. In severe winters, such as 1860-61, the less the better, as I witnessed the destruction of bees, particularly swarms of the previous summer, where the death of the bees evidently took place from severe cold, the bees being in a very healthy state before the frost, and honey in abundance in numbers of the defunct stocks. At the same time proper ventilation in very hot summers prevents the melting of the combs, which latter event is very little guarded against, particularly by cottagers, many of whom seldom shade their hives, the great heat being an occurrence of perhaps once in six or seven years. The bees do all they can in this case before destruction comes on them, by lying out night and day for some time. The instinctive fear of enemies in bees wars against ventilation a good deal, as they stop up every crevice in the hive to prevent the ingress of all marauders.

THE LUMP-SUGAR-SYRUP ARGUMENT.—I agree with the "DEVONSHIRE BEE-KEEPER" in his views on this subject. It would be equally surprising if an expert chemist were to tell you that he had extracted 20 lbs. weight of excellent honey from the blossoms of the white clover, or from the honeydew on leaves, as to suppose that the syrup in question was not changed in the stomach of the bee. Every experienced bee-keeper knows that pure honey is influenced, both in flavour and quality, by the different pasture from which it is imbibed; the colour is also strongly affected, and the consistency by the state of the weather. In very hot, dry summers it is thick and glutinous, and in a wet season the honey is thin and watery. The honey from the syrup alluded to no doubt will partake of a thin and watery quality, but still it is changed most materially.—H. W. NEWMAN, *Hillside, Cheltenham*.

EARLY SWARM OF BEES.—A rather singular occurrence happened at Steart Bay, in the parish of Stockland, Bristol, on the 29th of March. Mr. G. Silke had in his garden some hives of bees, and on the 29th ult., the weather being extremely hot, a swarm issued from one of the hives and entered an old hive, in which they are now located. It is an exceedingly rare occurrence for bees to swarm at this period of the year.—(*Somerset County Gazette*.)

VENTILATION OF BEE-HIVES.

YOUR correspondent "E. K.," who, in page 57, quotes the opinion of a French bee-keeper in favour of "leaving hives open all round at the bottom," is probably aware that Miner, the American apiarian, recommends this mode of proceeding during summer; but as soon as winter approaches, he lets down his hives and limits ventilation to an entrance 2 inches long by half an inch high in front, and a similar orifice in the rear, which is covered with perforated zinc.

The only instance which has come under my observation in which a stock of bees passed the winter with a free passage all round, occurred early in March, 1850, when, being desirous of increasing my apiary, I purchased five stocks in the neighbourhood of Taunton, in the adjoining county, Somerset. Upon lifting one of them, I was surprised to find it raised from its floor-board by wooden blocks about half an inch thick, and was still more surprised at being informed that it had passed the winter in this state. I may add that this hive showed drones on the 10th of April following, at which time I find by a note in my journal that it was the strongest stock then in the apiary of—A DEVONSHIRE BEE-KEEPER.

WATERPROOFING HIVES.

IN my recipe for waterproofing hives, which you inserted in your Number of the 15th inst., the printer has corrected my punctuation into a mistake (it was correct enough as written), which will deceive any luckless wight who may have tried the recipe. I said, "½ oz. each gums thus, benzoin and guaiacum, &c.," meaning (in a tabulated form)—

- ½ oz. gum thus
- ½ oz. gum benzoin
- ½ oz. gum guaiacum
- 2 ozs. shellac
- 8 ozs. naphtha

A reference to your Number will show the difference it makes, which please correct, or it may get me into hot water.—G. F. B., *Colney Hatch*.

ACCLIMATISATION SOCIETY.

THIS Association has for its objects the introduction, hybridisation, and diffusion of useful or ornamental animals and vegetables, not only in this country but in our colonies. It is a Society proceeding soberly, and, being guided by good sense and sound science, cannot fail of effecting much good. Its funds are in a satisfactory state, because its outlay is regulated by a wise regard to its income; yet it would be able to be more extensively and more rapidly useful if its funds were larger, and we hope that they will soon be increased by the addition of many more subscribers. The annual subscription is but a guinea, and each subscriber has a preference given in obtaining through the Society such animals and vegetables as he covets.

A few extracts from the Society's Annual Report will give a just idea of its proceedings.

"From an official letter from Sir G. Bowen, Governor of Queensland, to His Grace the Duke of Newcastle.

"Government House, Brisbane, Queensland.  
"3rd November, 1861.

"MY LORD DUKE,

"Above all, I would recommend more especially to the notice of the Society:—first, the Bustard, or Wild Turkey of our plains; secondly, the Tallegalla, or Mound-building Turkey of our forests; and, thirdly, the Wonga, the queen of the Pigeon tribe. I am informed by competent judges that all these last-named birds could be easily acclimatised, and even domesticated in England, while I can bear my own personal witness, as a sportsman, that they all afford capital shooting and delicious eatiogs. The Wonga in particular combines, in the most delicate proportion, the flavour of the Pheasant and of the Grouse."

(Signed)

"I have, &c.,  
"G. F. BOWEN."

"CHINESE SHEEP.—The first lot shipped by the 'Wagoola,' from Shanghai, arrived in London a few days ago, and have been temporarily received by Mr. Bush, the Treasurer. One ewe died upon the voyage, after dropping three lambs on board the ship, and one, also in lamb, which was landed in a weak state of health, has died since. We are happy to be able to report, however, that the remaining four ewes and two rams are in excellent health and condition, and that they manifest every sign of thriving, and the ewes are all believed to be in lamb. Mr. Bartlett, of the Zoological Gardens, reports that they breed

twice in the year, and produce four and sometimes five at a birth."

"GUANS.—On the 28th of August four Guans were received by the Hon. G. Berkeley from Mr. Dougall, of Glasgow.\* These birds are now healthy and in good condition. Many interesting facts as regards their food and habits have been recorded by Mr. Berkeley.

"They feed chiefly on barleymeal, mixed as thickly as possible, and only one out of the four will eat maize. They are all very fond of bread, raspberries, blackberries, &c. The food necessary for Pheasants answers very well for Guans. They go to roost after their morning feed, and their nature is to perch and roost a great deal. They are particularly sensible and intelligent, and will live and remain round the house and garden as well as tame fowl. They are fond of roosting in very high trees, but they will easily conform to roosting in a fowl's house. I have placed two of my four with Mr. John Mills, jun., at Bisterne, to breed in his aviary, and kept two myself in my aviary."—(Report from Hon. G. Berkeley.)

"CROSS BETWEEN THE PINTAIL AND THE COMMON DUCK.—The Vice-President of the Society, the Hon. G. Berkeley, has, in pursuance of one of the objects of the Society, been pursuing his experiments on the hybridisation of birds, and has arrived at a valuable cross between the Pintail and common Duck, a hybrid which is not only handsome in its plumage, but forms an excellent variety for the table.

"The following interesting and important communication relative to this experiment has been received from Mr. Berkeley:—

"A circumstance has happened, in regard to the experiment made by Lord Crayke, at Ashdown Park, which bears upon the theory that all species have a common origin. From a Mallard of the Pintailed cross (supplied him by me), and the large tame 'Ronen Duck,' he has bred some beautiful birds, the males carrying the elongated tail-feathers of the sire.

"From a brother of this Mallard, and the large tame black 'Buenos Ayrean Duck,' I also bred a number of birds, not one of which carried the long feathers in the tail, though a slight peculiarity in the curled feathers marked the origin. Had this variety in these two crosses been only occasional, or in an instance or two, it would not have struck me so much; but for a large number to carry so distinguishing an illustration of origin from one species of duck and not from the other, though the parent sires of each were brothers, and precisely alike, is well worthy of remark.

"Lord Crayke finds, in regard to his experiment, precisely that which I have found, that ducks thus bred from the Pintail may be killed all the year round as excellent for the table, never acquiring the hardness to which the meat of the tame duck is liable when grown to maturity."—GRANTLEY F. BERKELEY.

"ARROWROOT.—In compliance with your request, I here give you a short statement in relation to the Arum introduced by me into the island, and which I have been cultivating for the last seven years. It first came under my notice through the means of a plant brought in a pot from the Azores, and given to a brother-in-law of mine, as a plant producing the arrowroot. The first sight I had of it persuaded me at once that it belonged to the arrow tribe, and I at once determined to try its powers of enduring our climate; and the result has been that I have found it perfectly hardy, bearing well the severest of our winters. Growing, however, the winter through, it required the shelter of a walled garden or land otherwise protected from high winds, which break the leaves and thus retard its growth.

"The digging of the crop and the replanting takes place at the end of July or commencement of August. It might be done simultaneously, the smaller bulbs being planted as they are separated from the larger ones destined for arrowroot. They, however, can remain out of the ground for some weeks—a longer time if kept quite dry.

"In planting, I have, after repeated trials of various modes, adopted the following. I dig a trench as for Potatoes, but levelling the bottom with the spade, so as to have a level surface of about 6 inches in breadth, and as much as possible of uniform breadth; then drop into this furrow very thickly the small bulbs. These latter, though not attaining the size of the larger ones, will yet acquire a respectable size. I lay them thick for two reasons: one is that many of the bulbs will not grow the first year, and the second is that it has become evident to me that the bulbs, in increasing their size, require the assistance of each other to get the better of the pressure of the soil, which, after winter rain, gets hard. Between each row I leave a space of 18 inches, or, when I plant in very rich soil, 2 feet.

"The bulbs so planted I leave two years before taking them up. A crop may, however, be obtained yearly by planting bulbs of the size of a good-sized egg; but I prefer the other mode. At the second year, the plants not having been disturbed, are up much earlier, and become much finer and

healthier plants than those planted one year for the other, and produce much finer bulbs for the next planting.

"To obtain a first-rate crop the soil needs to be rich and well manured. If this is done at the time of planting, the more rotten and decayed the manure is, the better. If, however, you prepare your soil early the previous spring, you can turn in manure in its ordinary state. The manure in all cases is spread upon the soil and forked-in.

"This plant seems to delight, like our common Arum, in rich vegetable mould; and, like it, seems to do best in large clumps or close patches. This was what first suggested to me the propriety of planting thick.

"The produce of this plant is enormous. From 1½ perch I manufactured one year 60 lbs. of arrowroot, which I sold at the rate of 1s. per pound, being at the rate of £78 per Guernsey vergée, or £193 sterling the English acre. This was planted with bulbs the size of an egg, in rows 1 foot apart and 3 inches in the rows.

"That was a remarkably good year for bringing the plants to perfection; I have never succeeded so well since. It has never failed, however, in paying me well for the ground it occupied, and the labour required by it.

"In some years it has been attacked with a disease peculiar to the plant. Early in spring I have found the leaves and stalks acquire a rusty appearance, and this gradually spreading until the plant disappeared altogether. On digging the bulb it was perceived that it had stopped its swelling from the time of attack.

"I have observed this same disease in the common Arum, and in another Arum named *serpentaria*, which I have also in my garden.

"With regard to the extraction of the fecula, this operation is performed just in the same way as potato-starch is obtained, and, therefore, does not need any particular explanation here.

"There resides in this Arum, as well as in the common Arum of our hedges, an acrid principle, which would make it very dangerous if eaten in its undried state. By drying, however, its poisonous qualities entirely disappear by evaporation, and in this state it becomes really superior to the Potato. This has led me to believe that if this root was kiln-dried, it might afterwards be stored and used as Potatoes the winter through. I have not yet, however, made the experiment, save with a few roots dried before a fire, and so far proving perfectly successful. This acrid juice becomes very troublesome to those who are occupied in manufacturing the arrowroot; it causes a most intolerable and itching sensation to the hand, and especially between the fingers. Oil of any sort, but particularly oil of cloves or sweet oil, rubbed over the hand soon allays this otherwise unpleasant, if not painful sensation. By great care in avoiding to dip the hand in the water, much of the evil may be averted. Most of the work may be done with instruments having handles.—PETER MARTIN."

## OUR LETTER BOX.

GOLD-PENCILLED HAMBURG HEN (*E. R. Wilton*).—Dragging her leg, hanging her tail, incapacity of standing, are all symptoms of pressure on the brain, and most probably are occasioned by excessive fatness, arising from over-feeding. The hen eating her eggs is also an evidence of a depraved appetite. The only mode of preventing this, is by watching and taking the egg away as soon as laid, and having nest-eggs of white earthenware, which can be purchased for the purpose. Give your hen a table-spoonful of castor-oil twice a-week, and feed her chiefly upon boiled potatoes, with a little oat or barleymeal, until the symptoms abate.

CANKER IN PIGEONS (*W. Choyce*).—The disease affecting your young Pigeons is that known as canker. As it prevails throughout your loft it evidently depends on some general cause. You are either feeding on unwholesome food, or, what is more probable, your loft or pigeon-house is overcrowded, or the dirt is allowed to accumulate, or there is insufficient ventilation. Look well after the general health, and you will have no more canker. The safest application to those birds already cankered is powdered burnt alum, to be applied after removing the white matter.

DRAKE HATCHED UNDER A HEN (*J. R. W., New Forest*).—It cannot be denied that there will exist through life a sort of filial attachment between the Drake and his mother and her family. The indifference with which he would view fowls under other circumstances does not exist, but it is not true he will be a "persecutor of hens." Such may and will be the case sometimes. With proper precautions the use of the hen for hatching is not necessary. The Duck is not allowed her own eggs, because she is said to be a bad mother; but if she is confined and kept from the water, she is as good as a hen.

BEWICK'S BIRDS (*M. L. S.*).—They are very beautiful, but would be too costly. We have had a similar suggestion for drawings of their eggs and nests. We wish we could afford to satisfy all such suggestions. By-the-by, we are glad to see that the French Government have adopted active measures for preventing the destruction of either small birds or their eggs, and on the ground that they are the friends of the cultivators of the soil.

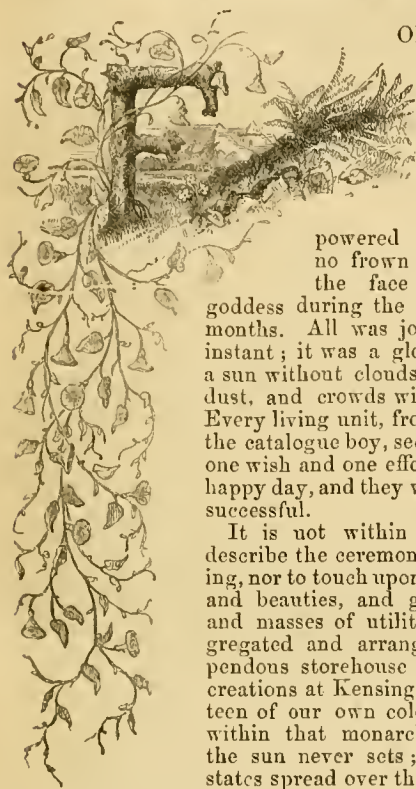
\* These graceful birds were imported by a gentleman from Rio Grande, South America (lat 32° S., long. 62° 12' W.). The American name is 'Jacou'—the 'Turkey of the Woods'. They are from a mountainous and temperate region. The finest poultry known at Rio Grande is a cross between the male Guan and the common domestic Fowl."

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	MAY 6—12, 1862.	WEATHER NEAR LONDON IN 1861.						Moon		Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Rises and Sets	Age.		
6	Tu	<i>Epacris grandiflora.</i>	30.137—30.001	deg. deg. 58—26	N. E.	—	m. h. 25 af 4	m. b. 28 af 7	m. h. 47 0	h. 8	m. a. 3 33	126
7	W	<i>Eutaxia pungens.</i>	29.955—29.919	51—35	N. E.	.03	23 4	31 7	9 1	7	3 37	127
8	Tn	<i>Enchilus obovatus.</i>	29.893—29.709	45—27	N. E.	.02	22 4	31 7	30 1	10	3 41	128
9	F	<i>Gardonia multiflora.</i>	29.757—29.670	52—30	N. E.	—	20 4	33 7	49 1	11	3 45	129
10	S	<i>Gastrolobium speciosum.</i>	29.678—29.649	52—38	E.	.33	18 4	34 7	8 2	12	3 47	130
11	SUN	3 SUNDAY AFTER EASTER.	29.573—29.539	50—44	E.	.52	16 4	36 7	28 2	13	3 50	131
12	M	<i>Grevillea acuminata.</i>	29.896—29.615	60—41	N.	.04	15 4	37 7	53 2	14	3 52	132

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 62.0° and 49.0° respectively. The greatest heat, 81°, occurred on the 6th, in 1830; and the lowest cold, 21°, on the 8th in 1855. During the period 147 days were fine, and on 98 rain fell.

THE INTERNATIONAL EXHIBITION.



ORTUNE smiled on the opening day, and we trust that when the closing day in October arrives, we may be em-

powered to record that no frown has been upon the face of the fickle goddess during the intervening five months. All was joyous on the 1st instant; it was a glorious May-day, a sun without clouds, roads without dust, and crowds without accidents. Every living unit, from the Prince to the catalogue boy, seemed to unite in one wish and one effort to render it a happy day, and they were thoroughly successful.

It is not within our mission to describe the ceremonial of the opening, nor to touch upon the splendours, and beauties, and graceful fabrics, and masses of utilities that are congregated and arranged in the stupendous storehouse for the world's creations at Kensington Gore. Nineteen of our own colonies, comprised within that monarchy upon which the sun never sets; and fifty-seven states spread over the earth's surface with which we are at amity, all have contributed the best examples of their native products and skill, rendering it the most wondrous epitome of the world's wealth and garniture. But we must employ our pen upon none of these. We must drop to what at first sight seems a bathos profound; we must chronicle the beehives, and the mowing machines, and the Potato-diggers, and the spades—yet there is really no bathos here. There hangs a lace shawl in those Courts, which claims in exchange from the purchaser £250; there are golden and silver fabrics, to buy which another cipher must be added to those figures—yet these have no value so real, so wealth-producing, as those bright steel implements by which the flax of that shawl, and the metals of those fabrics were won from the earth. Near those implements, too, are arranged those warlike marvels, the Armstrong guns; and among other Courts ranges of rifles and trophies of swords—but

“Give us the SPADE, 'tis old England's glory,  
That fashioned the field from the bleak barren moor;  
Let us speak of its praise with haliad and story,  
'Tis brightened with labour, not taroished with gore.  
It was not the sword that won our best battle,  
Created our commerce, extended our trade,  
Gave food for our wives, our children, and cattle;  
But the queen of all weapons—the Spade, boys, the Spade.”

No. 58.—VOL. III., NEW SERIES.

Now, having arrived with the poet at this horticultural conviction, let us turn from all that dazzles the eye, and walk to the west side of the eastern annex, and there we shall find the following, upon some or all of which we shall have more to say in future Numbers.

- “2083. BOOTHMAN, J., *Gisburn Coates, near Skipton.*—Observatory bee-hive and feeding-box.
- “2084. BOYD, J., *Lewisham.*—Brush lawn-mower, shaft-roller, and tubular scythe-handles.
- “2099. CRANSTON, W. M., 58, *King William Street.*—Wood's grass-mowing machine.
- “2100. CROSS, T. W. & Co., *Washington Works, Leeds.*—Garden engines.
- “2105. DENNIS, T. H. P., *Chelmsford, Essex.*—Metallic horticultural building.
- “2106. DORE, J., 17, *Ermouth Street, Clerkenwell.*—Garden, watering, rolling, and syringing machine.
- “2107. DOWNIE, R., *Sea, Barnet, Hertfordshire.*—Open bee-hive and uniecomb case.
- “2112. FENN, R., *Rectory, Woodstock.*—Cottager's bee-hive.
- “2113. FERRABEE, J. and Co., *Stroud, Gloucestershire.*—Lawn-mowing and sweeping machines.
- “2114. FERRYMAN, E., *Meadow Place, Oundle, Northamptonshire.*—Patent self-kneading lever churn.
- “2122. GREEN, T., *Smithfield Iron Works, Leeds and London.*—Lawn-mowing machines.
- “2125. HAYWOOD, J., JUN., *Phoenix Foundry, Derby.*—Cast-iron vases and chairs.
- “2127. HEREMAN, S., 7, *Pall Mall East.*—Sir Joseph Paxton's patent hothouses.
- “2133. HUGHES, H., *Regent Street, Loughborough.*—Bee-hive.
- “2139. KAY, T., *Holbeck Moor Pottery, near Leeds.*—Pots, Fern-cases, &c.
- “2141. KENNAN & SONS, *Dublin.*—Iron fences, log saws, lawn-mowers, and root-blasters.
- “2142. KINGSTON, S., *Spalding.*—Rotary cupola bee-hive on Nutt's principle.
- “2144. LEE, C., 12, *Warwick Crescent, W.*—Water-barrow, runner, and greenhouse ventilator.
- “2146. LIPSCOMB & Co., 233, *Strand.*—Improved fountain jets.
- “2147. LOVEY, E., *Ponemooth, Perran Wharf, Cornwall.*—Bee-hives.
- “2150. MARRIOTT, J., *Gracechurch Street.*—Apiary, hives, &c.
- “2153. MUNN, MAJOR, *Throley, Kent.*—Model of a bee-hive.
- “2157. NEIGHBOUR, G. & SON, 149, *Regent Street.*—Bee-hive: bees at work.
- “2159. NIXEY, W. G., 12, *Soho Square.*—Garden labels.
- “2160. ORMSON, H., *Stanley Bridge, Chelsea.*—Conservatory, hot-water tubular boilers, &c.
- “2163. PHILLIPS, G., *Harrow.*—Bee-hives.
- “2169. READ, R., 35, *Regent Circus.*—Horticultural engines, machines, and syringes.
- “2173. ROWLEY, J. J., *Rowthorne, Chesterfield.*—Hedge-clipping machine, grass-mower, and reaper combined.
- “2176. ST. PANCRAS IRONWORK CO., *Old St. Pancras Road.*—Conservatory and glass walls.
- “2182. SHANKS & SON, 18, *Cannon Street, City.*—Lawn-mower.
- “2184. SMITH, G., 31, *St. John's Square, Clerkenwell.*—Ensmelled garden labels.
- “2188. STANLEY, J. M. & Co., *Midland Works, Sheffield.*—Octagon conservatory.
- “2191. TAYLOR, J. & SONS, *Kensall Green, London, W.*—Conservatory, tubular boiler, turnace doors, &c.
- “2192. TEGETMEIER, W. B., *Muswell Hill, N.*—Bee-hives.
- “2197. TYLER, H. & Co., 85, *Upper Whitecross Street, London, E.C.*—Garden engines, conservatory pump, syringes, and fountain-jets.
- “2200. WARNER, J. & SONS, *Crescent, Cripplegate.*—Garden engines, pumps, syringes, fountains, and fumigator for grapes.
- “2201. WEEKS, J. & Co., *King's Road, Chelsea.*—Boiler, heating-stacks, models of conservatories, &c.
- “2204. WILLISON, R., *Alloa, N.B.*—Ventilator for vineries, lift and force pump, &c.”

HUMEA ELEGANS CULTURE.

“A FEW weeks ago a short treatise on the culture of *Humea elegans* was promised in THE JOURNAL OF HORTICULTURE—in other words, this is a breach of promise case so far. Who made the promise it is needless to inquire; the only question now

No. 710.—VOL. XXVIII., OLD SERIES.

is, How best to prevent damages to such specimen plants of *Humeas* as one would like to turn out into the centre of a nice circle of flower-beds, so as not to scare away the birds and butterflies.

I hold it as a firm point of my creed, that flower-bed *Humeas* should never be sown earlier than the first week in May, nor later than from the 10th to the 15th of the month. I hold also, that a score more of other seeds for curious-looking plants, for out-door summer use only, which are sometimes sown as early as February, are best and pay most when this is deferred to the first week in May—say the Castor-oil Plant, which requires exactly the same treatment as *Humea* when it is intended for single specimens out of doors the second season. But let us keep to the *Humea*.

The largest I ever saw was at a Stanmore show, just below Edgware, the last show at which I was one of the judges out of London, in 1838. That *Humea* was 15 feet high, and had three heads to it, 9 feet of the bottom being as bare as a pole, and as big round as a stake for a gap in the hedge. The next biggest *Humea* I have seen was from Sion House at a Chiswick exhibition, about twelve or fifteen years back. I think it had five heads or central stems, and might be from 8 feet to 10 feet high, and 30 feet in circumference, or thereabouts, with only 2 feet of bare bottom. About seven thousand people saw that *Humea*, or might have seen it as well as I did, only I had to book it. And the worst *Humeas* I have seen were in a good flower garden, where the managers knew what *Humeas* ought to be, but failed that year from a change or two among the hands who did the work of the place.

Good gardeners, with sufficient means, can do anything with *Humeas* if they sow the seeds any day from the 1st of February to the last of May; but there is no gardener out of a hundred now-a-days who has the means of nursing such plants as *Humeas* just as they would do Cockscombs or Balsams for three months of the busy spring, so they put off the sowing to the end of April, and make up leeway by a superior first-summer culture, and a kindness over the winter which old *Humeas* in my young days had never given to them: therefore, what I would recommend would be this, To sow the seeds very thin indeed in any light soil, such as you would sow *Calceolaria* or *Cineraria* seeds in; to put the seed-pot or pan in a hotbed where it could be shaded from the sun till the seedlings were all up; but a close frame with little or no bottom heat could then be so managed with sun heat as to do for all seeds that are good for flower gardens. Some people would hardly believe that Black-eyed Susans, the annual *Thunbergias*, treated that way from first-of-May sowings would be by the 10th of June on a par with January-sown seeds for flower-garden purposes; but the plants from the first-of-May sowing have not only the advantage at planting-out time, but a very decided advantage all through the season. Some may recollect the hedges of these *Thunbergias* which I booked as loaded with ripe seeds just like Sweet Peas at the beginning of October not many years back. They were from a late sowing and had no check or stop from first to last, and that is what *Humeas* particularly like—to be on the go, safe and sure, every day from the seed-leaf to the first frost; and the plants next year will be just in proportion to your skill and industry in growing them without any stimulants, and never missing an hour's growth from too much of any one thing.

The reason for sowing the seeds of *Humeas* so very thinly is to be able to let the seedlings remain a little longer than usual without transplanting them, which will be much in their favour; for having acquired a "bottom hold," as gardeners say of nice stocky seedlings and other young stuff, the change will not affect them nearly so much as it would when very young and very close together in the seed-pot. If you do not understand much about rearing seedlings, those of *Humea* will be the best to learn from, as if you come pretty near the mark they will do so far; and if you do not kill them through too much kindness, too much close heat, or too early sowing, you will be sure to have plenty of *Humeas* of some kind. About the end of May the *Humea* seedlings ought to be firm, stocky, with four or five leaves on each, and now comes the greatest point of all for this summer—the properly transplanting them singly into No. 60-pots; or if you have more than you want, it is a safe way to put three seedlings in the first potting, and in the next potting to cut out the two smallest or weakest-looking, thus giving three chances to one for a really good start. These small pots must in that hot season be plunged to the rim in a close cold pit, which is, in fact, a stove all day and a cold pit at night only. Now if you

know anything of Cockscombs and the way they do them, that is just the way for these little *Humeas* for the next two months, only there is no bottom heat. Use the very richest compost you can make—one half loam, the other half very rotten dung and rough leaf mould. As soon as the little balls in the pots are covered with roots, and before the roots begin to coil over each other is the right time to shift into pots one size larger—only one size larger, recollect—and just as soon as the roots are equally forward give them another shift to the next-sized pot. All this will be quick work, for it is the height of the growing season, and you are making up for lost time; as in reality, if one had the chance of sufficient room, the 1st of April ought to be the sowing day; but I prefer a month later, and make up time by superior management. From the first potting that close cold pit, which is now as it were a stove, must never be dry night or day, but by the rose watering-pot or syringe be kept constantly just wet enough for newly-potted-off seedlings and no more; or just damp enough to keep the seedling-leaves from flagging at any time. That is the proper pitch of dampness for all such cold pits in the height of summer, and every kind of pot plant likes that way, and the *Humea* more than most of them.

The third pots, or shifts, ought to be ready for another shift between the 10th and 14th of July, but there must be no shift then, only begin to use a mild liquid manure, giving it every second watering to make up for want of room at the roots. Let air be on night and day from the beginning of July, and a slight shading from ten in the morning to four in the afternoon of all clear hot days, and a little damping be afforded at both times. About the very last of July the third shifts ought to have balls of roots as hard as cricket-balls, so to speak; and now the *Humeas* ought to be planted out of the pots for the next six weeks and more. This, after all, is the grand secret for having splendid *Humeas*.

You may sow in January, in February, in March, or in April, but your plants are nothing worth as compared with these, if you keep them in pots the whole summer. That is the proper age and the right time to put life and blood into your plants, with very little increase of upward growth. Some shading and some syringing will be necessary for a time after planting out, and, of course, if August is broiling hot they must be regularly watered. Choose the first damp day after the middle of September for lifting these *Humeas*, and then you will see the reason for the balls having been got so tight before they were turned out. Lift them with a fork very gently, and when they are out of the ground you may shake almost all the soil of the border from the roots. The original balls will be firm enough to do without more help, and the fresh-made roots in the border will be free for a fresh compost in the next pots; and now the potting should be liberal, for the plants will not cease from the impulse given them by turning out till the other side of Christmas. The best *Humeas* I ever saw were put into No. 16-pots, at nearly the very end of September; in these they stood all that winter, first in a cold pit till Christmas or a little after, then in a very cool greenhouse till the beginning of March, and afterwards in the cold pit again till planting-out time. The bottom leaves hung over the pots and were soft and succulent as *Cineraria* leaves, and the plants were not more than a foot high on New Year's-day. They require constant watering the whole winter when they are in that condition, and to be almost as free as if they were in the open air the whole time; a degree or two of frost being much better for them than 5° of extra heat, or a close house. *Cinerarias* from seeds are the nearest in winter management to these *Humeas*, and also in respect of soil, only that *Humeas* need very strong generous loam. D. BEATON.

#### EXTRAORDINARY RANGE OF TEMPERATURE IN AN ORCHARD-HOUSE.

I do not know whether the severe frosts on the nights of the 11th and 12th ult. were general, but here (Bury, Lancashire), the thermometer registered respectively 21° and 20°. The 13th was a bright morning, hot sun, and cold east wind, with a few heavy thunder-clouds. Upon opening my orchard-house I felt the intense heat, and found the thermometer registering 109°, caused by the action of the sun alone on the closed-up house, which I may say is 30 feet by 14 feet. On looking at the thermometer I found that it had registered 24° as the lowest point during the preceding night, so that in a few hours the plants in the house had experienced the enormous difference of 85° in the

temperature. I have known many extraordinary and rapid changes, but nothing ever to equal the above. I recollect once an outside thermometer registering 12° and 80° in twelve hours.

It may be interesting to some of your readers to know that I had Plum, Peach, and Pear trees, Peas and Scarlet Runners, and my stock of bedding-out Geraniums in this house; but that the only things which suffered seriously were the Beans, the Geraniums escaped with a few scorched leaves.

I should like to know whether any of your readers noticed a similar range at the time I mention.—W. W.

## SUPPLY OF KITCHEN VEGETABLES.

THE TIME WHEN EACH MAY BE IN USE, AND THE CASUALTIES WHICH MAY PREVENT IT.

(Continued from page 78.)

**Endive.**—The white and green Curled may be taken up with balls on some dry day in December, and planted thickly in a frame where they can be defended from frost and blanched as wanted. The Batavian may be allowed to stand in a sheltered place, and will come into use in March when the other is done. In the absence of a frame the Curled varieties will survive medium winters in the open ground, and are often there left to their fate. A dark roof like an open shed will do to preserve them when glass cannot be had. In general Endive is in season from December to March, Lettuce filling up the remainder of the year.

**Lettuce.**—Much uncertainty hangs over this crop, as it is all but impossible to obtain good Lettuce in some soils in very dry seasons: therefore, due allowance must be made if a good, well-blanching article be not forthcoming at all times; but, Lettuce may generally be had very good from the middle of May to the end of November. After the latter time and up to the beginning of May, it is not so good unless glass and other assistance be rendered: its merit depends on a quick growth, and the centre being white and crisp. The Cos varieties as London White, Brown, and Brighton Cos are good; but the cabbaging varieties endure dry weather best. Of the latter kinds the Drumhead, Malta, and Tennis Ball are all good; while the hardy Hammersmith is the best to stand the winter, and next to that the Brown Cos. A good rich soil suits them best, and copious waterings in dry hot weather are essential to success where the soil is very light and dry.

**Leek.**—Few things are more certain as a crop than Leeks, for if the seed is good, there is not much likelihood of any mishap befalling them. Good ground will usually produce this article to perfection where it is not sown too thick, which recommendation will be found amongst many others in the directions for the cultivation of this and other vegetables in preceding Numbers of THE JOURNAL OF HORTICULTURE. Leeks are in use all the autumn and winter months.

**Mushrooms** are somewhat uncertain, but in general they may be expected from November to April or May; after that their novelty ceases, and in the summer and autumn months they are generally to be had in the fields. A good Mushroom-house, with an ample supply of hot dung at all times, will generally insure a supply, and many homely makeshifts in that way are often attended with success; but now and then the eccentric character of the crop will show itself and there is a failure. Due allowance must, therefore, be made for this when it does not occur too often. The general management of the Mushroom has, however, been detailed at length in former articles.

**Mustard.**—See "Cress for Small Salading" to which this is an important adjunct.

**Onion.**—Generally a steady crop, but now and then subject to mishaps, and sometimes not sufficiently ripened to keep well. The Strasburgh and James' Keeping are the best for late use, but the Globe and Brown Spanish for cropping in quantity. The Tripoli stands the winter best when sown in August, while the Silver-skinned is the best for pickling. Onions in one form or another are generally to be had all the year, but good ripened bulbs cannot be obtained in May, nor yet in the early part of June; the half-grown, or half-ripened article, generally suffices for what is wanted then. Sow early, thin in good time, and the result is tolerably certain.

**Orach.**—See Spinach.

**Parsley.**—In hard winters the supply of this may be limited, as, for instance, the spring of 1861, when it was very scarce; in general, however, it is pretty successful. Sow in early spring

and again in July; the latter sowing often standing the winter better than the earlier crop. As a rule Parsley is expected daily; but in extraordinary seasons, unless some plants be protected, they may be all destroyed. This, however, does not often happen.

**Parsnip.**—There is not so much difficulty in obtaining quantity as quality in this root, and the latter is often due to the nature of the ground. A stiff heavy loam does not suit Parsnips, although they will grow there; they do, however, better in a soil of an opposite description when sufficiently deep and not too dry. Winter and spring is the time this root is most esteemed; it may remain in the ground until February, and be afterwards stored away in a cool place.

**Pea.**—Popular as this vegetable is, I have no hesitation in advising the cultivator of small means only to sow a few for early use; and if he is in a neighbourhood where quantities are grown for market, to buy what more he wants, for where ground is scarce it can be much better employed. Scarlet Runner Beans produce much more food in a dry sunny situation; but in a moist one Peas do better, and may be more extensively grown. The wants and requirements of a family must, however, determine this. The cultivation and other features of the Pea are given elsewhere. In early situations the first crop may be fit to gather the last week in May, and in cool damp places some may be still in a fit condition for table up to the middle of November; but I have seen whole crops perish with mildew in July and August on dry ground and in a dry season.

**Potatoes.**—If a frame and hot dung or leaves are to be had, young Potatoes may be produced early in April, and later ones in a protected state in succession until those out of doors come in; but where the means are limited—say the 1st May for the earliest, and continue the supply. Where ground is scarce, it is better not to plant more Potatoes than will serve until the middle or end of July, and after that time to buy from more extensive growers; this advice, however, must be received with certain qualifications which every one may make for themselves. In general, however, the Potato can be grown much cheaper by the large grower than by the amateur; and where the latter has a multiplicity of things to furnish as well which cannot readily be had elsewhere, it is better to buy Peas and Potatoes, which are usually sold at a reasonable rate, than to buy the many odds and ends which form so necessary an item of the everyday bill of fare. The Potato culture being given elsewhere need not be repeated here.

**Radish.**—The best are those grown in April and May, afterwards they become hot unless the soil and season are very moist; they may also be had in March in a hotbed, or even earlier than that. In the autumn the Turnip-rooted varieties are also useful; but all the middle part of summer must be regarded as a blank. In many instances Radishes are sown with Onions, but they must not be allowed to crowd on the important crop.

**Rampion.**—A small root used as a winter salad, but little grown, being troublesome to handle; it is, however, of easy culture, and may be had all the autumn and winter months. For its cultivation, see preceding articles.

**Rhubarb.**—Good ground produces this to great perfection; but the largest varieties are not the most esteemed for private use. An old green-stalked variety of no great size is second to none for quality when cooked; but the Linnaeus and Victoria are good varieties. The spring and early summer months are the time when this is in use; it may also be forced so as to have it by New Year's-day, but it is needless to say there is a sacrifice made to have it then. The *modus operandi* and other particulars are recorded elsewhere.

**Sea-kale.**—This most useful vegetable may be had from Christmas to the middle of April, or perhaps the end of it; but is in greatest abundance and perfection at the end of March and beginning of April, as it takes less to force it into use at these times than before. It may either be forced in some warm shed by the roots being taken up, or where it is grown by being covered up with warm dung or leaves; the latest of all being simply covered up with something to obstruct the light. The plant is not subject to many mishaps, but it will require renewing every three years if forced on its own ground, or if taken up for that purpose new plants will be wanted each time.

**Spinach** may be sown every fortnight from very early spring up to 1st September, the last sowing being a more extensive one to stand the winter. In midwinter, however, it must not be expected in any great quantity, nor so good at that time. In summer its growth and quality are regulated by the weather:

if this is very hot it quickly runs to seed. As a second class vegetable it is of easy culture.

*Salsify and Scorzonera*.—Winter roots occasionally called for, but less frequently than others, such as Turnips, Carrots, &c. Their culture is easy, but care must be taken to have seed only from a respectable firm; for, like many things not of everyday use, old seed is occasionally sold, and it comes up badly.

*Shallot and Garlic*.—The first-named is occasionally attacked by a maggot from which it is not easily rescued, it is, therefore, better to plant some in December and again in April, one of these plantings may escape. They are in use all the autumn and winter months.

*Turnips*.—An early sowing of white Turnip Radish will in general produce a few roots before any can be had from the Turnip. The latter, however, if allowed a hotbed will come in sooner. Occasional sowing from the middle of April up to the middle of August will generally produce crops lasting from the 1st of June up to the end of March or later; but April and May must be either blanks, or any old roots must be kept over for the purposes wanted. The very earliest crop is subject to many uncertainties, not the least being its liability to run to seed; and in very hot weather a similar tendency occurs, so that a continuous supply of the very sweetest young Turnips cannot always be had. This subject, however, has been treated on.

*Vegetable Marrow, Squash, Gourds, or Pumpkins*, are all members of one family, the first-named being the most useful. It is likely the present season, 1862, will give some new features to this family. For the present I leave the admirers of fancy Gourds to settle among themselves which is the largest, and which the most handsome; and merely recommend the Custard and the old-fashioned Vegetable Marrow as being both serviceable and useful at table. The curious and ornamental class belongs elsewhere. Mildew often, nay always, attacks the plants towards the end of summer, so that if the cultivator is supplied pretty well for about ten weeks from out-door plants he must be satisfied. Sometimes they last longer, but often not so long.

*Sundries*.—There are many other little et-ceteras which constitute the sum total of a vegetable garden. Herbs of various kinds are wanted, and some of these, as, for instance, Sage, is not easy to keep in stiff wet ground in hard winters. Thyme is also killed in the same way, as likewise is Winter Savory; and sometimes gardeners have a difficulty to coax Basil to grow in cold wet summers. Sweet Marjoram generally thrives well after having obtained a start. Mint requires replanting every two years; while the tender Capsicum requires a hotbed to start it, and either a very warm summer and warm situation to get it into fruit, or the use of glass for that purpose. Many other things might be added to this list, but enough has been said to point out the uncertainties attending the more common vegetables. For their respective culture, former and future Numbers must be consulted.

*Conclusion*.—The above has been written to meet the inquiry of a number of correspondents, whose knowledge of such matters is not extensive enough to enable them to make the necessary allowance for the uncertainties under which all things labour that are cultivated for our use; at the same time they will be enabled to judge of what they may reasonably expect at the season mentioned. The employed will also be able to excuse the lack of certain things which an inexperienced employer may look for at a wrong time, or from sources which it may be impossible to obtain them; for the presence of good vegetables in Covent Garden is no proof that every garden in the kingdom can produce them at the same time. More might be said on this matter; but if the writer claims some indulgence for the hasty manner in which he has been obliged to throw this matter into form, he hopes the general idea laid down will be found in all cases founded on reason and plain common sense.

J. ROBSON.

### CINERARIAS A CURE FOR GREEN FLY.

I CONCLUDE that anything touching the welfare of trees in orchard-houses is interesting to you, and I, therefore, take the liberty of making known one experience of mine on the subject. I think it very probable that you know my cure for green fly already; but I do not remember to have seen it in your book. By accident, three years ago, some Cinerarias were placed in my orchard-house, we had no green fly that year. Last year I had Cinerarias in one house with Peaches in pots, and no Cinerarias in another house similarly filled. In the house with Cinerarias

I had no green fly, in the one without I was devastated with it. This year I had Cinerarias in both houses, and have no fly to speak of in either. From this I conclude that the green fly has (to speak chemically) a greater affinity for the Cineraria than the Peach; and if my method is a cure for it, as I believe it to be, I think it ought to be known. When the blossom first opens, and the leaves first show, the great mischief is done, because you cannot syringe; the Cineraria prevents this. Several of my neighbours have adopted my plan after seeing my houses.—ALEX. C. FORBES, *Whitchurch, near Reading*.

P.S.—The Cinerarias should be placed on the borders before the Peaches are in blossom. I may observe the Cinerarias in both houses are swarming with fly. It seems to me as a rule the more Cinerarias the less green fly. The only tree I have fly on now is a yard from any Cineraria.

### THE GENUS HIPPEASTRUM.

(Continued from page 80.)

THERE is a secret in growing these Hippeasters that has never been published, and that is, to have abundance of water while the leaf is growing, but during the whole summer, after the leaf has reached its full length, no more water than will just keep the leaves from flagging; and if the pots are plunged, which is the best way, no gardener not in the secret could believe on how little water they would live. Too much water after the end of May has been their bane; they never ripen their leaves in the autumn under that, the ordinary system, and then they rot either in the heart or canker from the bottom while at rest. A late vinery where Grapes are kept till February is the best possible place to winter them in, and even the hardiest of them prefer a warmer place for resting than for growing in. Peat is next to poison to them all, and leaf mould, or rotten dung, is the next worse thing to give them. They require very strong loam with a little sand, and nothing else, but the best drainage, and small, deep, upright pots—that is, pots seemingly small for the size of the bulbs, and the more full the pot is with roots the better they do, and as long as the loam keeps from soddening, no matter how long they are kept in the same soil. While the leaf is growing they like as much liquid manure as a Pine-Apple, and quite as strong, and no more liquid manure after the leaf gets to its full size, or what might seem the contrary of good management, if we did not know by long experience that it is the best course to pursue with them. Highclere, Wentworth House, Spofforth, and Colvill's Nursery, in the King's Road, London, were the best places for them in 1831, when I travelled England, and Dropmora was the next place, where Mr. Bailey used to flower two hundred bulbs of vittatum alone in one season, a glorious sight, besides a large collection of crosses. The quickest way to flower the seedlings—say the third season, is to leave the seedlings in the seed-pots the first season, then to plant out the balls entire in strong loam over bottom heat, and to keep them well supplied with water, which will cause them to continue in growth through the winter—say quite as evergreens the first three years. I have seen the seedling bulbs flattened, and some Carrct-like, for want of room, which seemed to do all the better for them, and I have reared them by the thousand for some years, but Sweet's treatment of these seedlings, by putting each into small pots the first season, and turning the balls on dry shelves in winter to save pots, I never could succeed with; but then plant-houses were kept so much more dry in his day than since. They certainly require as much dryness and as much heat in winter, when at rest, as the Museet of Alexandria Grapes. Even then the very tender kinds will rot, if the bulb is above ground. I always had them buried up to the neck, and in deep pots.

The subjoined list of the very best crosses that were raised when these plants were the fashion, will serve to show the best way to pursue now for a second start, seeing they are likely to become favourites. The list has been made more than thirty years, at least most of it, and all the names are in Sweet's "Hortus Britannicus," or most of them are, and this list will last, as a stud list, for the next twenty years certain, unless the second start be by steam, as these bulbs had once been grown. The father and the mother of each kind have been as truly registered in this, my stud list, as ever the parentage was for the Derby and Newmarket. The father in every instance is the first named, the mother next, and the cross the best out of ten or a dozen experiments at least, and your time and trouble

to that amount will be saved by crossing on this model. After the middle of the list the names are not in strict priority, but the first part is thus—

1. Johnsoni, in 1810, from the pollen of regium on vittatum. A well-known sort at the present day.
2. Seymouri „ alicium and vittatum. Had many names, and is yet in some collections, after Dr. Herbert's gardener.
3. Allmani „ calyptarum and vittatum. A good flower by Sweet, and named after a Professor of botany in Dublin.
4. Andersoni „ bulbulosum and vittatum. A fine flower, and variable as the variety of bulbulosum used.
5. Hookeri „ Goweni and vittatum. A very charming flower, named after Sir W. Hooker.
6. Grahani „ Johnsoni and vittatum. Thus, two turns of vittatum give a larger and a more brilliant flower, together with a hardier plant than Johnsoni. After Professor Graham, Edinburgh.
7. Digweedi „ striatifolium and vittatum. The white stripe retained. After a foreman at Highclere.
8. Griffithi „ psittacinum and Johnsoni. Very beautiful. The best cross raised by Mr. Griffith.
9. Sweetii „ reticulatum and Johnsoni, including the crosses from the variety striatifolium, were called Sweet's strain.
10. Brookesi „ bulbulosum and Johnsoni, including three varieties of bulbulosum, such as crocatum, fulgidum, and rutilum. These were the strain of Mr. Brookes, a nurseryman.
11. Benthami „ stylosum and Johnsoni. A good flower, but not a desirable mixture of colours.
12. Danbeai „ Griffithi and Johnsoni. A very beautiful flower, and a hardy greenhouse plant.
13. Carnarvonii „ solandriiflorum and Johnsoni. A magnificent flower, named after the Earl of Carnarvon.
14. Altaclarae „ psittacinum and Griffithi. A very beautiful cross, named after Highclere.
15. Hayloki „ solandriiflorum and bulbulosum. The rutilum variety, an extraordinarily grand flower.
16. Herberti „ solandriiflorum and stylosum. The largest and most beautiful, yet stylosum is but a small flower.
17. Harrisoni „ reticulatum and stylosum. The most lovely, and the nearest to a florist's flower ever raised.
18. Parkeri „ bulbulosum and reticulatum. Perhaps the richest of all in colour. A tender plant.
19. Hoodii „ equestre and regium. A fancy of Sweet's at Colvill's; good colour.
20. Henslowi „ regium and bulbulosum. The fulgidum variety. A most brilliant flower.
21. Batemani „ equestre and bulbulosum. Never saw it, or knew the variety of bulbulosum used.
22. Gawni „ reticulatum and bulbulosum rutilum. A most lovely colour and good form.
23. Munroi „ psittacinum and equestre. Never saw it. Should be both hardy and handsome.
24. Baconi „ psittacinum and regium. Should be a better colour, and as hardy as the last.
25. Colvilli „ reticulatum and regium. This was the finest Sweet ever raised. A rich colour.
26. Cartani „ alicium and Sweetii. The best of all with the alicium breed, and is yet in some collections.
27. Lindseyi „ alicium and reticulatum. Splendid colour, the shape a death blow to a florist.
28. Lamberti „ Cartani and Grahani. Here the wide staghorn shape of alicium in Cartan's is modified to the right pitch by the two turns of vittatum, which is in Grahani.
29. Donni „ Hookeri and Hayloki. A noble flower, still retaining the white stripe from vittatum.
30. Spofforthiæ „ alicium and Carnarvonii. A most magnificent flower, a splendid colour, and the best shape in the blood race from alicium.
31. Lindleyi „ Griffithi and Carnarvonii. Another noble flower, the best ever called after Dr. Lindley.

Now, study that stud list and register, go to work on your friends in Brazil, get the wild kinds thence, if the Royal Horticultural Society should miss any, grow and cross them, and say nought about it till you hear the worst of these before you; and when you hear a fuss about seedling aliciums, with their six staghorn "points," or of equestres, with lop-ears like the Suffolk pigs, just tell the raisers of them to have them sent to India by the overland route, and if you could get the captain to drop them over in the Red Sea, it is the next best thing you could do for the family. For the only good Hippeasters that have been exhibited for the last fifteen years in London, were hardly worth growing, except some few by Mr. Parker and Mr. Williams.

D. BEATON.

CALAVANSA BEAN.—A correspondent writes as follows:—"Calavansa is the name of a pretty little Haricot Bean answering somewhat to your correspondent's description. It was imported in large quantities by Government for the relief of the poor during the Irish famine. I enclose a pod from a forced plant of last spring. I have not tried it out of doors, but think it will succeed.—R. T. CLARKE."

## MR. B. S. WILLIAMS' PARADISE NURSERY, HOLLOWAY.

PERHAPS there is no difficulty which even an experienced writer labours under greater than that of opening-up his subject. If he begins by stating an acknowledged fact all the world will exclaim, "We know that!" At the risk, however, of such an exclamation being made, we may state that at this nursery exists one of the finest collections of Orchids and foliage plants to be found in the kingdom. In connection with the former class of plants, Mr. Williams' name has long been honourably associated not only as a successful cultivator and exhibitor, but also as the author of a carefully written and most useful book, "The Orchid-Grower's Manual" (and we understand he is now engaged in a more extensive work on the same subject); whilst the magnificent foliage plants which he from time to time displays at our horticultural exhibitions, are sufficient evidence of his great resources in this respect also.

Proceeding at once to the Orchid-house, we met directly on entering with an immenso plant, 5 feet high, of the beautiful *Vanda suavis* with large apices of its lovely white and crimson flowers. *Vanda insignis* with its yellow and crimson-spotted sepals and lilac lip, is another very attractive freely-flowering species. *Phalænopsis amabilis*, which has been justly called the queen of Orchids, was of course, as it is nearly all the year round covered with flowers, constituting an object of rare beauty. *Oncidium papilio majus*, another perpetual-flowering Orchid, afforded a great display of its handsome butterfly-like yellow and brown flowers; and the lovely but less known *Chysis Limminghii* was also to be seen in perfection. This, on account of its rose and white flowers with mauve-striped lip, deserves a place in every collection as a really first-class Orchid. Among the more remarkable *Cypripediums* were *C. barbatum superbum*, a very fine variety with larger flowers than the old *barbatum* and a much darker lip, the end of the upper petal being also of a much purer white; and *C. hirsutissimum*, a kind with a pale green lip dotted with brown, and which lasts six or eight weeks in flower. *Trichopilia coccinea*, of which there was a specimen 2 feet across, was covered with flowers; and so was a *Dendrobium* tortile of remarkable size, a species which is rarely seen flowering so freely except when grown with particular care.

In the centre of this house was a number of fine *Cattleyas*, including very large specimens of *Leopoldi*, *labiata*, and *Harrisoni*, together with *guttata*, *crispa*, *elegans*, and other fine sorts, all of which were growing in peat and potsherds, the plants being well elevated above the rim of the pots. On the same table were *Lælia purpurata* and *Warnerii*, both of large size; and along the side shelves were the charming *Calanthe masuca* throwing up its flower-spikes; the scarce *Anguloa Clowesiana*; fine plants of *Argophyllum giganteum*; of the rare *Miltonia Regnelli*, and *M. cuneata* likewise, a rare and pretty species; *Dendrobium Farmeri*, very fine; *Lycaste Skinneri delicatissima*, a truly splendid variety; together with *Cypripediums*, and a host of other interesting species which it would be tedious to particularise.

In a warmer compartment of the same house we noticed remarkably fine specimens of *Ærides odoratum majus* and *purpurascens*, both of which are highly desirable varieties; *Ærides Larpentei*, larger than we have ever before seen; *virens*, with ten or eleven spikes of flower; *Fielcingii*, with a fine spike of bloom; *cornutum*, very rare, showing for flower; a magnificent *Vanda gigantea*, affording the same signs of promise; the original plant of *Angræcum sesquipedale* brought by Mr. Ellis from Madagascar; a large *Saccolabium Blumei majus*, a variety differing from the species in having much larger flowers; *S. retusum*, 2 feet or more in height; *Cattleya Skinneri*, remarkable for its showy colour; and *Calanthe masuca grandiflora*, a variety which has larger and earlier flowers, and remains much longer in bloom than the old kind.

Conspicuous among the many fine plants with which the side shelves were crowded was *Phalænopsis grandiflora*, certainly one of the finest of all Orchids, the plant being literally covered with the large pure white and yellow flowers, which render it such a favourite for exhibition. Another plant of the same beautiful genus, but of more recent introduction, is the *Phalænopsis Schilleriana*, which we believe Mr. Williams was the first to import into this country. When in flower it is one of the finest Orchids in cultivation, and the leaves being much variegated, it is possessed of a double charm, which will make it eagerly sought after by the lovers of exotic vegetation.

On quitting the Orchid-house we could not but remark the

unusual width of the paths, so different from the narrow confined passages which exist in the older forms of plant-houses. Whether fashion has anything to do with this change we cannot say; but should any of our lady readers visit Mr. Williams' collection, they will find a very ample, we dare not say sufficient, allowance of space has been afforded in all the houses.

In the Fernery, which like the other principal show structures is a lofty span-roof, we found a fine collection of the best stove and greenhouse kinds, many of them being very large specimens. Among the more remarkable were *Dicksonia antarctica*, one of the best of our greenhouse Ferns; *Gleichenia dichotoma*, 6 feet across; *Cyathca elegans*, a rare species of very graceful habit; *Marattia elegans*, with fine spreading fronds about 6 feet long, suitable for an intermediate-house; nice plants of *Platycoerium grande* and *stemmaria*; *Nothochlæna Hookeri*, a pretty compact-growing sort; a nice little specimen of the scarce *Gleichenia semivestita*; *Gleichenia rupestris*, another scarce species; a handsome little *Todea pellucida*, with numbers of *Adiantums*; *Gymnogrammas*, including *G. pulchella ramosa*, a distinct variety, and the new and handsome tasselled *Gymnogramma Witenhalliana*; *Doodia aspera pumila*, a variety which makes a handsome specimen when old enough, hanging all over the pot; *Lomaria sinuata*, the fronds sinuated at the base; and *Nephrodium molle corymbiferum*, a nice distinct variety, with curled foliage. Rare *Trichomanes*, under bell-glasses; the newest *Selaginellas*, such as *Lyalli*, *Lobbi*, and *Wallichi*, together with a large quantity of young stock, must complete our enumeration of the contents of this house, in which, however, it may be added, there is a very interesting collection of about 350 *Anæctochils*, among which were *Lowii*, very large; the pretty *querceticola*, and three new kinds—*Bullenii*, *Ruckerii*, and *Nevilliana*.

On entering the house devoted to fine-foliaged plants no one could fail to remark three magnificent *Cyanophyllums* on the centre stage: one of them, at least 8 feet high, was beautifully clothed with its gorgeous leaves, some of which were a yard long and half a yard across. Near this was a handsome specimen of *Croton angustifolium*, 4 feet through, with leaves 2 feet in length; also a noble plant of *Tupidanthus calyptatus*, 6 feet high and as much through; a remarkably fine specimen of the scarce *Theophrasta imperialis*; a Bird's-nest Fern, 6 feet across; and a large plant of *Amherstia nobilis*. Of course *Caladiums*, *Marantas*, *Dracenas*, and *Rhopalas* were to be seen in abundance, along with a good stock of all the usual foliage plants, which we need not here particularise.

Of the more remarkable of the others were *Spærostema marmorata*, which has been called the Frosted Climber from the upper surface of the leaves having a frosted appearance, a plant which has been much admired wherever it has been exhibited; *Alocasia metallica*, of which the culture was given in our last week's Number; *Bertolonia marmorata*, a beautiful little plant not sufficiently known, and which, being velvety green, marbled and veined with white, would make a good associate for *Anæctochils*; *Campylobotrys refulgens* and *pyrophyllis*, with handsome velvety leaves; the new *Phyllagathis rotundifolia*; and *Franciscæ confertifolia variegata*, a nice distinct climber, with leaves marbled and margined with white. We may just add that some very large *Nepenthes*—*lavis*, *Rafflesians*, and others—occupied the further end of the house, to the general effect of which some well-grown and richly-coloured plants of *Colcus Verschaffelti* contributed not a little.

Proceeding next to the large specimen-house, a structure 50 feet long by 24 feet wide, which has been recently added to this establishment, we remarked a noble *Cycas revoluta*, *Dicksonia antarctica*, with fronds 8 feet to 10 feet long; two fine specimens of *Dion edule*, one of them an enormous plant covering a space 30 feet in circumference, and just throwing up a fresh set of leaves; and an immense *Dracena*, said to be a variety of *Draco*, with a clear stem 5 feet high and about 18 inches in circumference, giving the house quite a tropical aspect. At the further end of the house we observed *Gleichenia speluæ*, 6 feet high and 8 feet through, probably the largest plant in the country. It formed a beautifully compact mass of light green, and was supported on each side by nice specimens of two other rare species—*scandens* and *dicarpa*. There were also fine plants of *microphylla* and *fiabellata*, the latter a beautiful species with the fronds of a bright very lively green. Among *Yuccas*, we noticed *aloifolia variegata*, 5 feet high, and well clothed with foliage to the pot; *concarva*, a good hardy species; and *quadricolor*, one of the most compact-growing of the genus, with very handsome variegated leaves.

Another plant that attracted our attention was *Pandanus reflexus*, the spiny dark green leaves of which are beautifully twisted, completely hiding the upper part of the pot. Nice plants of *Rhopala corcovadensis*, *Chamerops excelsa*, and smaller specimens of *Dicksonias* were scattered here and there, and in one corner *Imantophyllum miniatum* beautifully in flower.

The Show and New Holland-house contained *Eriostemons*, *Chorozemas*, *Azaleas*, and a miscellaneous collection of flowering plants, among which were *Tetratheca ericoides hirsuta*, a nice greenhouse plant with lilac flowers in May; *Genetyllis Hookeri*, covered with its large bell-shaped flowers; *tulipifera*, another nice greenhouse plant, just coming into flower; *Reine des Doubles Azaleas*, one of the handsomest doubles we have, the flower being of a rich rosy crimson; and a new kind called *elegantissima*, pure white with a few red stripes, very handsome and free-flowering; also, one striped like a *Carnation* and of quite a novel character. On a back stage was a stock of *Rhododendrons javanicum* and *Nuttallii*, to the flowering of the latter of which, at Mr. Mongredien's, we called attention last week.

It may not be generally known that Mr. Williams has one of the largest collections of *Amaryllises* that exist in this country, comprising about 1500 plants. Among those in flower were *Ackermanni*, and its variety *pulcherrima*, a magnificent crimson and scarlet flower of fine substance; *aulica major*; *Unique*, a fine seedling which flowered this year; and *Williamsi*, a cross between *Ackermanni* and *pulchella*, bearing immense flowers. Before quitting the houses we must not omit to notice a plant of *Libocedrus Doniana*, about 3 feet high and as much through, forming a dense mass of *Lycopodium*-like foliage.

We had here an opportunity of seeing in quantity the new bedding plant, *Scrophularia uodosa variegata*, which has been so much spoken of lately. It is certainly the best hardy variegated plant which we possess for bedding, and its adoption will save the gardener much anxiety in wintering and finding frame-room for the more delicate plants which it will advantageously replace. *Tussilago farfara variegata* is also a good plant for edging large beds and for ornamenting rockwork, and, of course, perfectly hardy.

Neatly arranged in pots was a collection of other hardy variegated plants, together with herbaceous and rock plants of all the kinds usually grown, and many more that are not, and which would doubtless afford a good resource for those in search of such objects for their gardens; for, since the bedding-out system has been so generally adopted, many of these plants are scarcely to be had.

It is but just to add that within the last twelve months the place has been much improved, the borders having been laid out afresh, and planted with the best conifers and other hardy trees and shrubs, and that the general condition of the place reflects the greatest credit on Mr. Williams' skill and industry.

## CULTURE OF THE PINE APPLE.

(Continued from page 391, Vol. II.)

**SUMMER CULTURE.**—As the Pine Apple is a native of the warmest parts of Asia, Africa, and South America, and as our habitations for it are necessarily kept almost at summer heat all the year round, yet even this exotic fruit is benefited by a kind of rest during some portion of the year. That period of rest is the winter for this plant; and as when a plant is at rest, partially or wholly, it requires less stimulants in the shape of heat, water, and light, it follows that the best period to give this partial rest in this country is during our short dark days. I therefore divide the two seasons into summer and winter. The first commencing about the middle of February, and ending about the middle of October. The second from the middle of October to the middle of February. I thus make the Pine Apple's summer eight months, and its winter four months.

The culture required during the summer consists in potting the plants, renewing the heat of the bed, and, where it is practised, planting-out the fruiting plants in a bed prepared for them. The best season for a general repotting is February, though it may be done in March or April. If done in the early part of the Pine summer, the plants have a longer season to grow in previous to the second repotting in July or August. A fortnight previous to commencing potting, see that a sufficient quantity of soil, as prepared in the manner before described, is laid in a warm shed to take the coldness and wet out of it, or, in other words, to warm and dry it. It should not, however, be too dry. To prove it, take up a handful, give it a gentle squeeze, and let it fall upon the bench; if it falls to pieces,

the soil is in a right state for use. In regard to warmth, it should not feel cold to the hand. Also have the broken pots or oyster-shells ready, dry, and aired. If the plants are plunged in tan or leaves, and the heat requires renewing, have the tan from the tanyard some time previously, lay it in a heap to become heated and to drain. Then examine the stock of pots, and have a sufficient number ready; if old ones are to be used, let them be thoroughly washed in hot water and set by to dry.

All these materials and articles being in a fit state for use, then begin to tie-up the plants carefully with bast mat, avoiding any rubbing of the leaves; and, when they are tied-up, lift them out of the pit and place them either in a warm shed, or, if that is not spacious enough, place them in the vacant walks inside the next house.

As soon as the pit is empty, let some of the assistants begin to renew the heating material. If the bark is very much decayed it should be sifted, and what goes through the sieve removed out of the pit. If there are any worms left amongst the rough old bark, mix it with quicklime: then throw a portion of it to one end of the pit, and commence bringing in the new bark. One man should mix the new and the old tan regularly together as the new is brought in, filling up the pit at one end, and continuing to do so till he reaches the other end; then the trench may be filled up either with all new bark, or mixed with a portion of old, reserved for that purpose. The pit should be well filled, rather above the kerbstone, to allow for settling—it is then ready for the plants. When new tan is used altogether, it should be moderately dry and warm before using it.

Where there are plenty of hands, the potting should be going on whilst the pit is being renewed. A sufficient quantity of new compost being ready, a portion will be laid on the potting-bench; the potter will then take a plant in hand, having previously fixed upon the proper-sized pot, drained in the following manner:—Lay first three or four large pieces over the hole at the bottom of the pot, in such a manner that the superfluous water may readily escape, then upon them lay a second layer of less crocks, and upon them a third layer of a smaller size, and lastly a layer of the rougher pieces of the compost, then a thin layer of soil. It is now ready for the plant. I will suppose the plants about to be potted are such as are to fruit the following season. The larger kinds, such as the White Providence and the Cayenne varieties, will require pots from 12 inches to 14 inches wide, whilst for Queens and Black Jamaica varieties, pots of 9 inches or 10 inches diameter will be large enough for fruiting plants. These points in regard to the size of pots being attended to, the operator will take a plant and carefully turn it out of the pot, keeping the ball entire. Whilst it is in hand he should examine the roots, and if there are any that are dead cut all such off to a living part; also pull off the lowest decaying leaves, for at their base he will find young, healthy roots pushing forth, evidently wanting and seeking for soil to strike into. The pulling-off these lower leaves is often done to great excess. No healthy leaf ought ever to be removed.

Some fifty years ago, in many places where Pines were grown it was a barbarous custom to (what the old gardeners called) disroot large plants in autumn, and put them into smaller pots. Now, on examining the plants after turning out the ball, if the roots are healthy and all alive, it certainly would be little short of madness to cut off these healthy roots merely because it was the fashion to do so. I say, preserve all the living roots. If the ball is too large for the pot, reduce it by rubbing off part of the soil and picking out all the old drainage. Another point should be attended to—and that is, to pot first all the largest plants. These will be placed in the back row in the pit, and as each plant is finished potting, it can be taken into the house and set on the bark ready to be plunged when a sufficient number are potted for that back row.

To return to potting the first plants. Set the ball within the pot, observing that it is rather deeper in the new pot than it was in the old one, fill round the old ball with fresh soil, pressing it down with a blunt stick very firmly, put in a little at a time and press that little down, and keep repeating this till the ball is covered, press the soil firmly to the neck of the plant and leave a small space—say about half an inch short of filling up level with the rim. This space is to hold water when the weather is so hot as to render a large supply necessary. The plant is then repotted, and should be taken into the house immediately, and set on the tan-bed as before mentioned. Take the next in hand and repeat the operations of draining, dressing-off decaying leaves, &c., and so proceed till all are finished. Observe the precaution

in plunging not to put the pots more than half their depth in the fresh tan, for it is better to be on the safe side. Experience has proved that bottom heat is advantageous to all exotic plants, and the Pine Apple is undoubtedly benefited thereby. The only difficulty is to avoid extremes. I have repeatedly found that the maximum heat for the roots of Pines should never exceed even in summer 85°, and 5° or even 10° less will grow them well in the earlier and later months of the year. In experienced hands trial sticks thrust into the bed are a sufficient guide, but the safer plan is to procure a thermometer fixed in a hollow tube with an opening in it where the heat may be observed. Such thermometers are kept in stock by the dealers in such articles. The moment the bottom heat rises above the proper temperature, the pots should be moved backwards and forwards to form a cavity round them, and water should be poured in freely, which will cool the bed and cause a fine health-giving moisture to arise among the plants. Should that not lower the heat the second or third day, then the plants should be lifted up entirely and set on the very top of the bark or leaves, and allowed to remain there till the temperature of the bed is reduced to the safe amount of heat. More mischief has been done in Pine-growing from burning the roots than from any other cause. When the heat declines, then in the case of the pots having been set on the surface, let them be plunged, and when they have only been rocked to and fro fill up between with moderately dry warm bark or leaves where the latter article for bottom heat is used. This completes the potting and renewing of the bottom heat for the fruiting-house.

Observe, that the plants of a sufficient size and strength to fruit, potted in spring, will not need repotting in August following. At that season it may be found necessary to renew the bottom heat, and in so doing the plants will have to be tied-up and lifted out of the pit. It will then be a convenient opportunity to top-dress the plants by removing as much of the old soil as can be done without disturbing the roots, and replacing it with fresh compost. The bark need only at this season be partially renewed, just sufficient to raise the heat to the proper height. It should be remembered that the roots of the plants are now close to the bottom and sides of the pots, and, consequently, are in a greater degree liable to suffer from too much bottom heat. Greater care, therefore, is necessary at this time to preserve the roots from being injured. A vigilance, untiring, night and day must be exercised till it is certain all danger of burning is past.

If all has gone on right the fruiting plants will be stout, a good colour, and show a healthy, fresh appearance, and will enter their winter treatment in such a state as will warrant their fruiting early and certainly in the following spring.

(To be continued.)

T. APPLEBY.

## CRANSTON'S PATENT BUILDINGS FOR HORTICULTURE.

HAVING waited till I had an opportunity of perusing Mr. Cranston's doubtlessly beautifully got-up and cleverly-written monograph, I am at length so far in possession of the grounds upon which he has taken out his patent. In this matter, however, there is a question involved of some moment—equally to him, perhaps, as to me, which I feel it my duty not lightly to pass over. That question is as to priority of invention.

Having been, as you and many professional friends are aware, for some time back more or less occupied in originating and carrying out first, at my own cost, two separate ranges of model houses, very remarkably similar in principle both as relates form and ventilation to some of the respected author's sectional outlines and descriptions, I may thus without any, the least, ungenerous imputation, consider myself justified in submitting my case to the profession, the public, and to you in the following precise statement as to dates.

At the same time I admit, that whilst it is possible that two individuals unknown to and widely apart from each other may be simultaneously occupied on the same subject, and to have arrived at exactly corresponding results as to principle, without either one or the other being aware of the fact; yet it is equally possible, as matters may and do sometimes go amongst us, that with an ominous "patent right" over my head, I may have been acting differently, and so have improperly become guilty of an illegal act.

Finally, as to "patent" on my part. I might have taken one out in the winter of 1860, when I had all my plans matured;

but I determined the rather to leave whatever origination there might be in my inventions *free to all*, merely supplying lithographed plans and details professionally at a fixed rate, according to extent and outlay, and I still purpose following up this determination.

I also fully intend, if spared, in due time, when every point

in structure, heating, and cultivation has been thoroughly tested by result, to submit my monograph thereupon to the public. I then hope to be able to prove that in point of suitability, elegance of form, and proportion, be they large or small, or as to ready adaptability for all and every sort of under-glass gardening requiring ordinary medium dimensions, my houses are



EXTERIOR VIEW OF ONE OF MR. NIVEN'S RANGES.

the most economical in point of cost, the most complete in point of finish, strength of fabric, and general compactness that may yet have been constructed.

Then as to the question of dates, and consequently priority of claim, let us look at it in the following form:—

NIVEN.

In December, 1860, his design was matured, and in January, 1861, begun and carried out to completion; his span-roof and sides broken up into four surfaces or planes, corresponding to the lean-to form of fig. 4 (but not numbered), in Mr. C.'s book, plate I.

Also his horizontal-ventilation principle, same as described in page 35 in same book—viz., “by valvular slides in grooves worked simultaneously by a handle.”

In March and April, 1861, his structures fully stocked and occupied.

In April, 1862, richly promising in Strawberries, Grapes, Peaches, Nectarines, Apricots, Plums, Figs, Cherries, &c., in various modes of training.

I trust I may be allowed to hope that the author of the able and interesting work in question will, from his ability and standing as a professional gentleman, kindly and honourably favour me, if he can, with what is evidently wanting in the above columnar statement.—N. NIVEN, *the Garden Farm, Drumcondra, Dublin.*

[As stated at page 7, it is not our province to decide on priority of invention. We could not but see there was much novelty and genius in Mr. Cranston's sketches, and regret that a few errors in printing have left the expression of our opinions more mystified than they were written. For instance, in page 7, first column, fourteenth line from top, the word “deserves”

CRANSTON.

His date of patent appears to have been August 24th, 1861.

His publication of monograph February (no exact date), 1862.

should be “takes;” and the word “credit” that follows should have had the marks of extract before it. Our perhaps-prejudiced opinion is, that the radial rib ventilators are alike the new, the strong, and the weak points of the system. In seeing much to admire, it also struck us that there was a wonderful unison in idea between the modes employed by Mr. Cranston and Mr. Niven, a section of the lines of the last gentleman's houses being given at page 215, last Volume. Mr. Niven does not make the radial rib a ventilator from being pierced with holes, as Mr. Cranston does; but there is a continuous small ventilator from the overlapping of the glass at the junction behind the longitudinal rafter or radial rib, which is not shown in the section, but which will be understood by the position of the subjoined lines. These small ventilators are shut in winter and open in summer, but little dependance is placed on them, the means at sides and doors being ample. We may also mention here that in page 216 the oval holes should be almost as long as the spaces between them. Our impression is, that both gentlemen have hit on a plan for giving almost all the advantages of curvilinear roofs, with the cheapness of using straight glass in the simplest manner. We might also state that though generally not using quite so large squares as Mr. Cranston, Mr. Niven, from black-puttying the joints, hardly ever, or never, has a square cracked.

Our readers will form their opinion of the claims of both gentlemen to originality. For ourselves, we have two strong beliefs on the subject—first, that any discussion between such men will tend to our benefit and instruction; and secondly, that any interchange of ideas or maintenance of claims will be done in the most courteous and kindly spirit.—R. F.]



ARTIFICIAL WATER IN GARDENESQUE SCENERY, FOR GROWING AQUATIC PLANTS.

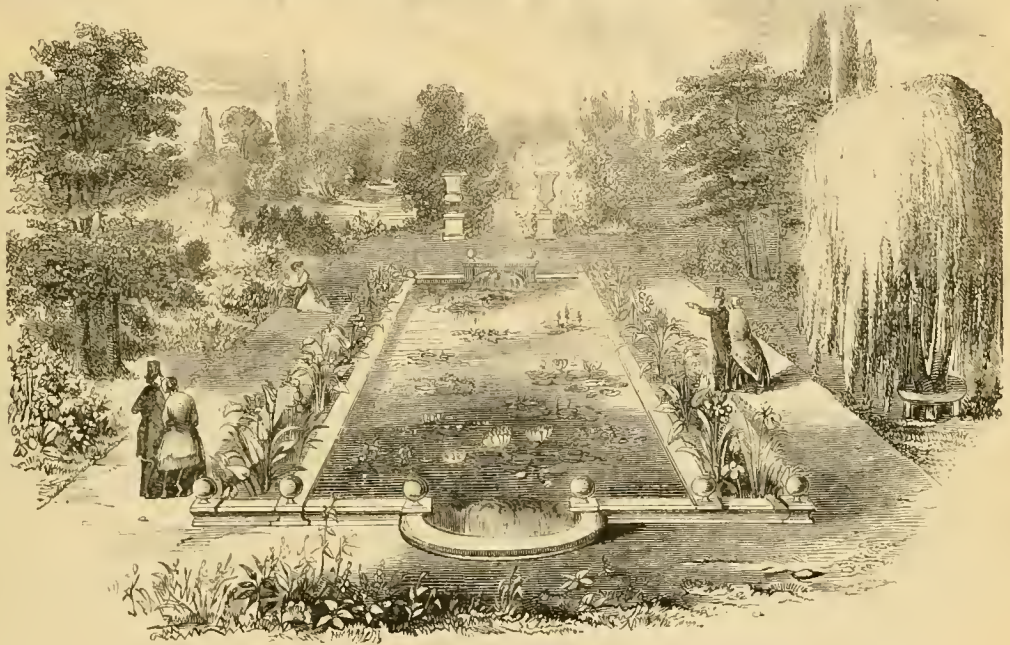
BY H. NOEL HUMPHREYS, ESQ.

WATER, in a state of repose, produces the best effect when it is introduced in the lower portions of undulating grounds, such seeming the more natural position; and the best artificial effects, though they must be arbitrary to a certain extent, are always most successful when based upon the laws of natural phenomena. Thus, a series of fish-ponds rendered decorative by stone dressings, &c., or shallow canals for the cultivation of aquatic plants in the open air, which may be made very ornamental, as shown in our illustrations, are best suited to the lower levels of an ornamental garden, where also the water plants, some of them of delicate constitution, are more sheltered from the cutting winds of our variable and sometimes bleak climate. In such a situation, for instance, the common Arum (Calla, or Richardia), a native of St. Helena and the Cape, where it grows in the rich soil at the edges of rivers, may be cultivated with success; the roots being secured in concavities formed of cement, of which the

bed of the canal is formed, and which should be about a foot below the surface of the water. Managed in this manner, this plant, rearing its head high above the water, might be made to form a very picturesque contrast to the Water Lily, which rests its graceful head upon the surface, as Mrs. Hemans has beautifully said—

“A sculpture-like, and stately river queen.”

The supply for a canal of this description may be derived from the water of fountains occupying the higher level of the gardens, whence, after having performed its *tour de force* as a jet 20 feet high, or formed a temple of moving crystal, and many other devices, it may be made to descend in properly prepared channels to the lower levels of the garden to feed canals of this description, constructed for the purpose of growing ornamental aquatic plants, particularly such as require the stimulant of running water.



1. Geometric Canal or Tank for Water Plants.

The annexed engraving (No. 1) is a design for a shallow canal or tank of this description. At the upper end the water enters, as shown, from a conduit, falling in a very thin sheet over a lead form contrived expressly to spread it as much as possible, and thus make an exceedingly small supply produce the effect of a continual cascade. In a similar manner it falls at the lower end into a basin, from which an invisible outlet leads to a drain or conduit to carry the waste away, or to conduct it to some reserve-tank for common gardening purposes. On each side of the canal is a shallower channel, contrived expressly for the growth of plants requiring more careful treatment. The receptacles for the soil, sufficiently massive to remain steadily at the bottom of the channel, might be very neatly contrived in the following manner:—A is a hollow receptacle, and B is a lid pierced with holes as marked. The plant being placed with earth in the recep-

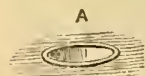


table A, the cement lid B, which fits pretty tightly, is fixed on, and the plant throws up its shoots through the apertures prepared for that purpose. By this means the soil is not washed

away by the action of the water, nor is the water rendered muddy on the slightest disturbance, as would be the case were not the soil about the roots of the plants secured in this or some other manner. The water in a canal, the sides and bed of which should be composed of Portland cement, might by these precautions be kept continually limpid, which the gentle supply of fresh water would tend to insure. The addition of gold and silver fish, in water as clear as this would be, would form a great addition to the general effect, furnishing colour in rapid and fantastic motion, as a strong contrast to the still colours of the plants.

A canal of geometric figure of this description should have stone or cement dressings of an architectural character, as shown in the engraving, and should be surrounded by a broad gravel-path of similar form, approached by a straight walk of some length, to prepare the eye for the regular forms of the canal and its appendages; and the entrance to this aquatic parterre might, to aid its semi-architectural character, be marked by two large vases on pedestals; a few flower-beds, and some masses of shrubs, might be the means of partially concealing these symmetrical features from the rest of the plea-

sure grounds, if rendered necessary, on account of their distinct character.

The plants I have shown in the central or deep part of the canal are simply our native Water Crowfoot, the Marsh Marigold, and the white and yellow Water Lilies, &c., to which might be added the Frog-bit, the floating Plantain, the Water Soldier, and many hardy exotics. In the shallow channel at the sides, I have placed the common yellow Iris, and our handsome native plants, the flowering Rush, and the Arrow-head, with the greater and lesser Water Plantain; to these I have added the elegant Cape plant already mentioned, and commonly known among cultivators of window flowers as the "Arum;" which, grown in water in this manner, attains to much greater size and perfection than by ordinary pot culture.

In order to form a canal or tank of this description for the purpose of growing aquatic plants, the first requisite is a supply of water. A small brook or spring, in any part of the grounds, will be sufficient, which may be cheaply conducted beneath the surface, to any spot required, if not higher than the brook or spring itself, by means of a leaden pipe, or gutta-percha tube, which latter is now being used for such purposes. A tolerably level spot in the lower portion of the grounds should be selected, as convertible at the least expense to the purpose required. The excavation must now be dug, of the extent determined on—the one shown in the design is supposed to be about 24 feet wide by 48 feet long, but a canal of half these dimensions would form a very pleasing object in a place of suitable proportions. The excavation should be about 2 feet 4 inches deep in the central compartment, and 1 foot 4 inches in the side compartments. When the bottom and sides have been made as smooth as can be accomplished with the spade, the masonry may be commenced, which is of so simple a character that any country bricklayer may execute it under the directions of an intelligent gardener. First, let a layer of flat tiles be placed against the sides, and laid in Portland cement, which should be done in dry weather, when the soil is not too moist, or the cement will not set well; a second layer of tiles, with cement between the layers, will make a more complete job, but one layer is sufficient; the bottom must then be covered with tiles laid in cement in a similar manner, and the whole left till perfectly dry; the ornamental moulding may be formed, in bulk, by a single row of bricks, which, being covered with a sufficient coating of cement, may have moulding lines run along it with a moulding-tool, in the usual manner known to any plasterer. The parts designed for the entrance and exit of the water may be formed in the same manner as the cement coping, and with but little more complication. The pipe conveying the water from the spring will be conducted to a small reservoir immediately behind the point at which it enters the tank, or to a leaden shape made to spread it into a thin semicircular sheet, in which form it will fall into the tank, as above described; the surplus water at the other end need only be conveyed away in a common brick drain; but, if desirable not to waste any of it, the drain should be lined with cement. Ornamental balls, vases, or other decorations required, may be procured at little cost at any cement works, and can be easily added in the way of embellishment.

The tank being complete in all its parts, and the cement perfectly dry and hard, the aquatic plants may be placed in the vessels shown at A and B, which are intended to be rather more massive, and more broad in proportion to the height, than common flower-pots, in order to keep them steady and secure at the bottom of the water. These pots, with their plants and soil secured by the perforated lids, may now be placed in the desired positions about the bottom of the tank; the Water Lilies, both white and yellow, and other plants, which grow commonly from a considerable depth, in the central compartment, and the Arums, and different species of Water Iris, &c., in the shallower compartments at the sides. The best time for making a tank of this description is either at the end of March or late in September; in the first place, to secure the cement from the effects of frost, which, before it is thoroughly dry, would cause it to become rotten and crumble; and, in the second place, in order to place the plants in their new position after they have finished their summer growth, and are about to enter into their natural period of repose, or just before the spring growth commences. If it is found inconvenient to get the vessels for the plants made in the form suggested, ordinary flower-pots, with moderately-sized stones or pieces of tile placed on the surface of the soil to secure it, will answer the purpose nearly as well.—(*Gardeners' Magazine of Botany.*)  
(To be continued.)

## PRESERVING SEEDS FROM BIRDS.

I SEE Mr. J. Vickary is complaining in your valuable Journal about the birds devouring the sown seeds. He says he has tried all sorts of scarcerows, &c., but in vain. Allow me to state that I have frightened them effectually in the following manner:—I tie a piece of string across the place I wish to preserve, about 4 feet from the ground, and at certain distances apart tie a piece of string, say 3 feet long, and on the end of it I tie a piece of tin about 4 inches to 6 inches square. This spins round with the least air, and when the sun is out is quite dazzling, and somewhat like a looking-glass. The tin plates cost but a trifle, and will last for years.—ARTHUR.

MR. VICKARY, who asks for advice *versus* the birds who devour his seed, may obtain perfect immunity from their attacks if he purchases a newly invented seed-protector, which is, or ought to be, in the hands of all the ironmongers. It consists of an arch of wire netting made of galvanised iron, in three-foot lengths and 3 inches in width, which may be joined end to end for any distance.

In the event of birds being impertinent enough to walk into this tunnel, the ends can, of course, be easily protected.—W. T. GATES, *Peterborough.*

[We recommend Mr. Vickary and all our readers to mix their seeds with red lead. It is said to be an effective protection.—EDS. J. OF II.]

## THE FUCHSIA AS A BEDDING PLANT.

THE precise period when the Fuchsia came into use as a bedding plant would be difficult to ascertain. Certainly the Scarlet Geranium must take precedence of it in that respect; but as an ornament to the flower garden its service extends backwards farther than my individual acquaintance can trace it. Probably, some stunted unhealthy plant was first turned out by way of a trial, and, succeeding so well, others were treated in the same way. Doubtless this was the way in which its value as a plant fitted for the flower garden was first found out, or in precisely the same way as the adaptability of new plants for particular purposes is traced out at the present day. The Fuchsia, however, was far from plentiful in ordinary small collections of greenhouse plants thirty-five years ago; and, to the best of my recollection only two kinds—*F. coccinea* and *F. gracilis*, were then known. Other kinds, however, speedily followed, and about 1830 Fuchsia *conica* became a great favourite, and almost at the same time it was discovered that Fuchsias were obtainable by seed, and that new varieties were likely to reward the careful hybridiser. This, in addition to some other distinct species, led to the list of names being multiplied to a great extent; one of these varieties raised some few years after the above date—*Riccartoni*, is about the best we yet have for bedding purposes. Previous to this, however, the class of Globes was very popular, and deservedly so; and I am not certain yet that the best collections of the present day can boast of anything better than a really good plant of Fuchsia *globosa*. Unfortunately this class consisted of dwarf growers, and could not easily be coaxed into the upright pyramidal form now required by the fashionable plant-growers. About 1842 our greenhouse-shelves contained a better-varied collection of Fuchsias than they do now; for the introduction of *F. fulgens*, a few years before this, and also *F. corymbiflora*, gave quite a distinct character to the family, which had previously been also augmented by the introduction of *F. microphylla* as the small-leaved and small-flowered species was called. Now we rarely meet with the three species last named, all differing widely from the class to which the vagaries of fashion have brought our show collections of the present day. But the greatest stir made on the advent of any of the Fuchsia family was when the first white variety under the name of *Venus Victrix* was ushered forth. This was about 1843 or 1844; and, at that time, the Fuchsia mania may be said to have been at its height. Other pale-coloured varieties were not slow in following, and the advertising pages of garden publications at that time presented a long array of names, few of which have survived to the present day. But it is certainly to be regretted that the channel for improvement has been so narrowed, and it is equally reprehensible that at horticultural shows there should be such a sameness in the collection. The species *Fuchsia fulgens*, *corymbiflora*, *microphylla*, and others which differ widely from each

other are never seen in a collection of eight or twelve plants, while only such varieties as have received the stamp of approval from the florist are to be found there; but, as this is perhaps his own especial province, it may be wrong to find fault, though it is certain that the presence of more distinct species would improve private collections if inadmissible at shows. It is, however, under another form that the Fuchsia is intended to be treated of in this article.

*The Fuchsia as a Bedding Plant.*—I have said that solitary plants in a flower garden were frequent objects from 1830 to 1835. About the latter period they were beginning to be common in mixed beds or borders of choice flowers, and their adaptability for beds by themselves was by degrees found out. Their hardiness being once established, they speedily became popular; and, I believe, there are beds of Fuchsia Riccartoni at the present time which have been planted twenty years. Many attempts were made at the time that the pale-coloured varieties became so plentiful to work them into beds, but they never seemed to thrive so well as the more hardy scarlet varieties. As uniformity of growth was an essential point in Fuchsia-bed management, the uncertainties attending the white section were such as led to their being disregarded in that respect; and, as they are certainly not so hardy, and cannot be depended on for living through the winter, often presenting a gapped, uneven appearance, they were eventually abandoned. But even now, though some growers take the trouble to propagate a certain number of plants and to grow them of a uniform size up to the time of planting out, it is seldom that the uniformity is kept through the growing season, and the critical eye of good taste is offended. Some other kinds, however, may be depended on as presenting a uniform growth and flower, and these look as well as any description of plant can do. Of this class Fuchsia Riccartoni is the best I have, and for habit of growth, good foliage, and abundance of bloom, it cannot well be surpassed. Fuchsia globosa is certainly not so hardy, though much dwarfer; but the liability of the plant's dying out here and there very much diminishes its utility for bedding. Such strong growers as Fuchsia Carolina are only suitable for certain situations; whilst many of the most esteemed florists' varieties which figure at shows, and form so gay a feature in our plant-houses all the summer months are unsuitable for bedding, the long, delicate flower-stem letting the flower droop so much as to be hidden amongst the foliage. I would, therefore, advise the inexperienced planter to reject these, and only plant out such as flower with short rigid stems, showing the flowers in a somewhat oblique direction instead of entirely pendent. A small dark green leaf, healthy and capable of enduring the sun, is also requisite.

*Fuchsia fulgens and F. corymbiflora in beds.*—The popularity which these species at one time attained was such that they were everywhere favourites; but somehow, like the *Salvia patens* and several other plants, they fell into disrepute, and beds of them are far from common at the present day. The truth of the matter is, they are more difficult to manage than many things; and, unlike the hardy varieties of the *gracilis* family, they will not stand the winter excepting in very favoured situations, as against walls and other places similarly sheltered; even there they require protecting. Still a well-managed bed of Fuchsia fulgens is certainly second to nothing I know of in the flower garden. The best beds I ever saw of it were at St. Leonard's Hill, near Windsor, where Mr. Hale, the gardener, had both the above kinds about 8 feet and 10 feet high respectively, and as full of bloom as it was possible for anything to be; and, what was equally important, the flowers all showed themselves, which they do not in a bed from 2 feet to 3 feet high. This, no doubt, is the reason why the plants were abandoned for bedding by those who had not the convenience to winter plants of such large size; for they must be all taken up and housed somewhere. I have not grown Fuchsia corymbiflora as a bedder since 1854 or 1855. Fuchsia fulgens I have occasionally; but the inconvenience of keeping the plants over winter, and, what is equally important, neglecting to take them up early enough in the autumn, was sadly against them. Another reason is that they do not match well with the ordinary plants used in a series of beds in a geometrical garden, as the flowers, though plentiful enough, are not all at the top, and viewed at a distance are not so showy as variegated-foliaged plants, Scarlet Geraniums, yellow Calceolarias, and other favourites.

*Beds Suitable for Fuchsia fulgens and corymbiflora.*—In some detached bed in the shrubbery, or where the bed does not form one in a set where smaller plants are grown, these two noble-grow-

ing Fuchsias may be planted, either both in one bed (*F. corymbiflora* in the centre), or separately; the latter way being the best. In whatever way they be grown the bed ought not to be less than 12 feet wide, and if 20 feet all the better. Large strong-growing plants like this Fuchsia, if allowed space proportionate to their size, will amply repay any trouble they may give. The wintering of the old plants is all that is required; no stopping, pegging, or trimming of any kind being wanted. Some little care must, however, be taken to place the largest plants in the centre and the smallest at the outside. A deep soil not too rich is best for them, and in the late summer months a mass of loam will well reward the cultivator.

*Fuchsia as a Hedge or Ribbon-border Plant.*—Nothing can be more suitable than the Fuchsia for the first-named purpose. For a single row on grass, or as a boundary or background to some other object, the Fuchsia is admirably adapted, its graceful yet sturdy habit and abundance of bloom rendering it available everywhere, more especially where its whole growth from the ground upwards can be seen at once. As a row for a mixed border of stripes it is not so well adapted; for the blooms, being mostly pendent, are hidden by the adjoining row coming in contact with them. The best kinds for single rows or hedges are those previously mentioned as being best for beds.

*Fuchsia as a Standard or Single Plant.*—Many years ago attempts were made, with more or less success, to obtain with Fuchsias straight clear stems with a round-topped head like a standard Rose; but the determination of the plant to throw up suckers marred this attempt at ideal beauty. It was seldom successfully accomplished; but sometimes these standards were worked into good effect in geometrical gardens, or as single specimens on lawns. A much more useful way was to grow them as pyramids, in which mode of growth the habit of the plant was properly represented; and the general abandonment of mop-headed plants led to a more natural way. Pyramids of Fuchsias are now amongst the most ornamental things we have. As the plants are generally grown to a good size in pots before being planted out, the more delicate white or pale-coloured ones may be used with advantage here; and being taken up and wintered in some shed or amongst shrubs where they can be protected from severe frosts, they will live for many years. Most growers, however, prefer planting out some of the old plants that have been ornaments to the plant-house the year before; for these being in pots are easily stored away during the hard winter months. If no portion of the old stem can be secured, the most forward of the spring shoots must be encouraged to form leaders, and the remainder stopped; a good-shaped plant may thus be obtained with little trouble.

*Concluding Remarks.*—The hardiness of the Fuchsia has been already adverted to, and we often hear of instances of the wood having assumed the proportion of a moderate-sized tree, even in latitudes much farther north than might be expected. A lady once sent me some cuttings of a hardy Fuchsia, the stems of which had braved several winters in the Island of Bute, and I have known plants here survive four or five winters in succession; but an unusually severe season always kills them to the ground. This, however, in a general way, is no detriment to the appearance of the plant, as, when the old stems are saved, it does not flower a day earlier, nor is it so neat-looking.

The Fuchsia seems to thrive best on a stony dry soil, where it ripens its wood early in the season, still it likes depth of material as well; for few plants root deeper than the Fuchsia, and in a soil suitable for it, few will outgrow it. I have seen it usurp more than its share of space when growing in a mixed shrubbery—Roses, Rhododendrons, and similar shrubs being all driven aside; and *Berberis aquifolium*, *Laurustinus*, and others had a difficulty to contend against this robust robber. The most fatal place to plant it, with regard to the welfare of the legitimate occupant of the ground, is on a Vine-border: here, if it be allowed to run riot, small berries and shanked bunches will be the result, for which Fuchsia stems of eight to ten feet growth in one season will be but a poor equivalent. Eight feet, however, is not an unusual growth in less-favoured places, where the plant is more appropriately and, it may be said, contentedly at home.

J. ROBSON.

*NARDUO.*—This plant is very plentiful throughout the whole of our portion of the colony (Murrumbidgee), and has long been known as an article of food, although going by different names in different localities. It is a four-leaved Clover, bearing small black

Pods about the size of *Acacia* seeds. These pods are full of very small seeds, at first green and juicy, but when ripe very farinaceous. It is noticeable that the leaves of this plant turn with the sun, facing the east in the morning and the west at night. The blacks here do not appear to eat *Nardoo*, having probably a sufficiency of food without it; but the Aborigines at Mennindie, have always been known to partake of it. This plant only grows in flooded ground, and although the leaves die away during the heat of summer, the seed-pods last a considerable time. Sheep are very fond of *Nardoo*, and when eating it make a curious noise cracking the seeds between their teeth. Mr. Green, the postmaster at Hay, has forwarded specimens from this locality to Professor Mülller, who pronounces them to be genuine *Nardoo*, similar to that eaten by the unfortunate explorers.—(*Sydney Morning Herald*.)

### VINES BEARING AND NOT BEARING IN THE SAME VINERY.

I FEAR I am like many other amateur gardeners always expecting more than our plants or the mode of treatment will produce. I detest regular grumblers, for nothing satisfies them long. Two years ago I came into possession of a garden for the first time in my life, and in it there is erected a lean-to vinery divided into two houses, each about 24 feet by 16 feet. The situation of the house is direct south. Some of the Vines are planted against the wall, their roots being inside; whilst those which run along the sashes of the glass frames have their roots outside. The Vines are all Black Hamburgs with two exceptions, these being a Muscat and a Frontignan. In the latter end of 1860 I reconstructed the border for the roots and fixed a good drain in accordance with the instructions found in your Journal.

Last year, in consequence of the disturbance of the roots I did not expect much fruit, nor was I disappointed—I had only fourteen bunches altogether, the Frontignan bearing only one large bunch.

I consoled myself by the best reasoning I could use, relying upon the present year to make good the deficiencies of former ones.

The show this year is an improvement upon the last, but not at all equal to the apparent strength of the plants nor my expectations. The order of things in some respects is reversed, the weakest plants bearing, the stronger ones being quite barren. This applies particularly to the Frontignan Vine. The force of the plant has enabled it to throw out many strong shoots, equal in thickness to the middle finger of an ordinary man.

The sap appears to move quite in order, and the vigour by which it has thrown out new shoots cannot be questioned; yet there is not a bit of blossom. They are treated according to the best method which I know; they have all the air they can have consistent with their treatment, but there is no reward for time and labour spent upon them. I am in a fix, the man who looks after them looks unutterable things, and both together we feel quite simple. What can you advise should be done? Any idea or suggestion you may think you can give I shall be glad to acknowledge.—AN AMATEUR, *Manchester*.

[You are just one of those hopeful sort of people we would oblige if we could. We can understand the reason why you should have drained your border; but you have not told us why you raised and replanted the roots two years ago. Perhaps it might have been as well to let well alone so far as good heavy crops at once were concerned. Many Vines in the south have broken badly this season, owing to a too-great hardening of the wood from a powerful sun and a dry summer and autumn. Now we believe that in your neighbourhood the summer and the autumn were sunless and wet; and if so that may explain how the weaker Vines are fruitful, and the vigorous-growing ones are barren. In the first case the wood was well but not inordinately ripened; in the others the wood was so vigorous as not to ripen kindly. If the Vines planted inside against the back wall are pretty fruitful, whilst those planted outside are more barren, then the above idea would be more confirmed than otherwise. If this is at all the reason, and the Vines are planted within a foot or so of the surface, we think we can promise you a rare crop next year, and onwards; though perhaps it would be as well to be moderate for one year. The great thing will be to get the wood ripened thoroughly before the end of autumn, by withholding moisture, giving all the sun possible, and extra fire heat in September if the wood is not like heart of Oak. Very

likely a little dry heat in September and October would have given you fine bunches on your Frontignan this year—that heat being applied, and soaking rains kept out of the border. We think we have hit on the cause; but if you can give us more information we would be glad to give more suggestions if we can, as we are anxious that all such experiments should succeed.]

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

TAKE advantage of the dry state of the ground to get manure wheeled upon quarters where it may be soon wanted, and see that there is a good supply being prepared for the Celery crop; for without plenty of old manure large crisp Celery can hardly be obtained. *Broccoli*, as the present warm weather brings it forward so fast, some of it should be pulled-up before it is fully grown and laid in a cool place so as to prolong the season. *Cabbage*, when the soil is very hard between the autumn-planted, it will greatly benefit the plants to fork between them, and after rain to be again earthed-up. *Cauliflowers*, fork-up the soil surrounding them, and afterwards give them a good soaking with water, which should be repeated twice a-week during dry weather. *Celery*, all that is fresh pricked-out to be shaded and watered until the plants get fresh root-hold. *Cucumbers*, trenches should now be prepared for hand-glasses, they may be 2½ feet wide, and 1 foot deep; each should then be filled with prepared dung, leaves, and short grass to 6 inches above the surface, and prepared soil should be put beneath the glasses, the rest of the dung being covered with the soil that came out of the trench. *Dwarf Kidney Beans*, make a good sowing for succession; a few should be sown in a pan at the same time to fill up any vacancies. *Lettuce*, give a few of the earliest plants a good supply of water to bring them forward, some of the Cos to be tied-up to form hearts. *Mushrooms*, continue to form fresh beds for summer and autumn use. *Radishes*, sow both Long and Turnip-rooted kinds. Water those from which they are drawn for use. Embrace every opportunity of destroying weeds. Clear away all old Cabbage and Broccoli stumps as soon as done with, as they harbour insects.

#### FLOWER GARDEN.

Prepare the stations on lawns for large specimens of ornamental plants, such as *Fuchsias*, *Scarlet Geraniums*, &c. Recently-transplanted shrubs will require to be carefully attended to with water, giving the ground where it may be found necessary a liberal soaking, so as to thoroughly moisten it, lightening-up the surface with a fork where it has become firm. If not already done hardy annuals should be sown after the first shower, and do not forget plenty of *Mignonette* and *Stocks*, their fragrance will always render them favourites.

#### FRUIT GARDEN.

The late drying winds and the present clear warm weather will render it necessary to supply water to recently-transplanted trees and even to vegetables, and also the seedling crops which are just making their appearance; otherwise, they had better be allowed to remain in a dormant state until we have rain, as continued waterings bind the surface of the soil into a hard crust impenetrable to air, and very prejudicial to the germination of seeds: this, however, may in some degree be prevented by shading from the sun, or covering the soil so as to prevent evaporation as much as possible. Frequent waterings are not then necessary, and the soil is kept in an open porous state, which is of the utmost importance. When the nights are warm, seeds and herbaceous plants of all sorts should be watered in the evening, so that the soil may gradually imbibe the water; but if cold nights prevail the early part of the morning is the best time for its application. On the first appearance of green fly on Peach and Nectarine trees syringe them with tobacco water two evenings in succession; if done properly it will stop their career for the season. If the trees are subject to the curl, or mildew, syringe with water as soon as the fruit is set, and then dredge them over with road dust, taking care to apply it to the under sides of the leaves as much as possible, to be allowed to remain until washed off by the rain. The trees may look unsightly after the operation, but they will thrive and grow luxuriantly, which will amply repay for the loss of appearance. When applied to Thorn-quicks attacked by mildew, it proves an effectual remedy. Caterpillars and green fly on Gooseberry bushes, and the dolphin, or black aphid, on Cherry trees, can

be destroyed by the application of a couple of dressings in the same manner. The mining grub, so destructive to the Apricot and Plum trees, may be easily detected by the leaves being folded up; the best cure is crushing them between the forefinger and thumb. Clean and loosen the surface about Strawberries. If strong young plants of the Elton Strawberry are lifted now, and planted behind a north wall, they will produce a crop in August and September, and will keep up the succession along with the Alpines to the latest period. A sloping bank should now be prepared and planted with rows of Alpine Strawberries, three plants in a patch, at intervals of 15 inches, the ground to be covered with slates after the plants have become established.

#### STOVE.

See that growing Orchids have due attention with regard to shading and atmospheric moisture. Do not use the syringe too freely among those starting into growth, but keep the atmosphere thoroughly moist. See that specimens on blocks and in baskets are not allowed to suffer for want of water; for when the soil in baskets is allowed to get thoroughly dry, water is apt to run off. If, through any neglect, the soil is allowed to get too dry, the baskets should be immersed in tepid water until it gets thoroughly soaked. Continue to attend to the stopping and training the plants as they may require, and give free-growing plants plenty of pot-room. Achenenes and Gloxinias in luxuriant growth may be supplied with weak liquid manure occasionally. Repot and propagate Begonias. Persevere in keeping down insects, which, if allowed, will now progress with great rapidity.

#### GREENHOUSE AND CONSERVATORY.

See that all climbers and plants of rambling habits are regularly trained, stopped, and watered. When the young leaves of the Camellias that have been excited into wood have attained their full size, the supply of water may be diminished to prevent overluxuriance, and introduce a gradual maturity of growth. Take care of the young leaves, and apply shading the moment it is perceived to be necessary. Examine the plants carefully on the forenoons of bright days, and see that none of them are suffering from want of water; for with bright sunshine, accompanied with drying winds, it will require careful attention to supply them with water, especially specimens that may be pot-bound. Use the syringe freely on those in full growth. Fuchsias, intended for large specimens, will require to be shaded from bright sunshine, and will be benefited by a liberal supply of manure water; and where free growth is expected from them, the atmosphere can hardly be kept too moist. Young specimens of hardwooded greenhouse plants should be kept as warm and moist as can be done without inducing weakly growth; see that they are properly supplied with water at the root, and do not allow them to sustain any check for want of pot-room.

W. KEANE.

#### DOINGS OF THE LAST WEEK.

At last we have "the Dog Days" at the end of April, and trying it is to many plants after the dull cheerless weather. Many things under glass require a temporary shading, just before the roots are able to supply the excessive demand upon them, by increased evaporation from the foliage.

#### KITCHEN GARDEN.

Earthed-up *Cauliflowers* in hand-lights with rich compost. Elevated the glasses over a few earliest ones, removed the glasses from the rest. Gave all the plants a good soaking with manure water. Pricked out Lettuces and Cauliflowers on border for transplanting. Pointed a border over, placed on it 3 inches of rotten dung and an inch of fine soil on the surface, in which to prick out Celery 4 inches apart, the second lot. The first or forwardest was turned out under glass for a few days to get large plants for transplanting next month. The great secret of having good early Celery and not run, is not early or late sowing, but never allowing the plants to have a check from dryness or otherwise until they are fit for table. Sowed main crop of Kidney Beans out of doors, planted some under slight protection, and earthed-up and watered with manure water those in full bearing. Glad to get hold of pots now past their best for other purposes. Gathered Peas from pots, and kept staking the succession crops. *Asparagus* is coming in well notwithstanding the injury done to the forward shoots by the frost. When grown in rows, a simple covering as two boards fastened at the edges would be useful. Sea-kale under exposed pots have done nicely, but a fortnight or three weeks ago the plants were so

frozen inside as to be as hard as a stick. In cases where the sun struck the pot before the frost was thawed the plants were blackened, showing that a little litter over the pots might be advisable, but I could not spare a bit for such a purpose.

#### FRUIT GARDEN.

Ran the hoe through Strawberry-rows. May draw a rough rake between them by-and-by, but am almost afraid to let such a tool out of my own hands unless in a hay field, or raking off grass. Moved the hay thrown over Gooseberry bushes where it had lodged in the centre of the bushes. Planted out Strawberries that had been forced in order to get a few berries from them in the autumn, and a large crop next year. The first full crop though wonderful, is by far the best they will yield. Planted out also young plants of good kinds, not expecting much from them, or nothing this season, but a large crop the next. Turned in some hundred pots into orchard-house, and potted Queens and Keens', pricked out in a border last autumn, squeezing the soil about them as hard as flint, and will plunge them out of doors in a bed of tree leaves just warmer than the earth. If the season be very early, these will not be much wanted, but if a change of dull weather come over the scene, they will keep the Strawberry-basket going, before those in the open air come in.

Removed all Strawberry-pots from houses as soon as done with, and in early houses it is little use having pots of Strawberries now, as if there is much shade the flavour is deficient. Disbudded and stopped trees in orchard-house. Fresh potted some Pears and Plums, and put them in a mild bottom heat out of doors, to set the roots going nicely. These are intended to fruit next season in pots, being now the first season from the bud. Smoked orchard-house to give a finish to the brown beetle, which would have been very bad, if not hunted up. Used tobacco and bruised Laurel leaves, which made them drop, though a few have got up again. Though the heat is high during the day, in these bright days (80° with all air on), nothing seems to suffer from it. If we shut at night, we open the first thing in the morning. Regulated Vines, thinned Grapes, planted out and potted Melons for succession. Watered Figs; Peaches in pots, that previously needed water once in ten days, have required it every other day, and Strawberries sometimes twice a-day. So much as to the question, How often shall I water?

#### FLOWERS.

Here as to bedding plants alone we would have required to have made every day into three, and every man into two, in moving, boxing, planting out, hardening-off, and propagating. We must finish cutting-making this week, for after that the plants would be too small to do much good. We have just thrown up a mild hotbed for lots of plants, eight or ten in a 60-sized pot. The bed is about a foot in height, 9 inches long stable litter and grass from lawn well trod, 3 inches of rotten leaves above it, and 4 inches of soil over all, rather light and rich, and into this the plants are turned out, ball and all, the earth squeezed tight about them. Here they will grow a good deal in three weeks, and will divide easily at planting time. Lots of others have been turned out of small pots into the trenches described the other day, and the pots thus emptied when washed will be used for the finer variegated Geraniums, and various things that do not lift so well as others. Many Ageratums and Lobelias have been turned out in lumps—say six or twelve plants in a piece, and they grow faster than when separated individually. When thus placed close together, they are easily protected, and being turned into soil need little or no watering; and besides there need be no such hurry scurry in turning out into the beds in the flower garden, as the plants are growing where they are. I have now large beds of *Calceolarias* that have had no water for a month, and have never shown a fly. If kept in pots I know something of the tubs of water they would have wanted.

Plants in general received necessary attention as to watering, shifting, syringing, &c.—R. F.

#### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

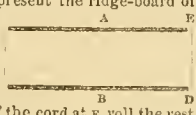
We cannot reply privately to any communication unless under very special circumstances.

GREEN FLY OR APDIS (*A Lady Subscriber, Barnstaple*).—For amateurs who, like you, have the patience to destroy this pest in detail, there is a double brush made between which the leaves and spray of plants can be drawn without injury, but destructively to the insects. Tobacco water, or a solution of Gishurst Compound kept in a bottle as you propose, might be applied by a brush, but it would be very tedious. You had better have a basin full of one of those liquids, and dip the leaves and shoots into it.

CHARRING WEEDS (*Malpas*).—If you refer to No. 7 of our New Series, page 117; or to No. 426 of our First Series, page 131, you will find full directions for charring.

DISA GRANDIFLORA (*Orchid*).—You are wrong in your treatment of this plant, and in your conclusions as to its culture being difficult. It has been grown very successfully in the Chiswick Garden of the Royal Horticultural Society. If it dampens-off it is because the air is not admitted freely enough.

ROLLER SHADE (*A Subscriber, Il.*).—We do not see we can make the matter clearer than at page 426, Vol. I. Let A represent the ridge-board of your house, and B the front in an inclined plane. Fasten the shade at A with tacks and tape, or any other means; fasten the other side in a similar manner to a rod 2 inches in diameter; have a grooved wheel fastened on the end of that rod at P, to hold a stout cord longer than the length of the roof from E to P; fasten the end of the cord at E, roll the rest round the grooved wheel, pull the string and up the glass the roller will go to the apex, or as far as you like by fastening the string to a pin to keep it tight. This is the simplest mode, and answers well for small houses. The farther end of the pole may be 6 inches lower than that at the rope end, but that is of little consequence. With double the quantity of rope, you might take the end of the string from O, and over a pulley-wheel at E, and then pull the roller up from the back, and fasten the string to a stout pin as before. To inexperienced persons this may seem best; it involves more cord and a pulley-wheel.



ROSES IN POTS (*W. A. O.*).—Rose plants will bloom for years in the same pots if the surface soil is removed, and fresh-surfaced with rich compost in autumn. You do not say when you potted. It should be done in September, so as to get the pots well filled with roots before spring. No plant flowers so well in a pot if the roots are not getting to the sides of the pot. Very probably you over-potted, and late-potted, and the balls have either got dried or sodden.

LAPAGERIA ROSEA PRUNING (*Idem*).—The Lapageria, when established, just like a Vine and a Mandevilla, will bloom either from young wood or on spurs—that is, from well-ripened buds. You had better not prune it in much. We hope you have given it a rest in winter.

DESFONTAINIA SPINOSA (*Idem*).—If the Desfontainia was grown well in summer, and kept cool and rather dry in winter, the stubby little shoots should now be showing bloom. It should not be pruned much, unless to form a head and get fresh growth, and then harden it in autumn. It is more difficult to manage than the Lapageria. Get the latter to grow freely, give it plenty of water in summer, all the sun possible in autumn, and comparative coolness in winter.

VINES BREAKING AT TOP ONLY (*Idem*).—Your Vines-buds had been too much dried-up in winter after such a hot summer. You would have had more chance if you had laid the shoots at breaking time horizontally, instead of vertically. We fear there is little chance of the lower buds breaking if you allow the few at the top to grow. If there is nothing much on the Vines when they are in full leaf, you might nip off all the top shoots—not cut but rub, and that would cause shoots to break from the bottom. We can see nothing wrong in the planting.

SHADE FOR FERNS—ARUNDO DONAX (*H. B.*).—For most Ferns thick tiffany would be necessary. The variegated Arundo is not particular as to sun or shade; but it likes strong loam and p. at, and is very impatient of removals. Perhaps the best time is early in autumn.

STRIKING AZALEA INDICA CUTTINGS (*S. S.*).—Good gardeners can do this almost at any time. The best time will be presently, as soon as the plants have done flowering, and young shoots are grown from 2 inches to 2½ inches long; slip these off with a heel of the old wood, insert them in sand, over sandy peat, in a pot three parts filled with drainage; cover with a bell-glass, and set in a mild hotbed, and shade from bright sunshine.

LIMNOCARIS HUMBOLDTII (*A. B. W.*).—We cannot name the plant from the description; there are so many leaves of the same form. If not a water plant, most likely it is a Caladium. We think you had better leave the Limnocarhis alone. We have seen the original plant and runners in succession flowering freely.

STOVE FOR PINES (*R. T. W. Ashton*).—We think the house will do very well, though you will not have much room in it. You seem to have great abundance of heating power. The pipes so far as we see are all on a level. The flow-pipe goes along the back, then twice through the bed, once round the front, and then returns from the front to the boiler. We should have preferred taking the pipe twice round the first, then below the bed, and lastly, finishing at the back. A division of the house would be an advantage, even though there were no division of the pipes. The Pine-pots should be a foot above the pipes, any rubble between would do. Sand or even earth will do for plunging in, good soil for planting-out in; but for mere plunging we would prefer tan if easily to be procured. In such a house, where high temperature is needed, a foot of ventilation at the apex, and the same in front would do, and much less would be required in cold weather.

COTTAGE GARDENERS' DICTIONARY (*C. Jordan*).—The edition of 1857 differs from that of 1851 in having the plants included which were introduced since the latter date, and an alphabetical list of synonymes. We cannot say whca a new edition is likely to be published.

BOOKS (*T. Hardie*).—Hemfrey's "Rudiments of Botany," 3s. 6d.; and Hogg's "Vegetable Kingdom," 8s. You can have both from our office, with 8d. additional to prepay the postage.

COCOA-NUT FIBRE REFUSE (*Sigma*).—The sample of fibres sent is nothing like it. (*T. Lincoln*).—The sample you enclosed is quite right. It will be darker when moister and a little older. (*An Old Subscriber*).—Yours is not at all the right article. We have repeatedly said it is like coarse brown snuff, or mahogany sawdust; and you, like many others, send us a parcel of bristles, and ask, "Is that the right thing?"

VARIATION (*Nickerbor*).—The blotching on the Kidney Bean leaves you sent is a very common thing when the plants are forced; and we have seen such from the "absorption" of too liberal a dose of ammoniacal gas, in which we have very little faith as a source of true variegation.

PEACH LEAVES BLISTERING (*A Lady Correspondent, Armagh*).—We believe that it arises chiefly from the wood being imperfectly ripened—that is, deficient in well-prepared material for growth, in the previous summer. The blistering is always most prevalent and virulent on over-luxuriant branches. Root-pruning and covering the trees with glass, and not manuring the borders would prevent blistering.

LIQUID MANURE (*E. Hinton*).—To a painful of sheep-dung add fifteen pailfuls of water. This liquid manure may be given in moderate quantity to bedded-out Geraniums when the flower-buds are developed, if the plants seem to require it, but which they will not do unless the soil of the bed is poor.

PROPAGATING BEDDING TROPEOLUMS (*Inoranamus*).—All the Tropaeolums you name—Elegans, De Hyris, Cattell's Dwarf Scarlet, Cattell's Dwarf Crimson, Yellow Tom Thumb, Crystal Palace Scarlet, Crystal Palace Gem, must be had from cuttings, except Tom Thumb, the only one of them which comes true from seeds, unless Cattell's Dwarf Crimson and Dwarf Scarlet should follow Tom Thumb in this respect, as they do in stature. All we know of these two is from what we saw of them at one of the exhibitions at South Kensington last summer, and they are certainly very pretty. Elegans is the best of the others you name, and the only one of them that is likely to do well, except in skilful hands.

CYCLAMENS (*G. A.*).—Many thanks for the industry you have shown about Cyclamens, but as the family had been in great confusion in 18 books until very recently, it is now not worth the trouble to republish from old authorities. Miller never mentioned vernum, or any of them by their present names. The editors of editions of his Dictionary were they who supplied the names you read from imperfect sources. Sweet is the first person who mentions vernum, and not one of the other authors you name would know vernum from comum, or either from europaeum, and no good could result from discussing that side of the question any further.

CULTURE OF TRITOMA UVARIA (*R. F.*).—Neither the seedlings of this nor the young plants should have been in "a hot-house," nor yet in a greenhouse, but in the coldest pit; they should not get more than 5° or 6° of frost till they are of a flowering age, and that will be, or should be, the next summer from the first seeds which were on sale. After the seedlings come to flower, the plants in most parts of the kingdom do better treated as the very best Dahlias, but not dried so much in winter. They should be lifted in November, put into damp sand in the dry, and to be planted out in April; but on dry soils it does best out of doors the year round, when treated like Fuchsias with mulchings in winter, and a most abundant supply of water from June to the end of September.

WHITE BEDDING GERANIUMS (*S. M.*).—The best bedder of all the White Horseshoe kinds of Geraniums to contrast with a bed of Tom Thumb, is one called Madame Vaucher, and it blooms as freely as Tom Thumb itself. Hendersonii is the next best white, and Hendersonii nana is the best white for edgings. But this season we shall have coming out the white-flowering variegated Hendersonii, which was mentioned last autumn for the first time.

IMANTOPHYLLUM MINIATUM (*Bulbs*).—This is the correct spelling. Notices of it occur in various volumes, but not giving directions for its culture. The same treatment as mentioned for Clivia in the "Cottage Gardener's Dictionary" will do for this bulb. You can have a copy of Vol. XV. from our office.

NAME OF ANEMONE (*P. C.*).—It is *Anemone hortensis miniata*, and must have escaped from some garden. It is a native of Italy.

NAMES OF PLANTS (*Arthur Cole*).—Apparently Orchis's mascula; but to send one flower of such a plant! The leaf is decaying, but it is impossible for us to say why. In the next Number of "Wild Flowers" a portrait of that Orchis will appear. (*T. P. Albro*).—Doronicum pardalianthes. (*Bolder*).—1, Tecoma australis; 2, Acacia melanoxylon; 3, Polyzala Dalmatiana; 4, Acacia verticillata. (*S. H. G. Liverpool*).—The purple flower is a variety of Bletia verecunda. The Oncidium is Oncidium barbatum.

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

ROYAL DUBLIN SOCIETY'S SPRING SHOW.

APRIL 22—25.

The poultry formed a very interesting department of the Exhibition; in the judgment of some, indeed, the most so in the yard. The birds were all in high condition, and particularly good of their kinds. The *Dorkings*, especially, put in a splendid appearance. The *Spanish*, also, were very attractive, and well represented in point of numbers. There were some very fine *Game Fowl*. There are many of the adepts in "Game" flesh who will say that the first and second prizetakers ought to have changed places. We were sorry to notice the entire absence of the old *Irish Hen*, of which there was not a single representative exhibited. We think that this is much to be regretted, for, though not a showy bird, we do not know her equal in point of laying qualities.

BRADMA POOTRA OR COCHIN-CHINA.—First, J. Wight, Johnstown House.

Cabintee. Second, Countess of Beective. *Chickens*.—First, R. W. Boyle, Dundrum. Second withheld.

DOMKING.—First, R. W. Boyle. Second, Col. Leslie, M.P. Highly Commended, Mrs. Farrell, Moynalty; R. P. Williams, Hollybrook, Clontarf; G. Langtry, Kilmore House, Lurgan. Commended, Lord Lurgan, Brownlow House, Lurgan; J. Forrest, Roebuck House; Countess of Beective; R. W. Boyle, Dundrum. *Chickens*.—First and Second, Col. Leslie, M.P. Highly Commended, R. P. Williams; G. Langtry; R. W. Boyle. Commended, Mrs. Farrell, Moynalty; G. Langtry.

SPANISH.—First, Miss E. De Courcy Drevar, Rose Hill, Blackrock. Second, C. M'Clintock, Milmount, Randalstown. Highly Commended, R. P. Williams, Commended, E. J. Smith, jun., Rutland Square, Dublin; Col. Leslie, M.P. *Chickens*.—First, E. J. Smith. Second, R. W. Boyle.

GAME.—First, J. Wight, Johnstown House. Second, H. Cusack, St. Douglahs. *Chickens*.—Prizes withheld.

HAMBUAGHS (Spangled).—First and Second, R. R. Williams. *Chickens*.—Prizes withheld.

BLACK FOWL (White-crested).—First and Second, Miss E. De Courcy Drevar. *Chickens*.—First and Second, Miss E. De Courcy Drevar.

ANY DISTINCT BREED.—Prize, R. W. Boyle.

SIX CHICKENS FIT FOR TABLE.—Prize withheld.

DUCKS (Aylesbury).—Prize, A. Fleet, Jialston Street, Dublin.

DUCKS (Rouen).—First, R. W. Boyle. Second, R. P. Williams. Highly Commended, R. P. Williams. Commended, R. W. Boyle.

DUCKS (Any other breed).—No merit.

TURKEYS.—First, G. Langtry, Kilmore House, Lurgan. Second, J. Hyland, North Anne Street, Dublin. *Poultis*.—Prizes withheld.

GANDER AND GOOSE.—First, R. W. Boyle. Second, J. Bourke, Stapoila, Baldyle.

—(Dublin Agricultural Review.)

## TURKEY-CULTURE IN AMERICA.

THE reason why the Turkeys seen in our poultry-yards do not vie in splendour of plumage with their untamed brothers is that we do not let them live long enough. A creature that does not attain its full growth till its fifth or sixth year we kill at least in the second, to the evident deterioration of our stock. But let three or four well-selected black or bronze Turkeys be retained to their really adult state, and well fed meanwhile, and they will quite recompense their keeper by their beauty in full plumage, by their glancing hues of gilded bronze and black, and the pearly lustre that radiates from their polished feathers. In default of wild specimens, birds like these are sought to complete collections of stuffed birds.

The demand for such large birds among the poultry-dealers, the temptation to fat them before they arrive at this stage, are so great, that few farmers can resist sending their fourteen-pound to eighteen-pound cocks to market, while a young cock of the year, they think, will answer every purpose next spring as well. Some even deem it an extravagance to keep a Turkey cock at all, if they have not more than two hens, which they would send on a visit of a day or two to a neighbour who has a male bird.

When the hen has once selected a spot for her nest she will continue to lay there till the time of incubation, so that the eggs may be brought home from day to day, there being no need of a nest egg as with the common fowl. She will lay from fifteen to twenty eggs, more or less. Her determination to sit will be known by her constantly remaining on the nest, though empty; and as it is seldom in a position sufficiently secure against the weather or pilferers, a nest should be prepared for her by placing some soft straw, with her eggs, on the floor of a convenient out-house. She should then be brought home and gently placed upon it. It is a most pleasing sight to witness the satisfaction with which the bird takes to her long-lost eggs, turning them about, placing them with her bill in the most suitable position, tucking the straw around and under them, and finally sitting upon them with the quiet joy of anticipated maternity.

Thirteen eggs are enough to give her; a large hen might cover more; but a few strong, well-hatched poultis are better than a large brood of weaklings that have been delayed in the shell perhaps twelve hours over the time from insufficient warmth. At the end of a week it is usual to add two or three hen's eggs, "to teach the young Turkeys how to peck." The plan is not a bad one; the activity of the chickens does stir up some emulation in their brethren; the eggs take but little room in the nest; and, at the end of the season, you have two or three very fine fowls, all the plumper for the extra food they have shared with the young Turkeys.

In four weeks the little birds will be hatched; and then, how are they to be reared? Some books tell you to plunge them in cold water to strengthen them; those that survive will certainly be hardy birds (an experiment which some women are cruel enough to try upon their own offspring). Air and exercise increase the strength of any growing animal; but cold and hunger only dwarf and weaken. Others say, "Make them swallow a

whole pop-corn;" which is as if we were to cram a Spitzenberg apple down the throat of a newborn babe. Others again say, "Give them a little ale, beer, or wine." We know, unhappily, that some mothers are wicked enough to give their infants gin, and we know the consequences.

Follow nature; give them nothing; do nothing to them; let them be in the nest under the shelter of their mother's wings, at least eight or ten hours; if hatched in the afternoon, till the following morning. Then place her on the grass, in the sun, under a roomy coop. If the weather be fine she may be stationed where you choose, by a long piece of list tied round one leg, and fastened to a stump or stake. But the boarded coop saves her ever-watchful anxiety from the dread of enemies above and behind—the crow, the hawk, the rat, the weazel!—and also protects herself (she will protect her young) from the sudden showers of summer. Offer at first a few crumbs of bread; the little ones for some hours will be in no hurry to eat; but when they do begin, supply them constantly and abundantly with chopped eggs, shreds of meat and fat, and boiled Indian meal mixed with chives or lettuce chopped fine. Mutton suet poured over shorts or middlings, cut up when cold; also liver, boiled and minced, are excellent things. The quantity consumed costs a trifle; the attention to supply is everything.

The young of the Turkey afford a remarkable instance of hereditary and transmitted habits. From having been attended for many generations with so much care, they appear naturally to expect it almost as soon as they are released from the shell. We are told that young pointers, the descendants of well-educated dogs, will point at the scent of game without any previous training; and so Turkey poultis seem to wait for the attention of man before they can have any experience of the value or nature of their attentions. Food which they would refuse from a dish they will peck greedily from the palm of a hand; a crumb, which would be disdained if seen accidentally on the ground, will be relished from the tip of the finger. The proverb that "the master's eye fattens the haro" is applicable to them, not in a metaphysical, but in a literal sense; for they certainly take their food with a better appetite if their keeper stays to distribute it, and see them eat it, than if he merely set it down and left them to help themselves.

We believe this to be the case with more domesticated animals than we are aware of, and appears natural enough if we remember how much more we enjoy a meal in the society of those we love and respect, than if we partook of it in indifferent or disagreeable company.

The Turkeys then are hatched, and we are rearing them. Abundant food for the mother and the young, constant attention to their wants, are the grand desiderata. An open glade in a grove, with long grass and shrubs here and there, is the best possible location. The long grass will afford them cover from the birds of prey; the hen will drive off four-footed enemies with great courage. We have been amused with the fury with which a mother Turkey has pursued a squirrel till it took refuge in the branches overhead; what instinctive fear urged her we know not. Insects, too, will abound in such a situation. When the little creatures are three or four days old they will watch each fly that alights on a neighbouring flower, fix it with mesmeric intensity, and by slow approach often succeed in their final rush. But in the best position you can station them, forget them not for one hour in the day. If you do, the little Turkeys will for a time loudly yelp, "O, then, remember me," in notes less melodious than those of a *prima donna*, and then they will be sulky and silent. When you at length bring their delayed meal some will eat, some will not. Those that will not can only be saved by a method at all other times unjustifiable—namely, cramming; but it must be done most gently. The soft crumb of bread rolled into miniature sausages should be introduced till their crops are full. For drink, many would give ale or wine; we advise milk. The bird wants material, not stimulant. It has been actually wire-drawn. It has grown all the hours you have neglected it without anything to grow from. Like a young plant in the spring season, it will and must grow, but has no roots in the fertile earth to obtain incessant nourishment. The roots which supply its growth are in the stomach, which it is your office to replenish. "Prevention is better than cure." Such a case ought never to occur in a well-cared-for poultry-yard.

The time when the Turkey hen may be allowed full liberty with her brood depends so much on season, situation, &c., that it must be left to the exercise of the keeper's judgment. A safe rule

may be fixed at the season called "shooting the red," a "disease," as some writers call it—being about as much a disease as when the eldest son of the Turkey's master or mistress shoots his beard. When young Turkeys approach the size of a partridge, or before, the granular fleshy excrescences on the head and neck begin to appear; soon after, the whole plumage, particularly the tail-feathers, start into rapid growth, and the "disease" is only to be counteracted by liberal nourishment. If let loose at this time they will obtain much by foraging, and still be thankful for all you can give them. And now is the time that Turkeys begin to be troublesome and voracious. What else can be expected from a creature that is to grow from the size of a robin to 12 lbs. or 14 lbs. in eight or nine months? The only way to keep them from rambling is to feed them well and regularly at home.—C. N. BEMENT.—(*Genesee Farmer*.)

### DEATH OF A QUEEN.

On the 21st of April I had occasion to remove some brood-comb from the hive, the bees of which had manifested so strong a disposition to attack their sovereign, as related by me in pages 74 and 75, when I found the unfortunate queen again a close prisoner; and although I adopted the same course as before, by releasing her and introducing her between a couple of brood-combs, I had the mortification of finding her dead on the ground in front of the hive two days afterwards.

It may, perhaps, be a question whether I may not have myself contributed to hasten this catastrophe by the disturbance produced by frequent examinations; but never having before met with a similar instance, I am more disposed to believe that the bees had detected some evidence of declining powers in their hapless sovereign, which induced them to pursue the same course with her as is adopted with superannuated workers, multitudes of which I have seen expelled from my strongest stocks during the past two months. This hypothesis is strongly supported by the following interesting narrative by Herr Otto Rothe (author of an excellent apian treatise entitled "Die Korb-Bienen-zucht"), which I find in the German "Bee Journal" of the 14th of last month. Herr Rothe says—

"On the 17th of May I was taking brood from one of my best Italian stocks, domiciled in a common straw hive, when I found (besides brood in every stage) royal cells both sealed and unsealed, which I supposed the queen would soon destroy; for although the stock was very populous and well stored with honey, yet the weather (about Whitsuntide) was by no means favourable for swarming. On the following day, however, sentence of death was passed upon the queen herself; but from hereditary respect the bees did not kill her, but turned her out alive, and I found her, apparently in full vigour, running in the sand before the hive. As she seemed to me quite lively, I gave her to a queenless stock. Here she filled cell after cell with brood, and after I had used some of it for rearing queens, I put her into another queenless hive. But what was the result? From all the eggs laid by her at this time only drone-brood was developed, and queen-rearing came to nothing. Vexed about it, I crushed the head of the useless queen.

"Up to the 17th of May she had regularly filled cell after cell with worker and drone brood, and it was a pleasure to look at the strong colony. From the 18th of May, however, she laid only drone eggs, consequently the sperm must have suddenly come to an end. But it is remarkable that the bees immediately observed this, and resolved upon an act of violence which is not carried out in every hive, since many a stock carries until self-help becomes impossible. Last spring I had a colony with a drone-breeding queen which, after she was removed, would not accept a fertile queen as long as a drone egg remained in the cells, and only received her when all the drone eggs were removed. On the other hand, during this spring another stock with a drone-breeding queen readily accepted an inserted royal cell. They injured the vigorous young drone mother and threw her down from the combs to free themselves from her; receiving willingly a fertile queen that was offered to them, although there was much drone-brood in the hive. Why did the bees in one case know what was necessary for them, and not in the other?"

This question is much more easily asked than answered. We may lay down general rules in apian matters, but it is far from certain that bees will invariably follow them. One thing may be learnt from the foregoing, and that is the sudden

nature of the change which takes place upon the contents of the spermatheca becoming exhausted. Up to the 17th of May Herr Rothe's queen appears to have laid worker eggs in profusion, whilst on and after the very next day she proved herself incapable of laying any but those of drones.—A DEVONSHIRE BEE-KEEPER.

### BEE-KEEPING AND CUSTOMS IN CHESHIRE.

It is customary in many parts of Cheshire, and I believe in the adjoining counties of Shropshire and Staffordshire, for the cottagers possessing stocks to place swarms out to their neighbours by parts, on the understanding that at the expiration of two years a division of the issue and produce of such swarms takes place; such division, so far as I can ascertain from those best acquainted with its equity, is for the lender to take his old stock, the borrower the first swarm, and so on until a fair distribution ends the ceremony. Of course, allowances are made for casualties; but, unfortunately, this system is falling into disuse by reason of many of the cottagers not being over-scrupulous in their dealings, which they would not dare to do if a society were formed for the purpose of regulating this amongst other apian matters, such, for instance, as where a swarm straggles away from the apiary of its owner, and can be identified.

There are several superstitious notions respecting bees. Amongst the chief is, that where any member of a family who keeps bees dies, it is considered imperative to tap the hive and inform the inmates of the calamity, otherwise the tenants will all dwindle and die. I think a custom prevails in Worcestershire of draping the hives with mourning. There are very many old dames here who can cite abundant instances of cases where whole apiaries have ceased to exist in consequence of the non-observance of this strange and, I must confess, singular ceremony.\*

Another superstitious notion prevailing with regard to bees, is where a swarm is known to settle on dead wood it is the omen of death in the family; and, last summer, owing to my doubting such a piece of superstition, I got well snubbed by a fussy overblown old dame who elings to all ceremonies of this sort, and which appear to have been handed down from the abbots and monks of old.

I noticed the case of bee-stealing before Sir John Duckworth, at the Devon Sessions. Mr. Carter evidently thought it was doubtful whether a jury would, under such circumstances, convict; and, certainly, I confess that, upon the law of the case, there may be serious doubts whether they are domesticated or fere nature. The Scotch law upon the subject corresponds much with that of England—the stealing of bees being considered larceny at common law; and prosecutions for stealing bees are very numerous in Scotland, although rare in England. It is usual, however, in order to steer clear of an objection on the head of "fere nature," to lay the articles stolen in the hive and honey, sometimes only the hive, which can certainly, in most cases, be identified. For the law upon this subject, see Tibbs v. Smith, "Sir Thomas Raymond's Report," 33; 2 East's "Pleas of the Crown," 607; 2 Russell "On Crime," 151; 4 "Dowling and Ryland's Report," 508; and Alison's "Criminal Law of Scotland."

You are very fortunate in only having lost two out of the numerous stocks you possess. I doubt not you have bestowed great pains on them. I consider it will in the end be found that ventilation at the bottom of the hive will be a preventive against humidity—permitting a thorough current of air to pass continually through the hives. If so few bees in their wild state—i.e., those which tenant old oak trees, buildings, &c.—die of the rot (as it is so termed here), where it is presumed no other ventilation takes place except through the entrance, which is always small, how happens it that such sad devastation occurs annually in our domesticated stocks? and it does appear to me most strange. It is a subject which has often struck me, and does not seem to have been noticed by any of the writers I have perused on the subject of bee-keeping. You will find most works of any note recommend placing bees about 2 feet from the ground, whereas the bees uncontrolled always make high up, and will remain there for years if not disturbed. I recollect at Hough Hall in the parish of Wybunbury, Cheshire, seeing nearly 1 cwt. of honey taken from the roof of the Hall; and it was stated they (the bees) had been there thirty years. The neighbouring bee-keepers had such a dread of this overgrown

\* I should say this custom exists in Ireland.

colony that they rejoiced at the downfall of such a colossal empire; for the bees not only went out as autumnal marauders (verifying the old adage, "much would have more"), but several swarms were annually known to go there: hence the terror and finally the joy of the bee-keepers. And the old sexton of the parish informed me he had known one or two colonies in his time to settle at the church of Wybumbury, which in consequence of both tower and church cracking (the former had been gradually giving way for years to the extent of 6 feet, and was seen for a distance round, but it was brought back to its perpendicular by the process of boring and letting it gradually down on inverted arches; the church, however, was rebuilt), would afford plenty of opportunity for them to domicile themselves in the crack of the old church.

The weather has not at present been favourable for our pets; but I do hope we may have a good season.

In *THE COTTAGE GARDENER*, No. 597, March 6th, 1860, you recommend that the Alp bee should be kept as far from the common bee as possible; but how can this be done when you have friends keeping bees of the common order in close proximity to your own residence? It would be selfish and unjust, if you had the power, to demand their removal; and, consequently, I consider it would under such circumstances be impossible to keep the blood of the Italians solely pure. The drone-stoppers are not available; besides, I have always understood that the embraces of the queen with her paramour take place on the wing in the open air, and were I to introduce a stock of yellow jackets here, according to what I see and read in *THE JOURNAL OF HORTICULTURE* I should expect hybridising. — EDWARD WYNDHAM JONES.

[I believe it will be found impossible entirely to prevent hybridising, at any rate at first. I have already stated in page 57 what I deem the best mode of combating this difficulty. — A DEVONSHIRE BEE-KEEPER.]

### CHEMISTRY OF HONEY.

In the January Number, page 366, there is the following quotation from Taylor's "Bee-Keeper's Manual":—"That the bees have not the ability to change chemically the contents received into their honey-bags, is shown by the saccharine mixture given to them as artificial food, in which I could never detect any alteration after being stored in their combs." Not having seen Taylor's Manual, I am not aware if he offers any proof of how he "could not" detect any alteration. Of course, mere tasting is none, and the Editors seem to think the same, when they refuse to be umpires in the offer of the "DEVONSHIRE BEE-KEEPER," in page 410.

In page 415 Mr. Taylor gives the opinion of a most eminent chemist, "who says that he cannot imagine any chemical agency in the stomach or honey-bag of the bee." I am no chemist, still I think I know as much of it as to say, that I cannot see why there should not be a chemical agency exerted either in the act of the bees taking the sugar syrup into their stomachs, or in the stomach itself. Still that is mere opinion without any proof, but I will now endeavour to prove that it is chemically changed.

Every chemist knows that the term sugar is applied vaguely to any sweet substance of animal or vegetable origin; but such are generally divided into the saccharine or fermentable substances which form alcohol, as cane sugar, grape sugar, milk sugar, &c., and the unfermentable, such as manna, gelatine, glycerine, &c.

The chemical composition of cane sugar, or that which is given to bees, is carbon 12 equivalents or atoms, 11 of hydrogen, and 11 of oxygen. Grape sugar, again, or that which is sometimes called the sugar of fruit, represented by that seen on the dried grapes and figs which come from abroad, is composed of carbon 12 atoms or equivalents, hydrogen 12, and oxygen 12. Honey belongs to this class, and is composed of these elements—Cane sugar, carbon 12, hydrogen 11, oxygen 11; Honey, carbon 12, hydrogen 12, oxygen 12.

Honey, then, it will be seen, contains the elements of one atom more of water than cane sugar. It, therefore, requires no great stretch of the imagination to conceive that the bees may have the power of adding one atom of oxygen, and one of hydrogen to the sugar syrup in the stomach. However short the time it is in the honey-bag, we know how fast the oxygen of the atmospheric air when inspired into the lungs by man or

animals is expired again in the form of carbonic acid gas—we know very well that the carbon is supplied along with the food taken by man; but how the carbon and oxygen combine to form carbonic acid is not so well understood, although the fact remains the same, and the bee has only to convert or decompose the water in the syrup into its elements of hydrogen and oxygen to change cane sugar into grape sugar, or honey, and no one will doubt of the many wonderful powers the Creator has given to the animal kingdom which we never shall be able to understand.

But there is another classification of sugars which throws still more light on the subject, and can be satisfactorily tested by Dubosey's saccharometer, a very ingenious instrument invented for the purpose of testing the kind and also the quantity of sugar in the several sorts of beetroots used in France for the production of sugar. With one of these instruments I went through a pretty extensive set of experiments a few years ago for my employer, to find out the turnip which had the greatest amount of sugar in it, and if possible to improve the feeding properties.

Some of your readers will doubtless, as I did at the time, scratch their heads at the idea of there being any sugar in a turnip; but "seeing is believing" they say, and I have now whiskey or alcohol beside me which I made from both turnips and beet.

It was during these investigations, that I was led to inquire into the nature of honey, or rather to find out what was crystallisable and uncrystallisable sugar. Cane sugar is the representative of crystallisable sugar; and grape or honey sugar, that from turnips, beet, &c., uncrystallisable.

Dubosey's saccharometer is, then, the instrument which infallibly points out whether it is uncrystallisable or crystallisable sugar which is present in the liquid under examination.

It would be difficult without drawings to give a clear idea of the instrument. I may just observe, that the principle on which it is constructed, is the variations in colour which two prisms when moved give to any transparent liquid containing dissolved crystallisable bodies. Those having a polarised microscope with prism for examining the crystals of nitrate of silver, selenite, &c., will have some idea of it.

When examining the juice of the turnip I found the instrument-scale was reversed from that when looking at a solution of cane sugar, not knowing at that time that there was such a thing as uncrystallisable sugar. On making inquiries I was told that treacle was; but on purifying it, I found it gave indications of both crystallisable and uncrystallisable sugar, showing that the manufacturers had not been able to extract all the crystallisable sugar. I was then told that honey was; and to it I went, and found it to be pure uncrystallisable sugar.

A friend of mine, a chemist, was paying me a visit some time afterwards, and he was very much interested in my bees, and their works, but knew nothing about their habits, and he saw me feeding them with sugar syrup, and he said, "Why don't you give syrup of sugar that is sold by the manufacturers, which is uncrystallisable, and the bees will be saved the trouble of converting the crystallisable syrup of sugar into the uncrystallisable sugar syrup?" Neither he nor I was aware that there was any dispute on the subject. I got the syrup of sugar, it being much cheaper, and was rather a little exalted on the hint I had got; but I found the bees were better chemists than my friend, for they would not take it but in very small quantities. Here, then, is a liquid chemically the same as honey, only not so transparent, which they will not take, and which is still like their natural food. So that I was compelled to resort again to that made from pure sugar. And last year, having a glass top on one of Neighbours' hives which was not filled, I gave the bees as much sugar as they would take night and day, and kept the hive well covered to keep them warm, as the weather was cold they could not get any honey out of doors, but they made combs and filled them with honey from the sugar. To test whether it was different from the syrup made from the sugar when in the combs, I took some and placed it in the instrument, and found certainly that the crystallisable sugar had been converted into the uncrystallisable.

The experiment was made when I had not the slightest idea that I should ever require to make it known as I have now done, for I have no doubt as to the fact myself. Others may say that I was not particular to prevent the bees from getting other honey than that from the sugar. I admit it to be a very proper objection; and to set the matter entirely at rest, having the

instrument that will enable me to do so, I shall be very glad to repeat the experiment in any way your apianian friends may suggest.

Since I began to write this, I have been thinking the best way to set the matter at rest would be to give the sugar to some bees and kill one which had just filled itself with the sugar, take the contents of the honey-bag and examine it, which will be quite sufficient to give the result, and surely none will be able to dispute the correctness of that test.—ALEX. SHEARER, *Yester*.

### THE CROSS BETWEEN ENGLISH AND LIGURIAN BEES.

THE various queries on this subject, which were propounded by "W. H." in page 427 of the last Volume of THE JOURNAL OF HORTICULTURE, are, I think, satisfactorily answered by the following communication from Herr Menzel, which I find in a recent Number of the German *Bee Journal*.—A DEVONSHIRE BEE-KEEPER.

"As German and Italian bees are now generally considered not as different species, but as varieties of one and the same species, it may be advisable not to call the offspring of a true Italian queen and a true German drone, and *vice versa* bastards; but according to the proposal of Professor Wagner to call them either hybrids or mongrels as the most eminent nomenclators have named our domestic animals. A queen descended from a pure race but impregnated by a drone of the other species I would call "a cross-mother;" an Italian queen if she be descended from a true Italian mother, and is impregnated by true Italian drones "an Italian race mother;" therefore I would distinguish—1, Italian and German racemother; 2, Italian and German cross-mothers.

"It is known that the drone-offspring of an Italian cross-mother are true Italians, as also the drone-offspring of a German cross-mother are true Germans; but the worker-offspring of both consists of mongrels or hybrids, although in their outward appearance individual bees may sometimes bear the character of the mother, and sometimes that of the father in colour and habit.

"The impregnated daughter of a cross-mother I would call a mongrel-mother, and that of a mongrel-mother a tierce-mother, and in this manner we should get quadroon and quineroon-mothers.

"In like manner the drone and worker-offspring might be called mongrels, &c.; but the drones would always stand one degree behind the workers. It is not, however, easy to pursue the gradations of these minglings beyond the mongrel-mother, neither would the doing so be of much practical importance.—A. MENZEL."

### OVER-FEEDING BEES—BEES AS CHEMISTS.

YOUR correspondent "G. F. B.," seems to think it is a work of extravagance to feed bees where the weight is 10 lbs., having always found hives containing that weight prosper better than those which are made up to 20 lbs. by artificial feeding or otherwise. This opinion I am not able to endorse; twenty years' experience leads me to a contrary conclusion. Bees well fed in autumn and again in spring to make up any deficiency, at which latter period I am satisfied there is an extensive drainage upon their stores, throw off earlier and larger swarms, the first and second week in June, sometimes in May, than those stocks which are but scantily provided, for in the latter case I have invariably noticed the swarms are sent out in July, much too late to do good. True, there is no rule without an exception, but a liberal supply of Mr. Bevan Fox's mixture judiciously given makes a visible improvement in all stocks requiring aid, and I say such is needed where the weight does not exceed 10 lbs. With due deference to your correspondent's opinion, to whom I tender my thanks for having mooted the point, I think he has not taken into consideration the difficulties and dangers a stock of bees left with only 10 lbs. is surrounded. The queen of those hives possessing abundant stores and escaping that curse—damp, for it destroys more bees than any other enemy she has to encounter, commences her work of laying much earlier than one with a narrow stock of provisions, although hives weighing 10 lbs. in autumn would not be in danger of starvation in spring. Plenty, like poverty, acts upon bees in a similar manner as it does in other parts of the creation. The more mouths to fill, the more is required. I examined a stock of bees of a friend in February last, and found them all dying, not an ounce of provisions left. The evil was manifest, and past reparation. I warned the proprietor in the autumn that although it possessed what he thought enough—viz., 12 lbs., yet it would be short in spring,

\* The original German bee is identical with the common English species.

† The use of the plural in this case would appear to indicate that the writer is of opinion that a queen bee may require the services of more than one drone.—A DEVONSHIRE BEE-KEEPER.

as such a population I seldom witnessed, and he had the mortification of discovering a fine colony smitten down for want of timely aid. The bee is a great economist, and does not throw herself open to the charge of prodigality, not a single ounce of food properly administered is ever wasted, and the only want of foresight which I can discover, and I have taken some pains to do so, is the great profusion: she will at certain periods of the year, and for what purpose I am unable to say, gather immense quantities of pollen. A populous hive well stored in spring is much more active than one otherwise situated. I, therefore, recommend all who value these little slaves to care for this important point (as one of magnitude to their welfare), not to leave them with such a scanty supply of food as recommended by your correspondent, assuring him I shall not do so unless I can see more clearly its practicability.

Your intelligent correspondent the "DEVONSHIRE BEE-KEEPER" is very busy on the subject, which at present appears undetermined and engrossing considerable attention—namely, Whether bees effect a change in the liquid they take so as to convert it into honey. Although I am no chemist, my opinion as at present constituted leans against him, and for the following reason:—I lost a hive of bees through the effects of my old enemy "damp," last winter, and which in the autumn had been fed on the syrup recommended by Mr. Bevan Fox; and in order to make an examination of the comb, I cut out one therefrom which was regularly sealed over. My investigation of the comb plainly demonstrated real honey in that which had been gathered from the pasturage, and the syrup which was distinguished by the rum and salt added in the making, and which was as much different as possible from the honey. I kept it for some weeks in separate vessels, and this spring presented it to my bees placing the same before the apiary, when, strange to say, the real honey was preferred before that which I considered nothing but syrup, and which was only taken when every particle of honey was gone. If the hive is not broken up (having given it to a friend for scientific purposes), I will endeavour to procure a piece of the comb, and if Mr. Woodbury desires forward it to him.—BAR-HIVE, *Nantwich, Cheshire*.

### OUR LETTER BOX.

RABBIT-KEEPING (*Rabbit Fancier*).—In the twenty-fifth Volume of our First Series you will find very full directions for making an enclosure for keeping and feeding Rabbits. No breed is more profitable than the Chinchillas. They are excellent for table purposes, and the skins sell for a high price.

YOUNG HIMALAYAN RABBIT (*Lapin*).—The long white-furred young one from the Himalayan doe is merely an evidence that there is some Angora blood in the breed, either the buck or the doe was of a cross-bred pedigree. We can only advise you to advertise what you wish to sell. One of the parties you name you had better be careful in dealing with.

PUTTING A SUPER ON A COMMON STRAW HIVE (*A Labouring Man*).—In order to place a super on a common straw hive, it is necessary first to form a platform on the top of the hive on which to rest the super, and secondly to make an aperture for communication. Prepare first a piece of three-quarter-inch yellow pine 12 inches or 14 inches square, by cutting a hole in the centre 2 inches or 3 inches in diameter, and screw a couple of stout pieces of wood across the grain on the underneath side near the ends to prevent warping. Next fit this square platform to the top of the hive by paring away the wood round the hole on the lower side until the edges are quite thin and fit close to the straw, and screw three or four inch-and-a-half wood screws into the underneath side round the hole at 3 inches distance from it. These screws should not show through on the upper side, but project an inch below. In order to attach this platform to the hive get some mortar well mixed with a little cowdung and plaster over the top, leaving a flat surface to receive the platform which is to be bedded upon it. The mortar when dry will adhere firmly to the straw, and the projecting screws will give it a fast hold to the wood. As soon as it is set, cut a circular hole in the straw crown of the same size as that in the wooden platform, and the job is complete. Supers should not be put on immediately. Get our "Bee-keeping for the Many," price 4d. (free by post from this office for five stamps), and effect antimonial unions in the manner described in pages 42 and 46.

IS ZINC INJURIOUS TO BEES?—TIME FOR PUTTING ON SUPERS (*A Hortfordshire Bee-keeper*).—The perforated zinc over the entrance will certainly do your bees no harm. When the hives appear crowded no time should be lost in putting on supers. If made of zinc and glass they will require efficient external protection in order to moderate changes of temperature.

KEEPING A PONY (*Decrepit*).—We know a pony which is kept through the summer on a quarter of an acre of good grass land, like yours. He is confined in a railed-off sheltered corner, about 20 yards long and 5 yards wide, with a shed to retire under in bad weather. The grass is mown and brought to him, being placed in an old crate for him to take it from. The plot, from which the grass has been cut for the pony's day's consumption, is watered with the house sewage immediately, and the whole is kept irrigated with the same sewage two or three times weekly. The grass is ready for cutting at one end, as soon as it is finished cutting at the other end. As you have half an acre, one quarter acre might be kept for hay; and, if well irrigated, would give two crops annually.

WEEKLY CALENDAR.

		WEATHER NEAR LONDON IN 1861.										
		MAY 13—19, 1862.										
Day of Month	Day of Week.	Barometer.	Thermom.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon Rises and Sets.	Moon's Age.	Clock after Sun.	Day of Year.	
		deg. deg.				m. h.	m. h.	m. h.		m. h.		
13	Tu	Hahrothamnus elegans.	30.260—30.125	53—27	N.E.	—	13 af 4	39 af 7	rises.	0	3 53	133
14	W	Hardenbergia Comptoniana.	30.366—30.287	71—40	N.W.	—	12 4	40 7	3 a 9	16	3 53	134
15	Th	Hovea elliptica.	30.324—30.174	73—41	N.	—	10 4	42 7	9 10	17	3 53	135
16	F	Jacksonia grandiflora.	30.184—30.044	78—45	N.W.	12	9 4	43 7	3 11	18	3 53	136
17	S	Konnedya prostrata.	30.132—30.015	61—29	N.E.	—	7 4	45 7	40 11	19	3 52	137
18	SUN	1 SUNDAY AFTER EASTER.	30.235—30.211	61—32	N.E.	—	6 4	46 7	morn.	20	3 50	138
19	M	Hovea ilicifolia.	30.340—30.297	68—34	N.E.	—	5 4	48 7	11 0	21	3 48	139

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 64.9° and 41.9° respectively. The greatest heat, 86°, occurred on the 15th and 17th, in 1835; and the lowest cold, 23°, on the 15th in 1850. During the period 146 days were fine, and on 99 rain fell.

A FEW ADDITIONAL NOTES ON CYCLAMENS.



HAD no intention of intruding further on the columns of THE JOURNAL OF HORTICULTURE, respecting Cyclamens, had I not laid my hands on a document since I last wrote, indicating the native habitat of Cyclamen vernum. This I was satisfied I ought to possess, yet not finding it amongst my other papers at the time I was

writing, did not feel justified in quoting from memory, making it a rule when writing for publication to be as certain as possible of my facts (a caution which I would respectfully submit Mr. Beaton might with advantage impress on his correspondent, in addition to his other good recommendations, when writing on any subject for the information of others).

On the authority of Reichenbach, Cyclamen vernum is a native of the south of Europe; and whilst writing, accidentally turning to Loudon's "Hortus Britannicus," I find he also gives the same locality for it. These testimonies will, I trust, be satisfactory to most, though I may not be able to convince Mr. Beaton, after the strong opinion he has already expressed.

With regard to Cyclamen ibiricum, I cannot see any valid ground for regarding it a hybrid. Its very name points out its native habitat—Iberia (Georgia) N.E. of Palestine—and I have little doubt if Mr. Beaton will send his "commissioner" there, and he be diligent in his search, but he might return with a good supply of it, and probably other good things. I have had repeated importations of the tubers of C. ibiricum, and have not the slightest reason to doubt their coming from the locality indicated. I do not state it as a fact, but consider it extremely probable, that Goldie received it through his Russian friends, as he certainly did some other good and scarce plants. With respect to C. vernum and ibiricum being produced almost, or quite, pure with C. Atkinsii, I think it easily explained by those who know how freely the latter and its varieties hybridise with all this section—so much so, indeed, as to have in a great measure displaced from cultivation the true ibiricum as imported; many of these so crossed having a much larger and broader petal, with more diversity of colour than the original, are by most preferred before it (though some of the native varieties are beautifully clear and dark, and are botanically interesting). I have reason to know that with one party at least, from whom some of the London nurseries occasionally draw part of their supplies, as well as with myself, the varieties thus produced are endless. Amongst others I have the white petal of C. Atkinsii with the pure dark green and shape of

C. coum foliage, though in the first instance Mr. Atkins has stated in the "Garden Companion" for June, 1852, (where C. Atkinsii was first figured), "that he found every plant deviating in the markings from the seed-bearing parent (coum), produce white or blush flowers, whilst those retaining its plain dark leaf invariably bloomed with different shades of the colour of that species."

As the time of blooming seedlings from pet plants is always anxiously looked forward to by amateurs, I am glad to see by the reply to "E. W.," in the Journal for April 22nd, page 71, that the period to bloom those of C. persicum is now reduced. It is but a few years since a writer on this tribe gravely stated six to seven years were necessary; but in the reply above alluded to, about two and a half are mentioned (two years and two months in the seed-pot, and then potted-off singly for blooming). On both of these I have made an advance, blooming them and also other kinds in sixteen to eighteen months from the time of sowing the seed. My plan is to sow the seed as soon as ripe in shallow pots or pans well drained, give a good watering, place a little moss lightly over the surface of the soil to insure uniform moisture, and put them into a cold pit or frame. As soon as the first plants make their appearance remove the moss gradually to prevent the plants being drawn up weakly (which I should fear the inverted pot as recommended by Mr. Beaton would be very liable to do). As soon as the seed-leaf becomes firm enough to handle without danger of bruising, transplant them into nursery-pots or pans about an inch or so plant from plant. Keep them in the cool frame or pit with a moderate supply of water and abundance of air in all favourable weather for the winter, but protect from frost; as the spring advances encourage their growth by more liberal watering, occasionally over the foliage (but I do not mean sodden or drown them). Give plenty of air in all genial weather, and occasionally shade from the hot sun. Keep them thus growing, but as summer advances leave the lights off during the evenings, nights, and early mornings, only using them in unfavourable weather; and in order the more easily to shade them when necessary from the full sun, towards July or August reduce the moisture, and expose them more freely to the full sun and air for a couple of months, then pot them singly, and if they do as well as mine many will bloom the following spring. There are some tubers now growing here sown as soon as the seed was ripe last summer, which at the present time measure fully three quarters of an inch in diameter. By leaving seedlings long and thick in the seed-pot you have another disadvantage. It is well known that many of the choicest varieties of seedlings are frequently the weakest growers: therefore have but a poor chance to escape from being smothered or deprived of their due share of nutriment by their more sturdy brethren.

I believe there remains much to be done with Cyclamens, not only in improving the bloom, but also as foliage plants; some of them are extremely beautiful, and would rival many of the more tender plants in that

respect. I have of late paid some attention to this, and already raised some beautiful varieties. The more hardy ones especially are invaluable during the winter, when their foliage is in the height of its beauty.

I herewith send you a specimen of a seedling which has been growing out of doors in an exposed situation all the winter without the slightest protection, and just now dying down. The size you will see is very large, and when in vigour the substance very thick and wax-like; ground colour an intensely dark holly green with light markings.—[The leaf is marked somewhat like *Begonia Rex*; is heart-shaped, 6 inches long from apex to point of lobes, and 5 inches broad across the lobes.—Eds. J. or H.]

Mr. Beaton must excuse me for saying I fear he does not always practise the advice he gave to his correspondent, when writing for publication, or he would have perceived and corrected what I presume are unintentional errors in his review (April 22nd) of the previous Number. He therein twice speaks of *Cyclamen sibiricum*, though I expect he means *ibericum*, and also of twelve miles beyond *Genoa* instead of *Geneva*, as the locality from whence the tuber of *C. europæum* came, sent to him by "T. C.,"\* though he has once before had to correct the latter error; and, again, I cannot comprehend what he means when he says "no doubt the *vernium*, on travelling as far north as Naples, &c.," whilst he doubts *vernium* having any native habitat, unless it should have been written *C. repandum* (*hederæfolium* of some authors), that inhabiting the districts of country alluded to.

My attention has also been called to the period of flowering of *Cyclamens*, as given by Mr. Appleby in his arranged list of herbaceous plants in the *Journal* of March 11th, page 472, wherein he puts *C. neapolitanum* as an April bloomer, whilst it is universally allowed to be an autumn one, and *europæum* as March, whilst that is essentially a summer species; both kinds being at the periods named just retiring to rest instead of blooming, and I fear *C. vernum* and *repandum* planted for April would disappoint, the former being generally over by that time, and the latter (except under protection) scarcely early enough. These errors uncorrected are much to be regretted, as tending to perpetuate the confusion which has so long prevailed amongst the species of this beautiful tribe of plants.—J. A. P.

### THE GENUS CROCUS.

The following is an alphabetical descriptive list of species and varieties of wild Crocuses, with the authorities for the names, references to published figures of them, and the native places where they have been found:—

1. *CROCUS AERIUS* (Herbert). *Sibthorpianus* (Bot. Reg., 1845, Misc., 5). Native of Bithynian Olympus, in the pass from Trebizond to Stauros, which is choked with snow till June. Only known yet from dried specimens, in which the flower is very rich. Nearly white, with a yellow bottom, and without a sheath. Closely allied to *boryanus* and *ochroleucus*—two beautiful winter or late autumnal-flowering kinds.
2. *C. ANNULATUS* (Herb., Bot. Mag., 1841, 3861, p. 4; Bot. Reg., 1843, Misc., p. 26). Native of the south-east of Europe, from Italy to the Caspian, in ten varieties and four subvarieties. The latter are omitted.
  1. *Biflorus*, Scotch *Crocus* (Miller, Bot. Mag., 845). Native place uncertain.
  2. *Adamicus* (Herb.). *C. Adami* (Gay, in Bulletin de Ferussac, 25, p. 219). Native of Caucasus.
  3. *Nubigena* (Herb., Bot. Reg., 1843; Misc., p. 81). On the top of Mount Gargarus.
  4. *Purpurascens* (Herb.). Sent him from Dalmatia.
  5. *Albus* (Herb.). From Obschina, near Trieste, on the Austrian side.
  6. *Pusillus* (Tenore). There are three subvarieties of it.—Naples, Parma, and the Roman States.
  7. *Cerulescens* (Herb.) From the neighbourhood of Naples.
  8. *Extriatus* (Herb. The *biflorus* of Bot. Reg., 1937). Found near Florence.
  9. *Tauricus* (Herb.). A fine bluish-purple-streaked kind from Odessa.
  10. *Græcus* (Herb., The *biflorus* of Bory de St. Vincent). From Nauplia.

This *Crocus* is best known by the garden plant named Scotch

We have a communication from "T. C.," in which he points out this error. His communication will be published next week.—Eds. J. or H.

*Crocus*. It is easily known by its smooth hard bulb-coats, its yellow throat, and undivided fragrant stigmas; by the deep yellow sheaths which envelope the leaves when it first pushes, by all the sorts having five streaks on the sepals, or three outer petals, except 6, which has three only, and the strong pubescence of the throat and filaments, characters peculiar to all the varieties. The Scotch *Crocus* is quite sterile, and the seeds marked biflorous and sent here from Italy produced the variety 6 only. The variety 2 is a most beautiful flower of a bluer tint in its purple than any *Crocus*. Much variety and beauty in cultivation may be expected from variety 3. A variety from Pisa of 6 is naturalised in Barton Park, near Bury St. Edmonds. They are all spring Crocuses, from deep bluish-purple to pure white.

3. *C. ASTURICUS* (Herb., Bot. Mag., 3998, f. 2). From the maritime hills of Asturia in Spain, near Gijon and Santander. Its offsets are produced on runners like those of *C. pyrenæus*, to which it has been likened, but from which it differs in a bearded throat, a deeper purple, and flowering at least a month later. It was raised by Dr. Herbert from a single seed, which fell out of a specimen in Sir William Hooker's herbarium, which had been mistaken for *pyrenæus*. This is a very beautiful purple October *Crocus*.
4. *C. BORYANUS* (Bory de St. Vincent; Gay, in Bulletin de Ferussac, 25, 220). *Ionicus* (Bot. Reg., 1845, Misc., 3; ditto, 1847, 16, figure 10). *Veneris* of Tappeiner, and *Caspicus* of Fischer's herbarium. This is a most charming little *Crocus* for November, and one of the most easily to be had of all the wild Crocuses, being a native of most of the Greek islands, the Morea, and on to Asia Minor. It is found in Corfu, Sta. Maura, and Zante. The best variety of it is on Mount Skopo, in Zante, producing from the same eye sometimes five flowers, and even three at once; and it is the only *Crocus* known which exposes the seed-pod out of ground while in flower. The flowers at first are cream-coloured, then white, with an orange throat, and in some of the wild forms of it there are purple streaks on the outside; it is one of the few Crocuses which are remarkable for their lily-white anthers. There is a good figure of it in the "Magazine of Botany" for 1850, page 273, and the editor, Mr. Moore, now Secretary to the Floral Committee, gives there the whole treatment of autumnal Crocuses for the drawing-room, and you ought to see it.
5. *C. BYZANTINUS* (Parkinson, Paradisus, 168; Ker, Bot. Mag., 1111, p. 2; Bot. Reg., 1847, 4, f. 5). *Banaticus* of Gay. (Bull. Fer., 25, 220). Native of thickets in the Banat, and in Wallichia near Krajova. Parkinson had it from Turkey. It is the speciosus of Reichenbach, and the *iridiflorus* of the same and of Dr. Heuffel, flowering in October. This beautiful October *Crocus* is very remarkable from its purple style, the size of its spreading sepals, and the smallness of its erect pale petals, with the points a little recurved, and marked with purple lines, which give it the semblance of an Iris: hence the *iridiflorus* name by the Hungarian botanists. A deep violet purple flower.
6. *C. CAMBESSEDEANUS* (Herb.). *Cambessedesii* (Gay, B. F., 15, 220; Bot. Reg., 1845, t. 57., fig. 4). Native of Majorca. A "very remarkable and pretty little autumnal *Crocus*."—Herbert, who described it from dried specimens.
7. *C. CAMPESTRIS* (Pallas, in Lambert's Herbarium). *C. montanus* (2 Cusius). Native of Roumelia, on the hills near the river Marissa, and believed to be a variety of *Cartwrightianus*.
8. *C. CANCELLATUS* (Herb., Bot. Mag., 1841, 3864, p. 2; Bot. Reg., 1843, Misc., p. 30; ditto, 1845, Misc., p. 81). A pale white or violet flower, of which there are three named varieties from different places. 1, *Kotschianus* (Herb.), with a violet limb, named after Mr. Theodore Kotschy, who found it on the summit of Bulgar Dagh, behind Tarsus, and stretching towards Kurdistan; 2, *Margaritaceus* (Herb., Bot. Reg., 1846, Misc., 74, ditto, 1847, 16, f. 4). Native of Nauplia; 3, *Mazziaricus* (Herb., Bot. Reg., 1845, Misc., p. 3, and 82). Flowers in October in Sta. Maura. This very florid *Crocus* "purples the ground" on the ridges of Mount Taurus at the end of summer and early in the autumn. The other varieties are not so fine.
9. *C. CARPETANUS* (Bossier and Reister). Only known by their description in the "Flora Lusitanica."

10. *C. CARTWRIGHTIANUS* (Herb., Bot. Reg., 1843, Misc., 131; ditto, 1844, f. 3; ditto, 1845, f. 37, b.). A very beautiful autumnal Crocus, bloomed at Spofforth as late or as early as January. The flowers are white, suffused all over with purple, more or less starred inside with purple lines. One "root" had a pure white flower. There is a good figure of an intermediate shade of it in the "Magazine of Botany," page 273. It was named after Mr. Cartwright, British Consul at Constantinople, who procured it from the islands Teno and Seyro, where it flowers in October, November, December, and January. Of all the Crocuses this would be by far the most valuable breeder. It is inclined to a considerable degree of variation in these two islands; and there is a variety of it near the town of Canea in Candia, with the sepals pale yellow externally (see Bot. Reg., 1845, 37, fig. 7). The flowers are fragrant, and have the great merit of expanding easily, and not closing again willingly even in cloudy weather. This, then, is the type plant for an entire new race of Crocuses to bloom in the dead of winter, spreading from the shortest day back to October on the left, and advancing on the right to meet the spring-flowering race.
11. *C. CLUSIANUS* (Herb., Bot. Reg., 1845, 37, f. 8; ditto, 1843, Misc., p. 32). *C. montanus* (1 Clusius, Gay, B. F., 25, 220). This is the farthest-west kind of Crocus, being a native of near Cintra in Portugal, blooming here in September, with a dark yellow throat to a purplish flower.
12. *C. CHEYSANTHUS* (Herb., Bot. Mag., 1841, 3862, p. 2; Bot. Reg., 1843, Misc., p. 27). A very early yellow spring Crocus, native of Macedonia and Thrace, on low mountains near Rhodope and the Despoto Dagh, flowering in February about the village of Carleva.
13. *C. DAMASCENUS* (Herb., Bot. Reg., 1845, 37, fig. 1). An autumnal species from limestone mountains near Damascus, where the Arabs cook and eat them. It is rather a pretty purplish flower.
14. *C. FLEISCHERIANUS* (Gay, B. F., p. 219, 1827). A very florid Crocus with white flowers, slightly streaked on the outside. From the limestone hills of Smyrna.
15. *C. GARGARICUS* (Herb., Bot. Mag., 1841, 3860; Bot. Reg., 1843, Misc., p. 30). *Crocus aurea* of Clarke's "Travels," 1812, who called it aureus. A very ornamental species from the top of Mount Gargarus, flowering earlier in the spring than *lagenæflorus*; the flowers deep golden yellow, and produced seeds at Spofforth. Dr. Clarke's specimens were all citron colour. He and others found several fine kinds on the summit of Mount Gargarus.
16. *C. HADRIATICUS* (Herb., Bot. Reg., 1843, Misc., 77). There are two varieties of it—1, *Chrysobelonicus* (Bot. Reg., 1847, 17, f. 8, 9), from Santa Maura, flowering in October; 2, *Saundersianus* (Bot. Reg., 1847, 17, f. 7), from the hill of Bisdon, where the ancient Dodona once stood. The flower is white, with a deep golden throat, which is sometimes stained with dark livid reddish-purple on the outside. A fine species. Var. 2 was gathered by Mr. Saunders in December, near Janina. Var. 1 is from the hill called Chrysobeloni, in Sta. Maura.
17. *C. HEUFFELIANUS* (Herb., after Dr. Heuffel). A species closely akin to *vernus*, from the Northern Banat, flowering in damp wood in February and March.
18. *C. IMPERATORNIUS* (Herb., Bot. Mag., 3871, p. 2). *Imperati Tenore* (Bot. Reg., 1933). A fine species, varying with flowers striped and white. Native of lofty mountains in the south of Italy, as Monte Pollino, in Calabria, at an elevation of 6000 feet.
19. *C. INSLARIS* (Gay, B. F., 15, 221; Bot. Mag., 3871; Bot. Reg., 1843, f. 21). This species varies from yellow to straw colour in the north-east of the island of Corsica. It also occurs in Sardinia and in Capraria, and is akin to *suaveolens* of Italy. It bears seeds freely in England, and varies so much that two kinds cannot be found exactly similar—a good character for a good and valuable parent.
20. *C. INTROMISSUS* (Herb., Bot. Reg., 1845, Misc., 2). This was found with *Damascenus*, and died without flowering.
21. *C. LEVIGATUS* (Bory de St. Vincent, Voyage de la Morée). *Vernus* (Smith's Prod. Fl. Græc.). This species is almost white with a yellow throat, and with purple streaks outside; but it abounds with much variety of colour in the Morea, near the quarantine station of Zeitun; also in Thermia Melo, and on Hymettus.
22. *C. LAGENÆFLORUS* (Salisbury, Parad. Lond., 1805). This beautiful Crocus—branching into a great number of wild local varieties, from deep yellow to white, either unstreaked or with dark blue streaks on the outside of the tube and base of the limb—extends from the Banat of Hungary, over the Balkan, to Rhodosto and Constantinople, thence to Gargarus and Chios and other islands, and to Bithynian Olympus. In all these places all the kinds were found deep in the ground, much deeper than other Crocuses. Dr. Sibthorp found *aureus* deep in sand upon clay. Treated with very light soil, it produces seeds abundantly in England, but upon sandstone, or in a damp situation, it does not thrive, and often perishes. The breed of *versicolor* has well nigh banished from our gardens the yet richer race of this *lagenæflora* (*lagenæ*, a flask), of which there are nine wild varieties and as many subvarieties. The latter are not here enumerated.
1. *Aureus* (Smith, Prod. Fl. Græc., 1, 24; English Bot., 2646, and Bot. Mag., 2986).
  2. *Striatus* (Ker, Bot. Mag., 938).
  3. *Stellaris* (Haworth).
  4. *Syriacus*.
  5. *Luteus* (the *vernus* of Bot. Mag., 25). This is our "Large Dutch Yellow Crocus," which is barren.
  6. *Oliverianus* (Gay). From Chios, and at Rhodosta in Roumelia.
  7. *Hæmicus* (Herb., Bot. Reg., 82). From Mount Hæmus, near Adrianople.
  8. *Landerianns* (Herb.). From the Troad, through Mr. Lander.
  9. *Candidus* (Clarke's Travels, 1812). From Mount Gargarus.
23. *C. MEDIUS* (Gay, B. F., 1827, pp. 8 and 9; Bot. Reg., 1845, 37, fig. 5; Bot. Mag., 3871, p. 4). This is a great acquisition to an English garden. From east and west Liguria. First sent by Sir Augustus Foster, from the Ligurian Varese. The flower is large and very conspicuous, flowering from the end of September. Purple and violet, and ripened seeds at Spofforth.
24. *C. NIVALIS* (Bory, Voyage de la Morée). *C. sublimis* (Herb., Bot. Reg., 1843; Misc., 73; ditto, 1847, 4, fig. 2). On Mount Delphi, in Eubœa, and a larger variety on Mount Corydallus, near Athens. D. BEATON.

(To be continued.)

## ROYAL HORTICULTURAL SOCIETY.

MAY 6TH.

FRUIT COMMITTEE.—Mr. Edmonds in the chair. Prizes were offered at this Meeting for desert Apples, Peaches, Nectarines, Melons, Strawberries, and Cherries, and strange to say there were no exhibitions in either class, except in Peaches, notwithstanding the liberal prizes that were offered. Is it that the competitors for horticultural honours are reserving their strength for the great contests that are forthcoming?

Mr. Hall, gardener to Capt. Tyrrell, Fordhook, Ealing, sent some dishea of kitchen Apples, including Bess Pool, Dumelow's Seedling, and French Crab.

Mr. Thomson, gardener to his Grace the Duke of Buccleuch, again sent a bunch of Lady Downe's Grape, merely to show what like Grapes were that had hung from the autumn and through the winter and spring till May. From the old wood young shoots had begun to appear; the rising sap had flowed equally into the bunches as into the young shoots, and burst the berries, which in consequence had mostly become mouldy; there were some, however, that had resisted the force of the sap, and these were quite sound and excellent in flavour.

Mr. Carmichael, gardener to the Countess Dunmore, at Dunmore Park, near Stirling, was the only competitor for the prize for Peaches. He exhibited a dish of the Stirling Castle Peach. The fruit was very excellent, well grown, and of good flavour to be so early in the season, and the First Prize was awarded to it. This Stirling Castle Peach seems to be a very excellent one for early forcing.

Mr. Melville, of Dalmeny Park Gardens, near Edinburgh, sent three heads of his Late Broccoli, one of which showed a very large head, and the other two were not much developed. The opinion of the Committee was, that this was a very good stock of Invisible Late White Broccoli.

**FLORAL COMMITTEE.**—The Rev. J. Dix in the chair. There was a mass of new plants before this Meeting, and a full attendance of members of Committee. After appointing Sub-committees for judging new plants, the florists' flowers, and garden seedlings at the exhibitions of the Society in May and June, the Committee resolved not to hold their separate Meetings till after the summer exhibitions were over in July. All those, therefore, who intended to submit their novelties for the awards of the Committee will have to take the opportunity of those exhibition days for doing so.

Mr. W. Barnea, nurseryman, Camberwell, sent three plants of a handsome new variegated Azalea, which had a Certificate of recommendation; the redeeming point being the superior style of growth to that of this section of Azaleus.

Mr. Standish began a large assortment with two kinds of Weigelas, Van Houtte and Stelzneri, the latter, which is in the way of *amabilis*, had a Certificate of recommendation. Then his variegated Holly-like plant, called *Eurya angustifolia*, and which was before the Committee last year, from Japan, had a First-class Certificate unanimately; and his more Holly-like *Osmanthus ilicifolius variegatus* had a Second-class Certificate. A very beautiful *Retinospora pisifera aurea*, also from Mr. Standish's Japan collection, had a First-class Certificate. A Fern called a species of *Microlepia*, from China, from Mr. Standish, had a Second-class Certificate; and his *Ancuba picturata*, from Japan, was requested to be sent again, the imported plant being not in a fit condition to judge of its merits properly. He also sent plants of his May Queen *Epacris*, which were not thought to be superior to many others now in cultivation.

Mr. Kinghorn, nurseryman, East Sheen, sent a fine coloured seedling Azalea, called *Laxton's Red*. To be seen again.

Messrs. Veitch & Son came up with a host of very good things, and one collection of very bad things, which they sent on purpose to show that none of their new *Caladiums* are so good as the old ones, unless it may be one of them, which the Committee wished to see again when the plant is larger. They sent three kinds of lovely hardy Maiden-hair Ferns from the upper regions of Chili, approaching the *Arancaria* region. These stood out of doors all last winter at Exeter. The three kinds had each a First-class Certificate by nearly the unanimous voice of the eighteen or twenty members present. The names and the merits, in our judgments, stand thus—*Adiantum sulphureum* the best, *A. chilensis* next, and *A. scabrum* third.

The same firm sent a fine-looking double red *Petunia*, with white edges to the petals, called *Madame Rendatler*, which had a Second-class Certificate, and another not quite so good. Then came their collection of new kinds of *Begonias*, from which the Committee selected two for Second-class Certificates—namely, a comparatively small-leaved kind; the one, *Imperialis*, a dark purple, soft satiny leaf with light veins and markings; and a clear green-leaved kind, called *Smaragdina*, which is the Latin for emerald green.

After these the same firm had a most noble specimen of *Altasia cristata*, which Mr. Beaton described some years since as like a plant from before the Flood.

From Mr. Bunney was a specimen of *Cypripedium Lowii* with two flowers on the scape, and different from the usual state of the species. Then a gay but very small specimen of foreign *Azalea* from M. Verschaffelt, with a deep white margin all round the edges of the petals and half double, for which a Second-class Certificate was given.

Mr. Ferguson, Stowe, sent a most lovely single white *Petunia*, marked with five broad vivid stripes of purplish-red in every bloom. The whole of the Committee held up their hands for a First-class Certificate to that flower, which is called *Madam Ferguson*.

The Messrs. E. G. Henderson & Son, of the Wellington Road Nursery, sent a large assortment of their newest *Geraniums*, but in such small plants that none of them could be properly judged. Also a large specimen of *Rhododendron Dalhousii* in bloom, and a larger specimen of *B. Nuttallii* just going out of bloom; and a new lively low-spreading yellow-flowering plant, said to be a species of *Vella*, a greenhouse plant. Also a noble new *Swainsonia*-looking plant, with long spikes of stout violet purple flowers. Here also the Committee were unanimous in giving it a First-class Certificate. They sent word they had it from Australia as a *Chianthus*, and the specimens looked that way or as half between *Chianthus* and *Swainsonia*. It is the only pea-shaped flower we have ever seen of that shade of colour. They sent another very small specimen of variegated

Lime tree which the Committee thought very promising, and to which they would have readily given a First-class Certificate if the plant had been two years old instead of two-months grafted; as it was they gave it a Second-class Certificate.

Lastly, the Messrs. Lee sent a fine yellow hardy *Azalea* called *Altaclarensis*, a cross between the yellow *Sinensis*, the leaves of which it assumes, and some of the Belgian yellow *Azaleas*. This, on account of its free-blooming and hardiness, and particularly as likely to be one of the best to force early for the conservatory, had a First-class Certificate.

## NORTH AND SOUTH.

NOTWITHSTANDING the expulsion of Mr. Russell from the United States, and the consequent loss of accurate intelligence from the seat of the war, and in spite of the close blockade of the Southern ports, I have been enabled to obtain through a particular channel accurate information of a fierce, though, like most of the American battles, a bloodless fight, which took place no later than the 30th ult. The ground was remarkably well chosen, and the troops were drawn up under experienced commanders. The appearance of the Northern troops was, to an unpractised eye, poor and weak; while in physique the Southerners were remarkable for vigour of appearance and bold and daring countenances. But the result of the contest only showed how varied are the fortunes of war, and how little we can calculate upon results; for it resulted in the ignominious defeat of the Southern forces, one standard only of any importance remaining in the possession of the Southern army.

To drop all metaphor. The National Auricula Show was held on the 30th at the Royal Botanic Society's sixth spring Show, and the result was that the Northern growers carried off all the principal prizes. As a great deal will be said, doubtless, on the matter which ended in such unexpected results, I shall put the matter as it seemed to me. If correct, it will account for everything.

It has always been a great puzzle to me how the flowers which maintained their hold in Lancashire and the North generally did so, but it is no mystery to me now. And if the National Auricula Show (the first, and I fear the last), has done no other service, it has demonstrated this, that, wide apart as northern and southern amateurs are in their opinions as to Tulips and Pinks, they are equally so as to Auriculas—so wide, that I fear there is no possibility of their ever agreeing together. Taking an entirely different standard, they must ever come to opposite conclusions.

I shall not readily forget the burst of astonishment and something more when the gates were again opened, and the result of the adjudicators became visible. Some contending that, as the rules said three pips were to be the lowest number allowed, therefore the Judges preferred those with three.

Let me say at the outset that I never saw more thoroughly conscientious judging than that made at this Show. Nothing could exceed the pains and labour with which each flower was criticised; but, at the same time, it was done on what we in the South consider to be entirely a vicious principle, for with the Northerners the individual pip is everything. The size of the truss, the vigour of the plant, the general contour, in fact, goes for nothing. Thus, for example, in the class of eight varieties, Mr. Turner's plants, which obtained the second prize, were models of growth. They had fine large trusses containing ten, eleven, and twelve pips; while the collection which obtained the first prize had none more than five, some only three pips. The plants were in truth little more than offsets, but the judgment was entirely confined to the pips. Now, had any of the Southern exhibitors been aware of this, they could very readily have supplied very different plants to what they did; but to cut out a truss so as to leave only three never occurred to them as the right way to exhibit an Auricula. Oh, Dr. Plant, what would you have said—you with your Booth's Freedom with ten and eleven fine pips—your fine Conquerors and Glories?—you would never have had a thought bestowed on your fairest productions! I had wished previously that the Doctor would have sent us something to show what Auricula-growing is. I am glad for his own peace of mind that he did not; and for myself I can say (and I had nothing there from which I expected anything), that sooner than spoil my stage of Auriculas by such a barbarian process, I would give up growing them altogether. Let me see a nicely shaped truss, and there I can

recognise beauty, but not in a miserable starveling, like a Manx coat of arms, all on three legs.

I know the reply to this will be that of the three Judges two were Southerners. Most true; but notwithstanding this the judgment was on the Northern principle, and hence the North-crucers carried the day. Had it been reversed—had the Southerners taken off the prizes—I doubt not that the same strong feeling would have been evinced on the Northern side, and so I fear we must agree to differ; but this very fact will, I fear, entirely demolish any hope of such a reunion again until we can see with their eyes or they with ours. It must happen as it has done with other flowers, and the National Auricula Show be confined as much to them as would a Pink Show were such instituted. I do not write this in any feeling of disappointment as far as the mere fact of the prizes being obtained by Northern growers is concerned; for when I heard that the day was fixed for the 30th I felt that Mr. Turner and others had but little hope of success. But had they had ten times the amount of plants, and their plants been in the best possible condition, it would not have availed them one atom—it is the difference of taste, and there is the sum of the matter.

A good deal, too, of the interest belonging to a contest of this kind was spoiled by the owners not attaching the names of their plants to them: hence it is impossible to give (what to growers is over desirable), the names of the winning sorts. One judgment I believe both North and South acquiesced in—the giving of the premier prize in the Show to Mr. Headley's George Lightbody, which I at one time considered inferior to Lancashire Hero—a judgment I now entirely withdraw. It is a fine and excellent flower, although his plant of it was not in the fulness of bloom that he wished. Perhaps had it been so the Judges would not have treated it so well, considered it too large, &c. As it is, one must heartily congratulate so old and valued a florist upon his success. One other flower I must mention—Holland's Southern Star, apparently of the same family as Mrs. Starrock, but a good deal brighter, a real crimson; and when it becomes a larger plant will make a most striking figure on a stage.

The following were, I believe, the awards:—

Class A, FOR EIGHT VARIETIES.—First, Mr. Wilson, Halifax. Second, Mr. Turner, Slough. Third, Mr. Headley, Esq., Stapleford. Fourth, Mr. Douglas, York.

Class B, FOR FOUR VARIETIES.—First, Mr. Pohlman, Halifax. Second, Mr. Headley. Third, Mr. Elliott. Fourth, Mr. Cheetham. Fifth, Mr. C. Turner.

Class C, SINGLE GREEN EDGE.—First, Mr. Elliott. Second and Third, Mr. H. Wilson. Fourth, Mr. H. Stewart, York. Fifth, Mr. Pohlman.

Class D, BEST GREY EDGE.—First and Second, Mr. C. Turner, with Lancashire Hero and George Lightbody. Third, Mr. H. Stewart. Fourth, Mr. Pohlman. Fifth, Mr. Turner.

Class E, WHITE EDGES.—First, Second, Third, Fourth, and Fifth, Mr. Pohlman, Halifax!!

Class G, SELFS.—First, Mr. Elliott. Second, Third, and Fourth, Mr. Pohlman, Halifax. Fifth, Mr. H. Wilson.

PREMIER PRIZE FOR BEST AURICULA.—Mr. Headley for George Lightbody.

One cannot close a notice of the Show, however brief, without tendering one's warmest acknowledgments to Mr. Douglas, of York, for the great care and anxiety with which he has carried out the project, and for the urbanity and kindness he displayed to all who responded to the invitation.—D., Deal.

### GAS IN HOT-WATER PIPES.

WRITING on the above subject, in your Number of April 29th I think, Mr. Alex. Shearer made an error in stating that "there is no other gas which burns with a blue flame but hydrogen." If I mistake not, carbonic oxide does the same, and that gas is also formed when the vapour of water passes over carbon at a red heat, and coal dust is generally used by moulders in finishing a mould off. But is it not more likely to be hydrosulphuric acid gas, which also burns with a blue flame?

The following is a quotation from Gmelin's "Handbook of Chemistry," vol. ii., page 196. Speaking of the formation of that gas, he says it is formed "when organic compounds containing sulphur putrefy or are heated by themselves, or when other organic compounds are heated in contact with sulphur. If the existence of hydrogen-salts of metallic oxides be admitted, it must likewise be supposed that hydrosulphuric acid is generated when a mousulphide of an alkali metal is dissolved in water, and when iron filings are mixed with water and sulphur." Again, in same page—"Hydrosulphuric acid gas is collected over warm water or brine, which absorbs less of it than pure cold

water." Again, on page 200, speaking of its aqueous solution, he says, "Water at ordinary temperatures absorbs its own volume of hydrosulphuric acid gas. When heated it evolves the whole of the gas."

I do not know where the gentleman resides who first wrote to you on the subject, but is it not possible that the water used in the boiler might, like Harrogate water, contain this gas, and on being heated evolve it?—P. O. WHITEHEAD, *Holly House, Rawtenstall.*

### CONVEYANCE TO EXHIBITIONS OF CUT ROSES AND OTHER FLOWERS.

P. P. would feel much obliged by a little information with regard to the conveyance of Roses (cut trusses) by train for exhibiting, and whether the box that contains them should be air-tight or ventilated. The former, P. P. was under the impression, is most beneficial to the bloom, the moist atmosphere in the box causing the flowers to retain their freshness; but reading Mr. Beaton's article on the subject a few Numbers back, P. P. was surprised to find that Mr. Beaton made rather a point of the necessity of ventilation, to allow the perspiration of the flowers to escape. A box 15 inches deep, with 6 inches of moist sand at the bottom, the surface covered with moss, has been found to answer tolerably well, but the blooms get occasionally scratched with the leaves of the Roses, and the distance has been so short that it is scarcely possible to form an opinion as to the desirability of the box being ventilated. A few hints on this point from any reader of the Journal who has had experience in the matter would be thankfully received.

[Taking cut Roses, Dahlias, Asters, Hollyhocks, Gladioluses, and all the rest of them to exhibitions is a branch of packing which is altogether different from the packing of miscellaneous flowers, and leaves, and shoots for drawing-room decoration, and neither of the two ways recently described in these pages is applicable to your case.

When you can carry a box of cut Roses in your hand, or have them immediately under your own eye, such a plan as yours may possibly answer; but I should be very sorry to trust my chance of obtaining a prize to a box so arranged when much surer plans can be adopted. I have had some little experience in such matters—and, although not myself an exhibitor, carried for my friend, the Rev. F. W. Radclyffe, a box of blooms last September from Blandford to London without ruffling a leaf; and I think you will find the following plan effectually to answer your purpose. Your box should be made specially for them, the lid being sunk a little, so as to allow space for a layer of nice moss to be laid on the top. It should be perforated for the number of blooms you intend to show. The size now generally adopted is 18 inches in depth from back to front, and the length dependant on the number of flowers, though a box that will hold twenty-four blooms is the most convenient size. Where three trusses of each are to be exhibited, the holes should be made in triangles (· · ·), so as to allow each bloom a separate place. Each hole should have a zinc tube about 4 inches long with a flange round it, so as to keep it in its place, and the lid of the box should be fitted with hinges which easily slip off. So far from ventilation being required, the more air-tight they are the better; for where air gets in dust will also intrude, and no one knows how this penetrates everything in a railway carriage until they have experienced it. When you are ready for packing have your tubes well filled with water, the moss laid on the box and watered with a fine rose. Defer cutting your Roses till the evening, and then after sundown and before the dew falls, take what you require. Have ready some pieces of rhubarb-stalks cut in narrow strips. Place the stem of your Rose carefully in the tube, and then plug it in with the piece of rhubarb: this keeps it from shaking about, and prevents the water from being jolted out of the tube. Always carry a small watering-pot with a long spout, or an old teapot; and when you arrive at your destination let the first thing done be to look at your tubes, and see that they are filled with water, for a neglect of this is often fatal to an exhibitor. Roses sent in this way might, I think, be even entrusted to the tender mercies of railway porters, who seem to delight, when a box is marked "this side up," to turn it the other way. I took a box of Auriculas last month to Kensington; and at a station where I was obliged to change trains told the porter to wait until I came across the platform, as the box was to be carried straight. I came back

just in time to see it hoisted on his shoulder, and, of course, two of my pots turned over. Fortunately it was on their return journey, or my hope of a prize would have been of a very vague character. I believe that attention to these few rules will enable an exhibitor to convey his Roses without scratching or rubbing. Of course, care must be taken that the lid of the box is not too low, or else they will certainly be rubbed. And do not forget the watering-pot; for however anxious persons may be to oblige you, it is always better to be independent in such matters, and be able rather to help others than require to be helped. There is a glorious prospect for Rose-exhibitors this season; and with such weather as this that we are now experiencing, North and South will both be in time for even the earlier shows. Never had the queen of flowers so glorious a prospect before her.—*D. Deal.*]

I THINK the plans of Mr. Beaton, and "*D., Deal,*" are unnecessarily complicated. My plan is as follows:—Take a box of the depth, length, and width required—say of sufficient length to hold three bouquets. Get some double laths; cut them the exact width of the box; nail in one through the box, and then one end of the other, put in your bouquet, and then press the other end gently before nailing, allowing distance between each two laths according to the thickness of the bouquet-handle, and so proceed with the three. Now, if six are required to be sent in the same box, this may be done by inverting every alternate one, care being taken to reverse them as you proceed, so that the handle of each one inverted comes up between the others without injury, and see that the laths are put at proper distances, so that they do not squeeze too tightly, or they will make the bouquets oval-shaped.—*J. DIVERS.*

### CORNWALL WEATHER AND OPEN-GROUND CROPS.

NOTHING can be more delightful and cheering than the weather and the general appearance of the early garden produce in the district surrounding Mount's Bay. Everything is really early and vigorous. During the last few days early Potatoes have been drawn in the parishes of Paul and Madron for the supply of our markets, as well as by private individuals. A day or two ago a grower remarked that in twenty-four hours after the soil had been loosened about the roots there was an evident growth, and that everywhere the plant looked very promising. Sixteen or seventeen days ago great fears were excited by the prevalence of easterly and north-easterly winds, with an appearance of frost in the air and sky; but, thanks to an All-wise and over-ruling Providence, the crisis appears to be now past. Had frost come a fortnight ago it would have destroyed all the very early crops and entailed a loss of many thousand pounds sterling to the growers. The last few days the weather has been splendid; the sun bright and hot, the wind soft and gentle, and the face of nature smiles on all hands. In a very short time the tables of our tradesmen and better-to-do classes will be supplied with green Peas. Young Onions are strong and healthy. Radishes and Rhubarb have been as plentiful as sticks in a farmyard. Early Cabbages are delicate and tender; and Lettuces and young Onions are becoming quite common. In some favoured localities the grass is a foot high, and in most places there is plenty of good feed. The Apple trees are perfectly covered with bloom, and the Gooseberry and Currant trees are equally promising. Should the weather continue fine this will certainly prove one of the most abundant seasons known in this neighbourhood for years.—(*April 29, Penzance.*)

**TREE FROGS.**—A fresh supply of these interesting little creatures from the South of France has been presented to the Royal Horticultural Society, and as another envoi is promised, the Council think that some of these may be spared for distribution among the Fellows, and they propose to have a ballot for them in pairs in the month of June. They are not only charming from their beauty, and the marvellous similitude which they bear to the leaves amongst which they live, but are most useful in a conservatory in clearing off green fly, and all sorts of insect vermin. Formal notice will be given of the ballot in the "Proceedings" for June.—(*Proceedings of Society.*)

### THE AILANTHUS SILKWORM.

WE are informed by Lady Dorothy Nevill, who has devoted so much attention to the introduction of the Ailanthus Silkworm to this country, that there is now a prospect of a market being opened for the disposal of the silk. Mr. Lister, one of our great manufacturers at Bradford, is prepared to take one million of cocoons a-year at the rate of 1s. per pound; and should it turn out that there is not much waste in the manufacture, the price would be increased to 1s. 6d.

It is very cheering to hear that a method has been discovered for unwinding the cocoon in a continuous thread, as in the case of the Mulberry Silkworm cocoons. This operation is familiar to the Chinese, who have no difficulty in the matter; but hitherto the process has not been known in Europe. We are told that the discovery has been made by a lady in Paris, and as soon as we obtain particulars we shall communicate the information to our readers.

### THE SEASON IN HERTFORDSHIRE.

WHILE I write, May 6th, I have two swarms of bees hived within an hour of each other, quietly settling themselves within the hives prepared for them. The swarms are each abundant and strong; the individual bees are very fine.

I will add a few jottings upon other things as influenced by the season in this neighbourhood. Mushrooms were gathered upon a bank beside a public highway in the middle of April last. Pears are set for a very good crop here, and the embryo fruit seems to promise well. Apple blossom is most abundant, but I infer that a very large majority of the anthers never came to perfection, so that there will be a scarcity of pollen in this neighbourhood. Plums seem to be set very well, and there is a very good show for a crop. Cherries, in some instances, will not be so abundant, unless the diseased pistils in 60 per cent. of the flowers here is an affection purely local. Wall fruits are set very well, as also are the minor bush fruits. I regret to say the caterpillars upon Gooseberries have made their appearance again this season; they should be seen to. I hope the lightning and heavy showers upon the eve of the 6th here will destroy them as also the black fly, which is unusually abundant this year.—*W. EARLEY, Digsweil.*

### KEEPING GRAPES.

THREE days since, a friend brought me about a pound of Catawba and Isabella Grapes. They were about as good as if just taken from the Vine in the proper season, full and plump, but most of the berries had fallen from the stems, in the carriage of about ten miles over a rough road.

Now, the way these Grapes were preserved may not be new to you, though it certainly seemed a novel one to me; but the fact of their keeping until the end of March in fine condition is worthy of publicity.

In the fall, when they are perfectly ripe, they are taken from the Vines, when they are free from anything like moisture, handled carefully and packed in small kegs—nail kegs were the kind used in this instance. Put a layer of green leaves right off the Vines in the bottom, on this a layer of Grapes, then leaves again and Grapes, alternately, until the keg is full. Put in the head, and your cask is ready—for what? Why, to be buried in the ground. Dig a trench so as to admit the casks, deep enough that they will have about 1 foot or 15 inches of soil over them when covered. The ground should be packed rather tight, and a board laid along on the top before the ground is thrown in. They throw some litter on the surface of the ground over those which they wish to take up during the winter, to prevent the ground from freezing so hard as to keep them from getting at them. One important thing must be observed, that they be placed where there can be no standing water about the casks, or they would suffer.—(*Germantown Telegraph.*)

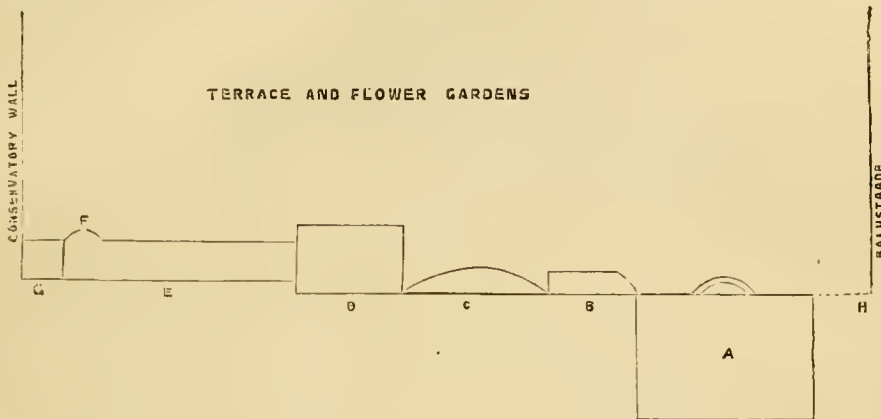
**EARLINESS OF THE SEASON.**—We always consider Asparagus a sure witness to the earliness or lateness of the season, it being a hardy native perennial. It testifies to this year's early spring by being ready for cutting on the 23rd of April. Last year the first cutting was on the 21st of April, whilst in 1860 the first cutting was not until May 22. The very earliest cutting at the same place, Croydon, during the last ten years was in 1859, when it was on the 11th of April.

A FEW DAYS IN IRELAND.—No. 22.

NUTLEY.

THE next place we looked in upon near Blackrock was Nutley, the charming and beautifully-finished residence of Alderman Roe. Entering the place by a somewhat private road from the station, and through part of the grounds of the nursery already referred to, and which we were told formed part of the property, we had a bird's-eye view of the pleasure grounds, the lake forming in the park between it and the kitchen garden, and the

kitchen garden itself before meeting with our new friend Mr. Wright, busily superintending operations in a Potato-field. Before meeting with him, we had ample opportunity, in the passing view, for remarking to ourselves that here, at all events, the right man must surely be in the right place, as every spot seemed to speak of careful supervision, order, and refined taste.



GROUND PLAN OF MANSION AND PLANT-HOUSES AT NUTLEY.

- A. Dwelling-house.
- B. Camellia-house, 34 feet by 7½ feet.
- C. Kitchen yard.
- D. Stove, 43 feet by 28 ft. by 22 ft.
- E. Greenhouse, 79 feet by 14 feet by 14 feet.
- F. Greenhouse entry, 19 feet by 14 feet.
- G. Orchid-house, 19 feet by 14 feet.
- H. Entrance to terrace.

As far as we recollect the beautiful square mansion is placed at the west side of the pleasure ground. Close to it, and their backs in line with the front of the house, are placed, first a Camellia-house, 34 feet by 7½ feet; then a semicircular ornamental wall, some 60 feet in length, built with alcoves for statues, &c., an object of attraction in itself, and concealing all traces of the kitchen and servants' yard behind; then a square plant-stove with hipped roof, 43 feet in length, 28 feet in width, and 22 feet in height, opening into a greenhouse 80 feet long, 14 feet wide, and 14 feet in height, extending to a wider bayed house 19 feet by 18 feet, and terminating in an Orchid and Fern-house 19 feet by 14 feet. It was at this point we entered by a door in a wall leading southwards, that wall being 152 yards in length, and covered with fine things, with a flower-parterre in front of it. From the south end of that wall an ornamental balustrade goes westward until it passes the mansion, and then returns northward so as thoroughly to separate the pleasure grounds from the park in front and behind. The main entrance is south-west of the house, and though the approach is short, the curves and the planting are a pattern for all who would take lessons in landscape gardening, and showing what interest and taste may be concentrated in a small demesne. To this we will shortly again refer.

Meanwhile, standing near the mansion, you are first struck with the compactness and finish of all the arrangements inside the balustrade; then the massiveness of what planting there is without, so relieved by light and shade; then the waters of the lake, as now forming or widening, seem to sparkle in the sunbeams. South-east of these is a sort of prospect-tower in the kitchen garden, now used partly as a dovecot, but which is an attractive object from the grounds; and beyond, and bounding the horizon, the rich massive woods of Marrion (the late Lord Herbert's), and of Mount Anville (the seat of W. Dargan, Esq., one of the best practical patriots that Ireland has ever known), and that fine beautiful prospect Alderman Roe and all his household may call their own—"theirs by right of eye."

The space enclosed by the balustrade is two acres and nearly three roods. From the entrance to the terrace, between the walk and the balustrade, is a fine row of handsome Irish Yews 10 feet apart. The centre of the lawn is graced with groups, some still young, in the massed picturesque style. In front of the mansion facing south-east is a beautiful flower garden clustered round an elegant fountain, the fountain being supplied from a large cistern at the top of the mansion, and that again supplied from a water-ram at a fall in the lake. The beauty of

this garden consisted not merely in the planting, but in the open space of grass all round it and between it and the mansion thus giving relief and breadth, as it were, to the colours.

Another flower garden was placed farther eastward in front of the main range of houses, with another fountain in the centre. The beds were here placed in geometrical order, close together, bordered by Box and divided by narrow gravel paths. This constituted variety, though the ease and the elegance of the first group were wanting. The beds were also planted more in mixtures, Roses, &c., which also gave more variety, which is ever pleasing, but at the expense of unity and grandeur of expression. Such beds would be most telling when each was filled by a low-growing mass-flowering plant, so as the eye could easily take in the whole. However nice they look in summer, massed Rose-beds always spoil a group of bedding plants in autumn. One of the best gardeners in England was loth to remove them from a beautiful parterre, and though with a fine eye for effect, it was long before he could be made to see that the thin, and blackish, and curled leaves of his Perpetual Roses did detract from the gorgeous beds of Verbenas, Calceolarias, &c., beside them. A small Rose garden would secure the variety and obviate all the difficulty. We rather think our friend has left a couple of beds still, though all the rest have been removed. The last time we saw them there was a glorious bed of Scarlet Geranium on one side, and Yellow Calceolarias on the other. The Roses just made the splendid group very common—almost a failure. In each case a mass of Ageratum would have balanced the red and yellow, instead of a few scattered Roses and leaves, which no care would make nice in September. As a return for kindness, may we hint that this pretty garden might be better and more telling without the Roses in autumn?

The plant-houses were rather thin, as most of their usual residents were transferred to other houses, or placed for a time out of doors, and more temporary plants put in thinly to supply their place. In the stove were some fine specimens of Begonias with fine foliage, Achimenes, &c. In the greenhouse were some fine Fuchsias, Balsams, &c. The back of the house was densely clothed, chiefly with three plants—Polygala Laurencana, producing myriads of flowers; Plumbago capensis, also a mass of bloom; and Heliotropium peruvianum, also a mass of bloom. In the centre of a large vase in the greenhouse was Arista Banksii, a strong Sedge-like plant with whitish leaves. At the back of these houses, under the shade of a large tree, were a fine collection of Camellias, Azaleas, Epacrises, Ericas, Rhododendrons, including a fine plant of Nuttallii, Correas, Acacias, &c. Many

plants ranging from 4 feet to 6 feet in height, and from 2 feet to 3 feet and more in diameter of head. All seemed to be in the very highest health. We also noticed a great quantity of the beautiful *Primula denticulata*.

On the long wall which bounds the east side of the lawn we noticed many things quite healthy, which will not live out with us in general years, and others all of which were killed by the winter of 1860 and 1861. Along the wall were fine plants of Tea, Noisette, Bourbon, and Perpetual Roses; Jasmines in every variety; Glycines, including *sinensis*, *alba*, and *magnifica*; Clematis, all the best kinds, including Sieboldi and lanuginosa, the latter seemingly perfectly hardy here; Escallonia, as *rubra*, *montevicensis*, &c.; Ceanothus, all the hardy and half-hardy kinds; Magnolias, all the best kinds and uninjured; Photinia serrulata without a leaf injured; Solanum jasminoides, fine, healthy, and free-flowering, though in a greenhouse it is generally a prey to fly; Mahonia ilicifolia with its fine greyish leaves, and other Mahonias and Berberis, as Bealii, &c.; Garrya elliptica latifolia growing and blooming freely; Lardizabala tritenata, a fine plant; Abelia triflora producing its large bunches of tubular flowers; and Salisburia adiantifolia producing leaves as large as Catalpa.

The whole of this long wall is fronted by a wide geometrical border formed of Box-edged beds, and narrow paths between them, and planted partly in the grouped style, the semi-grouped style, and the old mixed system, so as to permit of dwarf and tree Roses, Dahlias, Delphiniums, and other fine old plants and annuals being freely introduced. The effect was altogether striking, and for cut flowers it must be a rare resort. We should almost be sorry to see such an arrangement altered; but we could see Mr. Wright had a little hankering to devote a part to bedding or grouping entirely, another part to mixtures, &c., and very likely if we said much he would turn our own weapons or words against us.

We did not go through all the kitchen garden, but it seemed full to overflowing with vegetables and fruit trees. Close to the houses was a sight seldom to be seen last season—a good-sized standard Apple tree and loaded with fine specimens of Ribston Pippins. Here are two vineries, each 40 feet long, 14 feet wide, and 16 feet high, with good crops of Grapes. Also, a pit 24 feet long, some 14 feet wide, and 11 feet high, used for propagating and keeping bedding plants, and, when these are all turned out, for Melons. The Melon crop hanging and suspended from the roof was magnificent in the middle of September, and pretty well as regular as if placed by rule and scale. Outside in a yard were also some fine plants of Camellias and Azaleas, many of the former being 6 feet by 4 feet, and though not told, we presumed they had a help in the vinery to forward growth and the setting of the buds, and were rusticated a little out of doors before being taken to the conservatories. From the kitchen garden a nice walk leads westward through a thick belt of trees that here bounds the park to the entrance-gate.

To the beauties of that carriage-road we said we would again refer. Leaving, then, other matters alluded to as well worthy of attention, there are two great distinguishing features at Nutley. The first is, the clear, defined separation of the flower gardens and pleasure grounds from the park scenery, by means of the elegant balustrade. This permits of a free use of the artistic and even geometric inside the balustrade, and a softening-down with the picturesque at a distance from the straight architectural lines. How different is such an arrangement from attempting to hide the boundary by a deep ha-ha ditch, and then taking a walk near it, so that you cannot help seeing what it was professed to be desirable to hide!

Then secondly, the outside open massive grouping we have also alluded to in the park in front of the house. It is even better behind the house, and westward to the main entrance. From the surroundings this park cannot be large; and yet behind the house so thoroughly are all boundaries concealed, so massive and undulating the groups of timber, so much do they advance to and recede in bold sweeps from the approach, throwing the grass into lesser and larger irregular lawns and glades, that you might fancy yourself in a demesne as large as the imagination could revel in, provided mere extent was the object most desirable. Just think of the difference, and the monotony, and the idea of confinement and restraint produced by bringing the trees down to a somewhat regular distance from such a nicely-curved, nicely-kept approach; and many who would do that in order to effect seclusion and repose, might have no idea how much both these objects would be promoted by expanse, room-

ness, and bold graceful sweeps. In some of these open glades were single and detached groups that told well; in others, a fine single specimen alone in its glory, from which the eye went to the dense irregular background. On praising some of these, Mr. Wright was modestly doubtful whether the picture as a whole, would not be more telling without them. Without the experience and the fine pictorial eye of our friend, we could see that on such a spot it would require much study, and looking and relooking from all points before fixing on the removal or planting of a tree. We regretted that our stay was so short; but so delighted were we with that part of the demesne especially, that to any gentleman near Dublin constructing for himself a suburban home, and anxious to secure for it not only seclusion and retiredness, but free expanse and roominess combined with fine picturesque effect, we would say, Apply to Alderman Roe for permission to study the grouping from the lodge past the mansion. We hope neither the worthy Alderman nor Mr. Wright will be offended by the suggestion. A five-minutes walk will unfold more than five-hours writing without plans and views.

R. FISH.

## THE CALCEOLARIA AS A BEDDING PLANT.

HAVING, in preceding chapters of THE JOURNAL OF HORTICULTURE, given a rough outline of the Geranium, Verbena, and Fuchsia, and their uses for flower-garden purposes, I now come to another plant which, supplying a colour differing from anything else we have in that way, seems as indispensable to the flower garden as a bed of Cabbages to the kitchen department. Time, however, and a better acquaintance with other plants likely to become substitutes to this one may, possibly, to a certain extent displace it; but, hitherto, everything that has been introduced with that view has failed to give that satisfaction which a good bed of yellow Calceolaria is always sure to do, so that it is needless making an apology for calling attention to a plant at once so popular, and, usually, so easy of culture. I will begin with a few observations on the original species from which our present race of flower-garden favourites sprung, and follow them down to the present time, with such remarks as may be interesting to the general reader.

ORIGINAL SPECIES.—I am not able from memory to detail all the various advances made in the transition period which was most active from 1830 to 1840; but it may be of some interest to say that the first Calceolaria I became acquainted with was *C. corymbosa*, and that some time about 1829. It was known and cultivated by older gardeners before that time, but I think it was little altered then. Soon after that period the woolly-leaved species with purple flowers created some little stir under the name of *C. arachnoidea*. This very distinct species might, I think, be turned to good account now if again put into the hands of some skilful hybridiser; but I have not seen it for twenty years or more. *C. purpurea*, I think, was an improved variety of *C. arachnoidea*, but my recollections of it are less clear than of the other kind; and all the kinds previously known fell into disrepute when *C. integrifolia*, the old shrubby yellow variety, or rather species, came into general use. The first time I remember seeing it used as a flower-garden plant was in 1831; seedlings, however, of the herbaceous kinds had been known long before, and some had even been sent out with distinct and high-sounding names—one called Kellyana remaining for some years a favourite. But it was many years before a quick and easy mode was found out to propagate the hardwooded *C. integrifolia*, especially when it was confined in a pot, and that often of limited dimensions, so that seedlings of the herbaceous kinds were on the whole more sought after, especially for plant-house decoration; and *C. corymbosa* and *C. scabiosæfolia* being of easy culture, were frequently found in the flower garden amongst other annuals and such perennials as were then thought the greatest ornaments to the garden.

One of the earliest hybridisers amongst our enterprising nurserymen was Mr. Major, of Leeds; and I believe, before him, another grower in the same way at Chester had sent out several good varieties of the herbaceous, or half-herbaceous kind, while Messrs. Gains and Catleugh exhibited well-grown plants at the London shows. But the merit of bringing the Calceolaria to as great a perfection as any, belongs, I believe, to that veteran plant-grower whose contributions still frequently grace our metropolitan exhibition-stands—Mr. Green, gardener to Sir E. Antrobus, Bart. Mr. Green exhibited some plants about 1840, obtained entirely from crossing *C. corymbosa* with *C. arachnoidea*. As

these belong more to the purely greenhouse, rather than the flower-garden class, it is needless to follow them further, suffice it to say that some years before that time, the flower garden was enriched by such dark kinds as Mogul, Majoriana, Superb, and some others; while the blotched or intermediate kinds were represented by Sir Walter Scott, Sunbury Hero, and a host of others, the yellow ones being at that period of less repute. *Calceolaria integrifolia* and *C. rugosa* were the only kinds I remember in cultivation of the yellow class they represented up to 1838, or perhaps later, when *Sulphureum* was introduced; and a red or dark one of the shrubby kind making its appearance at the same time, gave all the kinds that are now so popular in the flower garden, with the exception of *C. amplexicaulis*, which added quite a new class, and previous to its appearance, a white one caused some little stir; and subsequently another white one, not many years ago, was expected to do great things, but it somehow disappointed everybody. These kinds, forming the originals from which our present flower-garden varieties have sprung, have, in their offspring, been much improved in colour, habit, and all the qualities that make them useful, excepting, perhaps, in constitutional vigour, which, as is common in such things, has been in some degree impaired by the change.

**NATIVE COUNTRY OF THE CALCEOLARIA.**—The western slopes of the Andes of about 20° S. latitude furnish this plant, and also that most remarkable of all our imported *Coniferae*, *Araucaria imbricata*. Of the precise character of the soil we have no positive information, but we are told it is moist, and being at a considerable elevation we may with every reason of probability assume the *Calceolaria* to be well inured to frequent and heavy rains, and ranging as it does up to near the limits of perpetual snow, its roots must often be moistened by a melted liquid almost as cold as ice itself: hence we may easily guess that bottom heat is not one of its requirements—at one period of the year at least. Most likely the plant is buried underneath a mass of snow in the short winter months—at least, such plants as reach the line of snow. But the herbaceous class would seem not to be quite so hardy, and probably inhabit a lower and warmer climate. Chili, where this plant comes from, has a greater diversity of climate than most countries, the tropical and arctic regions may be said to be both represented here; but the *Calceolaria* is in an intermediate one, and no doubt it is surrounded by many ornamental plants yet unknown to us, although the enterprise of explorers has furnished us with several, not the least remarkable neighbour to the *Calceolaria* being the Potato, which, in a wild state, inhabits the same territory. Doubtless the *Calceolaria* is also found in the adjacent provinces of Peru, Bolivia, and perhaps as far south as Patagonia; but I am not aware of its being found indigenous anywhere in the old world; though in its cultivated condition in such climates perhaps as that of New Zealand there is every reason to suppose it may ere long establish itself, and that in mountain countries it will do so also.

(To be continued.)

J. ROBSON.

## CONSTRUCTION OF A GAS-HEATED MELON-PIT.

REFERRING to page 65, I am obliged for the hint about ascent and descent. No doubt the stove must be in the front corner of the pit, and the conducting-pipe must ascend. I have already tried the same stove for two vineries, and they answer well. This stove heats my lean-to house about 5 feet wide and 60 feet long. The stove is by Rickett, of Agar Street, price 35s., and burns 6 feet per hour, and gives a good heat. It can be increased if wanted.

If the gas is more costly in point of actual cash for it alone, how much may be deducted for saving of labour in attending to fires? All brickwork for flues, and sweeping of chimney and coal dust and ashes are avoided; also the cost of keeping a boiler in repair, in addition to the brickwork of the fire.

I wish some of your readers would experiment with gas. I think it would even pay to substitute gas for fire heat to existing boilers.—A SUBSCRIBER.

## CULTURE OF THE PINE APPLE.

(Continued from page 101.)

**SUCCESSION PLANTS.**—The fruiting Pines as mentioned in my last paper being all repotted and put into the freshly-renewed bark-pit, the next thing that requires attention is the succession

plants. These should be repotted, and the bark heat renewed exactly the same as the fruiting plants. They should have larger pots; indeed, the largest-sized plants will be in the next size to those used for fruiting plants, for such plants will be large enough for fruiting the autumn following to supply fruit in winter: therefore, let such have a second shift in July into pots large enough to fruit them.

**YOUNG PLANTS.**—After the succession plants are finished potting, &c., then turn attention to the youngest stock. They will not have filled their pots with roots, but the soil will have become poor with frequent waterings, and the loss of nutriment the plants have drawn from it. The young plants should have liberal treatment in regard to rich soil, plenty of pot-room, and free supplies of internal moisture in the air and water at the root. Free growth at this stage is important; for if the reverse is given the plants will be stunted, and will start into fruit prematurely. Let the cultivator, then, keep this constantly in mind. In potting young plants, turn out the ball, and shake off very gently the greater part if not all of the old soil. Preserve the healthy roots entire, and repot into a pot two sizes larger, following the same method of drainage, and filling-in the fresh-sired compost amongst the leaves. Should any of them have sickly or dead roots cut them away entirely, and cut off even the bottom part of the stem if decayed. Fresh roots will soon be emitted owing to the excitement of renewed heat and fresh soil.

When plunging the Pine plants, whether they are fruiting plants, succession, or yearlings, after the second row is plunged the first row should have the bast matting used in tying-up the leaves cut loose, and with a smooth stick arrange the leaves into their proper position. At this stage of the plunging operation the ties can be reached more conveniently than if left till the whole of the pit is plunged. When the third row is plunged then release the second from the ties, and so proceed till the last row is plunged; then cut that row loose, and that finishes the work. Should any leaves hang over the paths, they should be protected by long strings of twine reaching round the pits: these strings will lift up the leaves, and thus preserve them from being broken or cracked. Some to save trouble cut such leaves in; but that is a bad practice, for every healthy leaf should be kept entire if possible.

I am supposing that all these three plantations of the Pine Apple in its three stages of growth are done as early in the spring as possible—certainly not later than the first week in March. Done at that early season, when the sun has not such great power, there is less danger of the plants flagging, and consequently no necessity for shading them.

**TREATMENT OF SUCKERS AND CROWNS.**—When the old stools are removed out of the fruiting-house to make room for a fresh stock of plants from the succession-house, then is a convenient time to take off the suckers. The best and safest way to accomplish this is to turn the old stock out of the pot, shake off the soil, and cut away all the roots, then commence pulling off the lowest leaves one by one till you come to the first sucker. Grasp it firmly, and bend it downwards, till it breaks off from the old stem; lay it on one side, and pull off the next leaves till the second sucker is bare; then detach it also, and so proceed till every sucker on that plant is separated from the old stool. Many of them will have begun to put forth roots, such may be potted immediately, and, according to their size, take their place amongst the succession plants. Previous to potting them pare the bottom of the stem quite smooth, and pull off some of the lowest small leaves, being careful not to injure the young roots just starting out from the base of the stem. Small suckers that have not formed any roots may be stuck in the tan-bed for a month or so till they emit roots.

**CROWNS.**—These will be sent back to the grower from the table, and as the bottom will be soft and full of sap, it is not advisable to either pot them or put them amongst the bark. I generally adopted the plan of first pulling away a few bottom leaves and paring off the bottom of the stem, and then laying them upon a shelf in the stove for a week or ten days till the bottom of the stem became withered, dry, and firm; then the crown may safely be either planted amongst the bark or potted, as may be convenient. Observe, however, never to water these unrooted suckers or crowns till it is certain that they have pushed forth roots. The Pine Apple is a succulent plant, something like an Aloe or a Cactus, and, therefore, water will be equally as fatal to an unrooted Pine Apple plant as it would be to a cutting of an Aloe or a Cactus.

**ROUTINE.**—Whilst the work of potting, renewing the tan or leaf-bed, is going on, a good opportunity offers of cleaning the inside of the houses. Wash the glass inside and out, whitewash the walls, and scour the stoncs. At this season (spring), however, it is not advisable to paint inside, because air cannot be given sufficiently to carry off the offensive effluvia of the paint. When painting inside is absolutely necessary, the best season for it is the middle of summer. The woodwork, however, should be well scrubbed, not only for the sake of cleanliness but also for the destruction of insects which lay their eggs in crevices of the wood.

This early work of potting, &c., being finished, the daily routine of attention commences. It may be summed-up in a short paragraph. The first point is a due amount of heat: this I have already given. The next is atmospheric moisture. This is attained by syringing the pipes or flues, and keeping the troughs full of sweet clear water, by syringing the bark when the surface is dry, and by syringing the plants after a sunny day; observing, however, not to syringe the fruit when it is in flower or changing to a state of ripeness.

**WATERING.**—Attend to the directions already given, observing, however, not to water newly-potted plants for three weeks or a month; by that time new roots will be forming, and the soil will be so dry as to require a good supply to moisten it. For the first two months watering twice a-week will be sufficient; but in June, July, and August three, or even four, waterings a-week may be necessary. When the fruit is swelling rapidly, if a little water is poured into the crowns it will be serviceable. Fruit that is swelling-off, also should be frequently supplied with liquid manure. It helps them wonderfully to swell up to a large size and form handsome fruit.

**GIVING AIR.**—Large crowns are objectionable, and large crowns arise from too little air being given. That point is the next that I will refer to. Excepting in actual frost I would

give air every day—less, of course, in cold wet weather than on hot, dry, sunny days. In the early part of the year give air for two or three hours in the middle of the day, increasing the length of time before shutting-up as the days become longer and warmer, so that in the very height of summer air may be given by eight o'clock in the morning, or even half an hour earlier, and remain on till five in the afternoon—indeed, in very hot weather, I have frequently left on a little air all night. Attention to this point will cause the plants to grow stout and sturdy; whereas, a too great closeness will cause them to make long, thin, narrow leaves, and make them so weak that the fruit they will produce will be small, and the crowns disproportionately large.

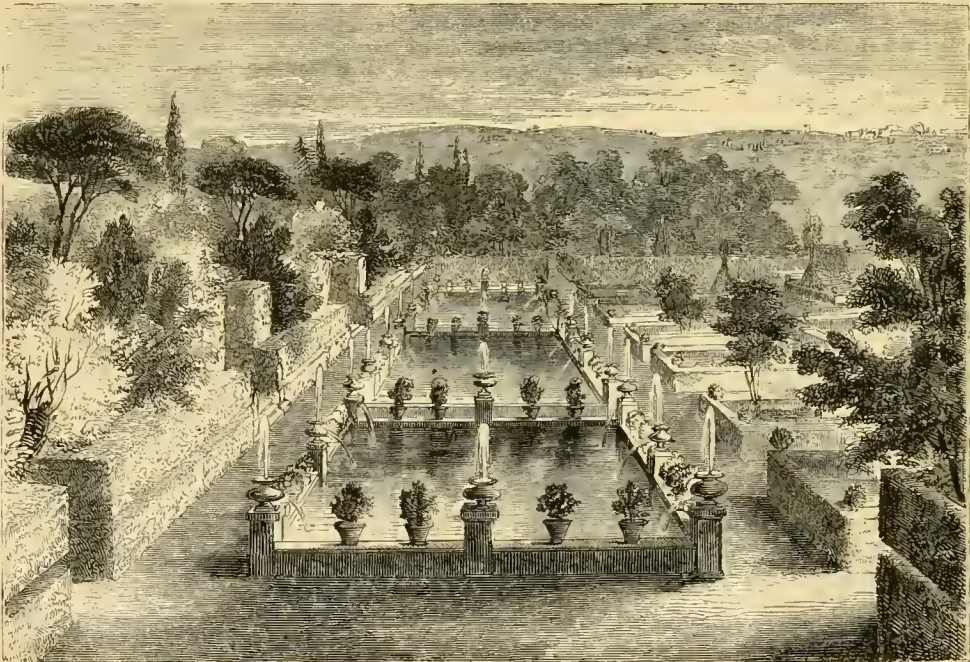
**REPOTTING—RENEWING BOTTOM HEAT.**—It is very probable that towards June the young plants and successions will have filled their pots with roots; many, probably, will have sent their bottom roots through the holes at the bottom of the pots into the bark; also the heat in the bed will have begun to decline. In that case it will be necessary to go over the process of repotting, &c., and also to add a small quantity of fresh tan to the bed. The main body of the bed need not be disturbed unless it should be very dry. In such a case a quantity of warm water poured into it will moisten it and cause a fresh fermentation. The bed of the fruiting-house should be renewed also in the same way. On a rough calculation a sixth part of new tan will be sufficient at that time of the year. Though so little is added, yet the effect must be most carefully watched; for a too great bottom heat at this season, would be most peculiarly unfortunate.

The fruiting plants should not be repotted, but only top-dressed; because, if a too great stimulant of growth be applied, that growth will certainly take place, and though the plants will grow larger, they will not be so certain to fruit at the due time. Should they require helping, give them some weak liquid manure instead of fresh compost. T. APPELBY.

## ARTIFICIAL WATER IN GARDENESQUE SCENERY, FOR GROWING AQUATIC PLANTS.

BY H. NOEL HUMPHREYS, ESQ.

(Continued from page 104.)

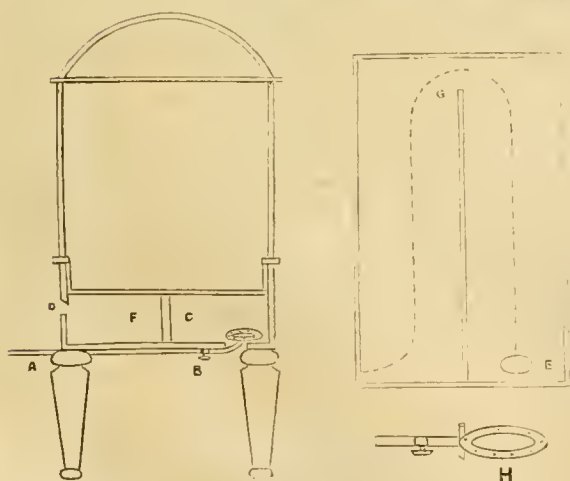


ARCHITECTURAL FISH-POND AT THE VILLA STRADA, NEAR ROME.

The above illustration shows the architectural treatment of a fish-pond or pescheria in the gardens of an Italian villa. It exists at the Villa Strada, in the Strada Nuova, near Rome. The architectural features are perhaps overdone, but are an excellent example of the highest and most laborious style to which architectural gardening has been carried in Italy.

(To be continued.)

BIJOU PLANT AND PROPAGATING CASE.



- A Flexible tube for supplying gas.
- B Tap.
- C Circle of gas-jets 3 inches in diameter.
- D Orifice for escape of heated air.
- E Opening in floor of hot-air chamber to admit the gas-circle and supply air.
- F Partition in hot-air chamber to secure equal diffusion of heat.
- G Opening at end of partition.
- H Circle of gas jets, with a peg on each side to retain it in its place. The dotted line shows the course of the heated air from the gas-circle to the outlet at d.

THE accompanying illustrations render only a brief description necessary.

The glazed front slides out partially or entirely, there being a groove in the framework at the top and bottom. By this, any amount of ventilation is attainable, and the plants are readily arranged.

Gas, as a source of heat, is the most powerful and most easily regulated by means of the tap; but if gas cannot be attained an oil lamp will suffice, even in the severest winter, if a woollen cover be put over the glass at night. At other seasons, if a stove heat is required, two or more of Childs' night lights, according to the temperature of the period, will suffice. A thermometer hanging within the Case is a guide by which to regulate the application of more or less heat.

The partition in the hot-air chamber not only secures a regular diffusion of heat throughout the hot-air chamber, but serves to support the floor of the frame containing the sand and potted plants. That frame may be lined either with zinc or block tin, but the hot-air chamber is best lined throughout with galvanised iron.

It is decidedly the most elegant and most useful amateurs' plant case that has yet been produced. It can be kept permanently at any temperature required, and may be employed for striking cuttings, for raising seedlings, for growing either stove or greenhouse plants, or for retaining hardy plants long in full beauty.—W.

CALAVANSA BEAN.—Surely the word "Calavansa," as the name of a Bean, and referred to in your Journals of May 6 and the previous week, is a corruption of the Spanish word "Garbanzo,"

the English equivalent whereof is Haricot Bean, and the Latin, "Cicer arietinum."—A SUBSCRIBER.

[It is certainly not the Chick Pea, but a small white Haricot; we have a pod before us as we write. It is very small, not more than 2½ inches long, and contains four white oval seeds, each the size of a small Pea. We did not know that Garbanzo is a synonyme of Haricot. Is it really so?—Eds. J. of H.]

### IN-DOOR PLANT CASES.

In Mr. D. Beaton's paper on Waltonian Cases, there are some remarks on the In-door Plant Cases which I have patented, seemingly founded on a mistaken idea of my invention; and I am sure you will readily find space for a few words in explanation of them, though, indeed, a moment's reference to my former contributions to your Journal would, I think, make the matter clear.

My invention (which is chiefly for the growth and preservation of stove plants in rooms), claims the principle of keeping up a constant circulation of air in the Case by the peculiar arrangement of the heating apparatus. The idea of "adding hot water to enable the lamp to burn," is quite wide of the mark, since the object of my Cases is to dispense with a lamp entirely, depending on the hot water poured in, which I find gives sufficient heat to flower Gardenias, &c., and to keep very tender stove plants in health. My servants tell me it is far less troublesome to pour in a couple of cans of hot water daily than to trim and refill a lamp with oil; and for a drawing-room the absence of lamps is certainly an advantage.—E. A. MALING.

[No one who compares Miss Maling's and Mr. Walton's Plant Cases can fail to discern that they are totally different. Mr. Beaton only intended to express Mr. Walton's opinion that heating by hot water in a close case was no novelty, and that a patent for that cannot be sustained. No further proof of this is needed than a reference to our "Window Gardening for the Many," where at pages 32, 35, and 81 Mr. Fish, as far back as 1857, suggests a drawer filled with hot water in winter as the mode of preserving plants during winter in a glass case. His words are as follows:—"I had seriously thought of recommending for the proprietors of many of our pretty parlour windows a lilyputian greenhouse, set upon a neat table, only the top was to be iron instead of wood, and the drawer beneath it was to be lined with zinc, but the outside wood in the usual way, with conveniences for filling this drawer with hot water from the kitchen copper, and removing it when cold at pleasure; but I now gladly give any one the right to make a fortune from such an idea, though entertaining no doubt of its answering well." "I may mention that a gentleman who is very fond of plants, but who has nothing in the shape of a hotbed, told me the other day that he raises many cuttings and tender seeds very successfully in a stout old deal box, the bottom part of which is lined with tin, and with a second tin bottom 4 inches above the bottom of the box. This space he fills and empties of water at pleasure by a funnel at one end and a small tap at the other. In general he supplies water every twenty-four hours; in cold weather twice in that time."

Miss Maling, however, says above that her invention claims the principle of keeping up a constant circulation of air in the Case by the peculiar arrangement of the heating apparatus, a claim which we hope she will never be called upon to sustain in a court of law.

The advantage of a lamp, or jet of gas, for heating a glass case is the uniformity of the heat it maintains, and the power of increasing the heat to any elevation desired. Hot water in a tray is constantly declining in heat, and this cannot be increased.—Eds. J. of H.]

**WEIGHT OF MANURE.**—The average weight of a solid cubic foot of half-rotted stable manure is 56 lbs. If it be dry or coarse, about 48 lbs. A load of such manure, or 36 cubic feet, of this second quality, 1728 lbs.; and of the first quality, 2016 lbs. Eight loads of this first quality, weighing 16,128 lbs., put upon an acre, will give 108 lbs. to each square rod, and less than 2½ lbs. to each square foot. An acre containing 43,760 square feet, the calculation is easily made of the pounds per foot, which will be the result from any known quantity per acre put on.

### BIRDS AND THE CROPS.

I PERCEIVED that in a recent Journal you noticed the endeavour of the French Government to prevent the great destruction of small birds, the loss of which is greatly felt by the French agriculturists; but the French are not the only sufferers from the destruction of birds, the Legislature of the United States of America found it necessary to enact laws for their protection. Complaints of the ravages of insects owing to the destruction of small birds reach us from Canada; and Australia is importing our despised and persecuted birds, and acclimatising them there for the protection of their crops from the attacks of insect pests.

When will the English gardeners and farmers understand the value of these little feathered checks to the rapid increase of insect marauders? It is not to be supposed that they are an unmixed good; many do some injury, but it is very trifling in comparison to the benefits they confer. It is true that the injury they inflict is often very annoying, and, though small in amount, is personal and direct; while the good they do is mostly unobserved, and frequently not thought of.

I think I cannot do better than copy for your readers' consideration the opinion of Mr. Loudon, which, coming from such an eminent gardener, may perhaps have some weight with them and induce them to spare the birds, while they protect their crops:—

"2223. The feathered enemies of gardens are numerous but not very destructive, excepting in severe winters, when they eat the buds, and during the coming-up of small seeds. To preserve ripening or germinating seeds where birds are numerous they must either be covered with a net or watched by man. Scores of different sorts as mock men or cats, mock hawks or eagles, miniature windmills, rattles, lines of feathers, the smell of tar or bruised gunpowder, &c., are of some use; but the chief dependance must be on watching, nets, and the frequent use of the gun. P. Musgrave, a practical gardener, who has treated the subject of vermin in a scientific manner has the following observation on this subject:—"It is a too common practice amongst gardeners to destroy without discrimination the birds that frequent their gardens. This is in my opinion a bad policy. Although I am aware some kinds of birds are great enemies to some crops, it certainly must be a trifling evil indeed that will not bear a person to watch it, or a net to protect it, until it is out of danger: thus the gardener preserves the birds to perform a double office, eating up the vermin from the trees, and the seeds of weeds and eggs of insects from the ground. I have often stood and observed the male bird, while the female was sitting upon her eggs or her young, fly to the spot with his bill full of caterpillars to feed his mate or young; and when the young ones become so strong as to accompany their parents in quest of food, it is really astonishing the number of caterpillars they destroy. I can say from my own observation that if it was not the case that the birds destroy a vast number of caterpillars, our trees in general would exhibit nothing but bare stumps; for the insects would become as numerous as the locusts of Spain and America. It is from that circumstance that we find so few flies in comparison of the great number of caterpillars.

"I one day followed a nest of young Oxeyes (*Parus major*), which had just flown in order to see how the old ones acted. I saw them fly from branch to branch and pick from the curled leaves the caterpillars, with which they flew to their young to feed them. From these considerations it is my opinion, that should the gardener, instead of pursuing a system of indiscriminate warfare against the feathered tribes, avail himself of the service of these useful allies, he might, with their exertions and his own united, soon rid himself of those insects that have hitherto set his efforts at defiance."—(*Encyclopaedia of Gardening*, p. 426).

Your apian contributors I would beg to remind that the bee hears a sting, which would prevent the swallow attempting a second: but I think he is unjustly accused. The tomits would peck the bee to pieces before eating it, and so avoid being stung; but they rarely take one except from the entrance of the hive in cold weather, and which may be easily prevented. All the family of tits are too valuable as insect-destroyers to be killed; the bee-hives should be protected from their visits, the birds provided with some food during their time of famine, and preserved on account of the immense amount of benefit they confer on mankind. It is, in my opinion, short-sighted to destroy that which contributes to the public good, because it may happen to cause us some private annoyance or injury.—B. P. BRENT.

### ENTOMOLOGICAL SOCIETY'S MEETING.

THE April Meeting was presided over by F. Smith, Esq. President. The donations to the Society's library were of considerable interest, including the recent publications of the Linnæan and Agricultural Societies, the Royal Society of Munich, the Society of Arts, the Natural History Society of Montreal, &c. A new natural history journal recently commenced at Copenhagen (containing an elaborate memoir on the spines of plants, and on the genus *Parkinsonia*), and the first half of a new work on the Butterflies of South Africa, by Mr.

Trenton, published at the Cape of Good Hope, were also on the table. The President announced that the first part of a new series of the Society's "Transactions" was ready for delivery to the members.

Mr. S. Stevens exhibited a box of insects of various orders, containing some very rare species collected in South Africa by Mr. Trenton. Also a new British species of *Bryaxis* (a genus of minute Beetles allied to the Staphylinidæ), taken in the north of England by the Rev. Mr. Little.

Mr. Newman exhibited a remarkable female specimen of the *Liparis dispar*, the Gipsy Moth, which has both the antennæ pectinated nearly as strongly as in the male, the wings coloured and marked as in the male (excepting rather lighter), but with the abdomen that of the female. Mr. Newman regarded this as the first pseudogynous specimen which had been observed among insects. Dr. Wallace stated that he had observed that when female Moths have been prematurely developed, as by keeping the chrysalids in a warmer position than that in which they are naturally placed, the eggs and worms are found in a very immature condition.

Mr. Stainton exhibited a specimen of one of the Vapourer Moths, *Orgyia erica*, the female of which is destitute of wings, and never quits the interior of its cocoon on assuming the perfect state. Such is also the case with the females of *Orgyia rupestris* and two other European species, whereas the females of the two British species creep out of the cocoon when hatched; they do not, however, leave their old abode, but deposit their eggs on the outside of the cocoon, within which the females of the other species lay their ova.

Mr. Fenn exhibited a specimen of the rare Moth, *Laphygma exigua*, taken on Sallow blossoms on the 24th March.

Mr. Pascoe exhibited three specimens of *Xenocerus* semiluctuosus, belonging to the Anthribidæ, from the Moluccas, remarkable for the variation in size and development of the individuals. One of these was a female, but the two others were males, which satisfactorily proved the occurrence of dimorphism in that sex, the larger having the legs and antennæ greatly elongated, whilst in the other, which was much smaller, the limbs were comparatively very short. This was also stated to be the case with the species of the allied genus *Mecocerus*. Allusion was made to the various forms in certain species of South American Butterflies, of which an account had recently been read by Mr. Bates at the Linnean Society, but these were merely instances of mimetic analogy. Professor Westwood stated that it had long been known that in those species of insects in which the males exhibited greatly developed organs, such as the cornuted *Drynastidæ* and *Copridæ* or the mandibulated *Lucamidæ*, there were also a certain number of males which remained, as it were, stunted in their development, and scarcely to be distinguished from females. How far these were incapable of producing their kind had not been observed; but the specimens mentioned by Mr. Pascoe afforded the first instance in which the antennæ afforded similar discrepancies in the male sex.

Mr. F. Smith exhibited a monstrous specimen of *Chrysomela Banksii*, of which one of the hinder tibiæ was furnished with three distinct tarsi, giving it the appearance of a bird's claw. Also a living specimen of *Endophlens spinulosus*, taken in the New Forest by Mr. Turner.

General Sir J. B. Hearsey exhibited a case containing a number of beautiful insects of different orders from north-western India. And Mr. F. Moore an extensive and highly interesting series of the silk-producing Moths of Asia, with specimens of their cocoons and silken products contained in fourteen drawers, intended as part of the Indian contribution to the Great International Exhibition of 1862. He made some observations on the different species, and on the variations in the silk textures produced by each.

Dr. Schaum communicated a paper containing remarks on the adoption of obsolete specific names in entomology, rather than such as may subsequently have come into more general use. In his observations the author was severe on the works of various English authors—viz., Marsham, Stephens, Hope, and Waterhouse; the former on account of the asserted insufficiency of their descriptions, and the latter for having adopted the law of priority in nomenclature. This memoir led to considerable discussion.

Mr. Fereday read some notes on a variety of the Moth, *Tenocampa munda*, contending that such varieties were the results of pairing between individuals which were not true to

the type of the species, but that where both parents were true, the progeny was also true.

Mr. F. Walker read some notes on the American species of Fritillary Butterflies, *Argynnia cybele* and *aploitea*, which he regarded as varieties of the same species.

The Secretary read a notice of the injuries committed on the Sugar Canes in the Mauritius, by the larvæ of a Moth, known by the common name of the Borer, communicated to the Society of Arts by Mr. Morris.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE recent battering rains will have rendered the operation of continual surface-stirring necessary. The Dutch or scuffle-hoe is good for this work amongst wide open crops; but wherever practicable, a light thin-tined fork is preferable, as it enters deeper into the soil and makes more effectual work. Small crane-necked hoes are best for stirring the soil amongst seedling crops. By all means avoid treading on the soil after this operation is performed, particularly if it is at all moist. Continue to trench-up all ground remaining or becoming vacant. A watchful eye to be kept on the seedling crops that they do not fall a prey to snails and slugs. *Broccoli*, prick-out the seedlings as soon as they are fit to handle, also *Brussels Sprouts*. *Cabbage*, some of the most forward of the early sowing will now be in a fit state for final transplanting, which should be done the first favourable opportunity; and if dry weather should prevail they must be kept well supplied with water. *Cauliflowers*, prick-out the seedlings as soon as they are sufficiently large to enable you to do so, and water the advancing crops with liquid manure; either the drainage from the dung-heap, or guano, pigeons' dung, horse, cow, or sheep dung, dissolved in water, to be applied in a clear state. Draw a little fresh soil to the stems after the operation. *Leeks*, transplant from the seed-bed as soon as they are large enough, in rows 18 inches apart and 9 inches plant from plant; the soil cannot be too rich. *Lettuce*, tie-up for blanching a few of the largest Bath Cos that have stood through the winter; these should be kept well supplied with water if necessary in order to induce rapid growth, which is essential to the production of that tender crispness so much prized in this variety. *Mushrooms*, cellars or cool sheds are the best places for making beds during summer. Prepare a quantity of materials for making a large bed at once, as it will be found to continue in bearing much longer than smaller beds; and, therefore, there will be no necessity for making them so often. It is almost impossible to keep Mushroom-beds free from grubs during summer unless the situation is very cool. *Potatoes*, when they are above ground fork between the rows, which will prove of great advantage to the crops. *Tomatoes*, plant-out a few on the south border against the wall; the main crop had better be delayed. The same remarks apply to *Capsicums*, *Beet*, and *Marjoram*.

### FLOWER GARDEN.

Bring out all the flower-baskets and tubs which have been hosed during winter, and set them in their proper places; these add much to the beauty and general outline of the landscape, especially where the surface is tame and unbroken. See that due attention is paid to the general effect they may have upon the scene, by placing them in situations where they will be seen to advantage; also procure, if not done already, some good rough turfy loam to fill them. Continue to stake plants in borders, and bulbous plants in beds, as they advance in growth, frequently stir the surface of beds and borders, especially after such heavy rains as we have had lately. Go on thinning-out the annuals sown in the borders, they should never be allowed to smother each other by being left too thick. *Dahlias*, *Salvias*, and all plants intended for flower-garden decoration should be gradually inured to the open air by drawing off the lights before finally planting them out. See that standard *Roses* are properly secured against high winds, and the caterpillar and green fly. Those which were budded last season should be again gone over, and all buds and suckers that proceed from the stock destroyed.

### FRUIT GARDEN.

Continue disbudbing and thinning the young wood as it advances on *Peach*, *Apricot*, and *Plum trees*; retain no more wood than can be laid in without crowding. One well-ripened branch that has been well exposed to sun and air is generally

more prolific than half a dozen branches that have been huddled together, and, consequently, are ill-matured. Thin Peaches and Apricots where too thick, leaving double the number required for a crop till they are stoned, when they must have their final thinning. The Apricots, if wanted for tarts, must be left until they are large enough for that purpose. Do not forget to use every available means to keep Strawberries in a free-growing state, by timely applications of water and frequent surface-stirring.

#### STOVE.

A very kindly temperature and healthy humidity should now be kept up, and regular attention be given to the supply of air, to shading the plants, syringing, and bottom-watering. Many free-growing autumn-blooming plants, that have been encouraged to make their growth, should now receive less nourishment in the way of liquid manure, and also a gradually diminished supply of water at the roots. In a short time such plants may be placed in an intermediate-house, where, if they can enjoy light and air, their growth will be properly matured and the flowering buds will set abundantly. Encourage young stock of all kinds to make a sturdy free growth.

#### GREENHOUSE AND CONSERVATORY.

Follow former directions as to airing, watering, &c., and use every endeavour to keep a moist growing atmosphere at all times. Attend in due time to those plants which require potting, and ply the finger and thumb vigorously to those plants of a rambling or loose habit of growth, so as to get them compact and bushy. Some of the most forward of the Azaleas, which were stopped some time back, will now be breaking again, and, if necessary, this is the proper time to give a second shift. Stop those which require it. All Azaleas, as soon as they are out of bloom, should be taken into heat to make their growth, syringing them copiously, and supplying them liberally with manure water.

WILLIAM KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

CLEARED away the remains of most of the Brussels Sprouts, and the stems of the most forward Broccoli. Even the latest of this, owing to the hot sunny days, is coming in too much at once to be long useful, and if taken up and kept in a cold shady place it loses its flavour. Removed the most of the *Winter Greens*, with the exception of variegated Kale, and Scotch Cabbaging Kale, which, as yet, show few signs of flowering. The last is one of the most useful vegetables alike for hardness and continued production. Some of the plants from a row had remained two seasons, and from being cut over were a mass of shoots. Left also a little longer the plain-looking green Asparagus Kale, which is well named, the shoots being little inferior to Asparagus. Finished planting out young plants of the latter, placing them in rows 4 inches apart in the row, and 27 inches from row to row. The plants are placed on a fine pulverised surface, and rich material put over them in the ridge-and-furrow style. Finished also planting out in rows four-inch pieces of the *Sea-kale* forced in houses. With the exception of the crown ends, the next best of the old plants for this purpose are the small finger-like roots about as thick as a lady's little finger. These soon make crown-buds and grow freely. The plants over which pots were placed in the open air, have afforded some fine gatherings, but have at last rebelled against our authority, and notwithstanding our sinking the pot a little, and a spadeful of soil on the top of it, have lifted the pots on their crowns so far as to let in light from below. Have any readers tried the green flower-heads of *Sea-kale* just when opening? If not, then do not fail to do so, for if well cooked they are excellent, and are often carelessly thrown away. Sowed also what little seed we had. These seedlings if well used may be forced the first winter, and always in the second. I now generally sow and plant in rows about 2 feet apart, the plants being left about 9 inches in the row, and then lift the most that I need for forcing. Threw a little rough salt between the rows of the *Sea-kale* and Asparagus, alike to encourage growth, kill snails, and discourage weeds. A good piece of *Sea-kale* is a fine thing to have to go to in a severe winter. Where much is to be raised, a little litter may be thrown over the ground to keep out frost, and to permit of easy lifting, and any person may have it in perfection who can take the roots packed in soil to a cellar or other dark place, with a temperature ranging from 50° to 55°. Sowed a border of dwarf China Beans, and planted out more under glass for the

last crop, taking care to pick those bearing regularly, as otherwise they soon get too old and injure the plants. If close-picked and well nourished there is no difficulty in keeping plants now bearing in a pit from bearing until the frosts come. Find Tom Thumb Pea very useful for early work in pots under glass protection, and in such fine weather as this, the pots may be set out of doors. Potted-off Capsicums and Chillies. A superabundance is useful for serving-out insects, especially when mixed with tobacco paper. Planted a two-light frame with Cucumbers, to prevent cropping those in pit too heavily, and thus prematurely exhausting the plants. Planted out Melons singly, generally two in a light, to be trained on the ground. Can hardly find room for pots this season, though that is a good way to grow them. Pricked out Lettuces, Cauliflowers, Celery, &c., on a border, some 3 inches or 4 inches apart, the latter to rise with balls, the plants having been forwarded in heat. Two lights of the strongest plants were planted under glass to get them early and strong. A little trouble with the border pays all the labour. We prepare it thus: throw on it a little rotten dung—say 2 inches, prick that in with a fork and mix with the soil, moved 2 inches deep. Place over that about an inch or more of rotten leaf mould, and then a couple of inches of light, fresh soil, in which plant. Most things, if at all fibry-rooted, will rise with fine balls, and never feel the moving. We shade with a few spruce branches at first, after thus pricking-out, and besides the shade the branches from their scent help to keep fly, and weevil, and slug, too, at a distance.

#### FRUIT GARDEN.

Disbudded a little of Apricot and Peach trees out of doors, preferring to do it gradually. Ran the hoe through Strawberry-quarters, expecting fully the rain which came so sweetly on Tuesday night, and a thorough drenching now almost secures a fine Strawberry crop. Just as a proof of what a little bottom heat will do, found that the young Strawberry plants raised from the border, potted firmly, and set half plunged in a mild hotbed about a foot high, as described the other week, quite exposed to the air, and otherwise having no protection whatever, were in full bloom before those in the borders had scarcely opened a flower. They may not be wanted, but it is always pleasant in our changeable climate to have a hundred or two hundred pots moveable, where to a certain extent you are independent of the weather. Already the fine roots are getting to the sides of the pots. Now, be it clearly understood, that though this lifting, potting, and slight forcing if desirable, may do very well in spring, it is a great risk to depend on any such plan in December and January. For early work the pots must be full of roots and the buds well ripened. Dusted soot and ashes over some Gooseberry bushes where a few caterpillars had made their appearance. Gave some manure water to Raspberries and Black Currants, both of which suck it pleasantly, if not given too strong. Watered fresh-planted trees with clear water. Hunted insects in orchard-house. Catch them and squeeze them being, after all, the most effectual remedy. Stopped and disbudded as necessary, and find that all things in pots have evaporated much moisture and need supplies pretty constantly; and, what my good assistants say is very strange, if there is a dry pot in the house I am sure to go straight to it at once and find it out. Tied-up the Vines in the late vinery, having hitherto been tied close to the front of the house beneath the roof, and so kept cool by plenty of front air. I was afraid to leave them longer in case the young shoots should be knocked off in fresh-arranging them in their more regular vertical position. Of all the untouchable things in the Vine way I have come across, are the young budding-shoots of the Stockwood Golden Hamburg. I have lost some fine incipient bunches this season, just from treating them, in moving the shoots, something like other Vines. The least touch will cause the young shoot 2 inches or 3 inches long to break from last year's shoot. "To be forewarned is to be forearmed." Treat such shoots tenderly, and all will be well. Regulated, tied, and stopped in second vinery, and took the opportunity of a dry sunny day to pull a dry hand over the bunches of Muscats in bloom.

Flower department much as last week.—R. F.

#### CATALOGUES RECEIVED.

James Carter & Co.'s *Gardener's and Farmer's Vade-Mecum Plant Supplement* for 1862.  
The *Spring List of Soft-wooded Bedding and other Plants*

cultivated and sold by E. G. Henderson & Son, Wellington Road, St. John's Wood, N.W.

A Retail Catalogue of New and Rare Plants offered by F. & A. Smith, Park Road, Dulwich, S.

### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c."* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**COLOURED FLOWER-GARDEN PLAN (Rev. A. F.).**—Some months since we had several most excellent coloured plans sent to us, with a forcible representation that such, if published, would be more instructive and be more readily appreciable by gardeners than any uncoloured plans however full and correct the descriptions accompanying them. We promptly assented, but were compelled to add, "There is no sufficiently cheap and correct mode of carrying out the suggestion." Since then a mode has been discovered, and we shall place the results before you and our other readers in the course of a few weeks.

**SEEDS (P. Kane).**—The seed is Fenngreek (*Trigonella foenugraecum*).

**APPLE BLOSSOM (G. H. B.).**—No one can tell the name of an Apple from a specimen of its blossom. It is difficult enough to do so from an inspection of the fruit.

**VINEY-BORDER (J. F., Kidderminster).**—Look back to Irish notes, and see how Mr. McNeill, Mr. Milroy, and Mr. Watts do their Vine-borders. We have no objection to bricking the front to prevent the roots getting beyond their allotted space, nor yet have we any objection to the bricks at bottom to prevent the roots getting down; but we would not have the bottom flat as you show, but sloping, and on that we would place 9 inches of open rubble as brickbats, &c. You would then have plenty of space for soil. The drain in front must be a foot below the brick bottom at least. Good fresh turfy loam is the best compost; and the best mixtures with it would be some tenth part of brick rubbish, and some one-hundredth part of old broken bones. If more strength is required give it by top-dressings and manure waterings.

**VIGOROUS VINES (Trent).**—We think from your description the Vines must be all right, as they are so short-jointed and fruitful. If they are spur-pruned, then stop before the bunch one joint, and keep stopping; and all the laterals behind remove, except those from the two eyes nearest the branch. If you must remove more leaves, do not take them from the buds you want for fruit-shoots next year. We think if you keep clear of laterals it will do.

**ASPARAGUS (An Inquirer).**—Abundance of liquid manure during the growing season, April to September, and not cutting later than the end of May, are cardinal rules for obtaining good heads. If you require all the details of Asparagus culture by our "Kitchen Gardening for the Many," which you can have free by post from our office if you send five postage stamps with your direction.

**HEAT LIQUIFYING SAP (F. H. A. S.).**—Heat does not liquify sap, it merely arouses the roots into action, and they imbibe more moisture from the soil. The moisture imbibed dissolves, as it ascends, the nutritive matters deposited in the sap-vessels during the previous growing season. Such subjects are involved in much uncertainty, and are best left for discussion to men of science and leisure. We shall be glad to receive any notes on practical gardening the results of your own experience.

**FLOWER GARDEN (G. Holmes).**—You have planted the flower-garden plan very well, and the ribbon-border the same. A centre bed of standard Roses, Mignonette, and Variegated Mint to edge with. Six long oval beds all round, with six kinds of Verbenas, a Fuchsia in each, and all edged with *Cerastium*. An outer circle of six beds of bad shape, or rather very bad shape, capially planted with Variegated and plain-leaved Geraniums alternately, and a ribbon of nine rows, with three colours three times repeated, or Purple King, *Aurea floribunda*, and Tom Thumb—all very good.

**MANURE WATER FOR VARIEGATED PLANTS (J. F.).**—Whether it would injure the variegation depends upon what kinds of variegated plants you mean. All the guano in Peru would not turn the colour of one leaf of some variegated plants into a green one, and some variegated plants will turn green if the soil is even a little richer than common. No manure or any medication known in gardening will turn any of the very best of the Variegated Geraniums green. There is no variegated plant which requires guano water once a-week, nor yet once a-month; and there is no such plant in existence which is not ten times better and more safe without guano water at all.

**HUMEA LEAVES BECOME YELLOW (D. C.).**—A majority of all the Humeas in distant counties are just like yours—that is, with three-fourths of all their strength gone through sheer starvation. All that can be done now is to get them planted out as soon as possible, and to look upon them for the rest of the season as the last evidence of the hardest treatment.

**FLOWER-BEDS (Caustic).**—Much depends on the size of the diamond beds. What you are "most inclined" to do is certainly the best—namely a twelve-feet circular bed, Flower of the Day and Brilliant, time about to the edging of Purple King Verbeena; and any one who might wish a better bed than that would be very hard to please.

**CERASTIUM BIEBERSTEINI (T. S.).**—Your specimen looks very much like that kind; but as our own plants of it have not yet got over the effects of the propagating-house we cannot be quite sure. Besides, we have examined two more kinds of *Cerastiums*, which are in the botanic borders at Kew, and one of them comes very near in looks to yours; but the habit of that kind is not at all suited to flower-borders. We must, therefore, warn our readers that there are three or four kinds of *Cerastiums* not worth growing, yet every one of them will be in the market immediately competing with *Biebersteinii*, by three or four different dealers.

**COST OF A PEACH-WALL (Patelin).**—We cannot answer your question, so much depends upon circumstances. It ought to be 7 inches thick. If you have tenders from two or three respectable builders you cannot be much out in your expenditure.

**HOUSE SEWAGE (H. M. N.).**—Mixed with water it may be used both to kitchen-garden crops and flowers. A lawn never wants such applications unless the soil is very poor. One bucketful of sewage will require at least five bucketfuls of water. In our "Muck for the Many," which you can have free by post for four penny stamps, are full details relative to this manure.

**WHITE-SEEDED DWARF KIDNEY BEAN (P. W. T.).**—The Canterbury Dwarf is a kind such as you require.

**CLIMBERS FOR A CONSERVATORY (F. W.).**—The following will suit your conservatory, not heated more than to exclude frost:—*Lapageria rosea*, *Mandevilla suaveolens*, *Ruscus androgynus*, *Habrothamnus elegans*, *Kennedia nigricans*, *Jasminum odoratissimum*, *Passiflora corulea*, *Passiflora racemosa corulea*, *Bignonia chiritare*, *Sollya heterophylla*, *Tacsonia pinnatifida*, *Kennedia Marryatæ*.

**FUCHSIA LEAVES DISEASED (A Constant Subscriber, Burton-on-Trent).**—We can find nothing alive on the leaves, but signs of thrips and red spider. The best remedies for the former are smoking and sponging with weak gum water, and a moist atmosphere. The insect is thin and long, and jumps on the underside of the leaf. The spider is round, like a small dot from a pen. Sulphur fumes, such as produced from a hot-water pipe at 160°, and a moist atmosphere are the best remedies. The Vine leaf is in a bad case.

**APRICOT SHEDDING FLOWERS (Nesio).**—If your Apricot would not fruit against the wall, we have little hope of its succeeding 20 feet to 30 feet from it as an espalier, unless your place is far south and warm indeed; but of that you say nothing. As the tree blooms so freely we would imagine that nourishment was more wanted, and thinness of wood, and more exposure to the sun to thoroughly ripen the bud. We would not be surprised if many of your buds were abortive ones—that is, contained no incipient fruit. In this neighbourhood a great portion of the Apricot blossom was destroyed by constant mug and wet before the frosty Sunday morning came apparently to finish it. A good sound loam without manure suits the Apricot best; and provided vigour is needed it is best to give a top-dressing of leaf mould or very rotten dung.

**VARIOUS (Idem).**—As a much cocoa-nut fibre will be useful; but we have no faith in anything, compost, &c., being wonders without the constant care and unremitting attention. Apply it at any time. Guano is not wanted if there is enough of vigour without it. When applied as a watering two ounces will do for three gallons. It is too late to graft now, unless you have retarded scions yet fresh. Those who advertise in our columns will supply you with proper Grass seeds if you write to them describing soil and space. We know of nothing more likely to master the Daisies and the Moss than Suckling and white Dutch Clover; at least we would have some of them in the mixture.

**GUMMING IN CUCUMBERS (A Subscriber).**—This disease has puzzled our best gardeners; and our own experience only justifies us in saying that we have seen it mitigated by keeping the air of the pit very moist, and the roots of the plant rather drier and cooler than they were kept before the disease appeared.

**APPLE TREES CANKERING (Ibid).**—We conclude that they have not been planted more than a few years. If so, we would take them up very carefully next autumn, prune away the roots descending into the clay soil, and replant upon stations. If the surface is afterwards kept mulched every summer for some feet round each tree, the roots will be induced not to descend.

**ASPARAGUS-BEDS (G. R. T.).**—With a fork remove carefully the sodden turf, &c., which was so ignominiously put on. If every shoot be broken off it will not weaken the plants so much as if they were allowed to grow and were cut for table. But if you cover the bed over with light soil after removing the sodden stuff, and water well with liquid manure, you will have a good crop this summer, and the plants will lay up a good store for next year's growth, which they will not do if left overwhelmed as they are now.

**WORMS IN GRASS-FIELD (E. D.).**—What you call "worms" are the larvae of the common May-Bug or Cockchafer (*Melolontha vulgaris*). The only mode of reducing their numbers next year is by killing as many as possible of the parent beetles during the present summer. We know of no mode of destroying the larvae without destroying the grass at the same time.

**ALYSIUM VARIEGATUM (Louisa).**—If moved with little disturbance to the roots and well watered it may be moved safely still.

**CIRCULAR BEDS OF THREE KINDS OF PLANTS (R. T. M.).**—In No. 1 you must put strong old plants of *Christina* (not *Christiana*) Geranium in the centre, else Purple King will be too high, and the Variegated Mint should be very low with mere roofed cuttings. No. 2 very good, if *Attraction* Geranium does well with you; they have discarded it at the Crystal Palace. No. 3, Flower of the Day, between *Calceolaria Aurea floribunda* and *Lobelia speciosa* either, must be of small plants, or the *Aurea* must be very large old plants. The rule, in all such cases, where circular beds are planted with circular rows of different kinds of plants, is that the plants in the centre must be the highest, even if the surface of the bed is level, and that no row be higher than the row behind it—that is, each row must be a step above the row in front of it. You mistake the universal objection to scarlet centres entirely. There is not the slightest objection to the centre of a bed being in scarlet: it is the putting of a whole bed of scarlet in the middle of a lot of beds which is considered contrary to good taste.

**NAMES OF PLANTS (Helen).**—*Acacia Riciana*, naturally of a drooping habit. Will your plant make a standard? The other plant looks like a *Boronia* rather than a *Veronica*. It requires peat soil, and to be treated like Heaths and Epacris. We should fear yours is hopelessly sickly. (E. Z.)—1, *Erica mediterranea*; 4, *Azalea nemorosa fl. pleno*; 5, *Muscari rance-*

mosum; 2 and 3 are not determinable from the specimens sent; 3 is a *Myosotis*. (*Polypodium*).—You have sent a *Polystichum*, *Lastræa*, *Scolopendrium*, and *Blechnum*, all without numbers. How can we give you the information you seek so as to be understood? They are wretched specimens too. (*W. G.*).—1, *Amelanchier vulgaris*; 2, *Rhodora canadensis*; 3, *Cerasus japonica multiplex* sometimes, but erroneously called *Amygdalus pumila*. It is the dwarf double Almond of the British nurseries. (*Creeping*). 1, *Phlox subulata*; 2, *Iberis sempervirens*; 3, *Fritillaria alba*; 4, not a sufficient specimen. Neefrey's "Rudiments of Botany" will be best for a beginner. Tobacco water is the usual application for destroying the black aphid on Cherry trees. If on a wall, we always have the finger and thumb applied as well.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

MAY 14th and 15th. TAUNTON AND SOMERSET. *Sec.*, Charles Ballance, Esq., Taunton. Entries close April 30th.  
MAY 27th, 28th and 29th. BATH AND WEST OF ENGLAND (City of Wells). *Steward*, S. Pitman, Esq., Manor House, Taunton. Entries close May 1.  
MAY 28th and 29th. HULL AND EAST RIDING OF YORKSHIRE. *Sec.*, Mr. J. Hooton. Entries close May 14th.  
JUNE 3rd. ESSEX AGRICULTURAL ASSOCIATION. *Sec.*, R. Emson, Slough House, Halstead. Entries close May 10th.  
JUNE 4th and 5th. BEVERLEY AND EAST RIDING. *Sec.*, Mr. Harry Adams.  
JUNE 12th, NORTH HANTS AGRICULTURAL SOCIETY. *Sec.*, Mr. H. Downs. Entries close May 21st.  
JUNE 26th and 27th. SUFFOLK (Woodbridge). *Sec.*, Mr. J. Loder, jun. Entries close June 5th.  
JULY 3rd. PRESCOT. *Sec.*, Mr. James Beesley. Entries close June 21st.  
JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. *Secs.*, E. Holdsworth and J. Wade. Entries close June 21st.  
SEPTEMBER 9th. WORSLEY AND AEMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.  
DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### POULTRY FROM IRELAND.

It is said that the cockney will travel round the world, and see nothing comparable to London. The view from the Pyramids is nought to that from the top of St. Paul's. No river is equal to the Thames; no scenery can compare with Richmond and Twickenham. O'Connell said there were no hills worth mentioning in England, except the Downshire family; and the cockney thinks there is no hill like Primrose Hill. It is well for a man to like the place of his birth or livelihood, and just as the cockney admires everything about London, and makes all things subservient to it in his idea, so are we at no loss to do the same with poultry. The commander of the galley "Ganymede" said, "If it were a calm, the good ship was in perfect safety; if it blew hard, she sailed the faster. If the night were light, a collision was almost impossible; and if it were dark, pirates could not see them." If the weather is cold, dead poultry will keep; if it is hot, live poultry will grow. If the sun is scorching, fowls will bask and enjoy it. If the weather is wet and muggy, the earth will teem with animal life for chickens.

There has been great dearth of poultry in the London market, and in our character of optimists, we would try to find some use and instruction from a fact we have noticed, that although vast numbers of chickens are brought over from Ireland, and although they realise prices that are doubtless remunerating to senders, yet they do not make the return they are capable of; nor are they sufficiently well fed and managed to bear the journey and voyage in warm weather. The tenor of our remarks of late will have shown that we believe much more poultry might be sent to London than we now receive. We also think it would be profitable.

It is hopeless to look to England for great help in the question considered with reference to food. The small farmers who were the poultry-breeders are either disappearing or have disappeared, and large ones must draw the line somewhere. Just as Boz's barber could shave a baker, but must decline a coalheaver, so the large farmer can keep pigs, but he cannot descend to poultry.

The chickens received of late in large numbers from Ireland have proved the climate is favourable to rearing; but the prices they have returned have been little more than half those that go into Sussex. They lack breed, food, and management. Weeding might do much in the first particular. As yellow, green, and black legs take from value, all such should be done away from the stock birds. There is no lack of strength, as they are reared plenteously at a time when they are scarce in England.

Their food is not good enough to fatten them properly, nor are they sufficiently well fed when young. Oats well ground, without taking away any part of the corn or husk, and meal mixed with milk, will fatten a fowl, and, moreover, give such

firmness of flesh and condition that the bird will bear travelling and change of atmosphere without loss of value. Another most important thing to notice, and one that concerns every one who kills chickens in hot weather is, they should be thoroughly fasted before they are killed. This means they should be kept positively without food of any kind or water for at least twelve hours before they are killed. This will render it possible to keep them in any weather long enough to allow the stiffness to go off, if they are to be eaten where they are killed, or to send them away with the certainty of their reaching their destination fit for the table. If the Irish chickens of which we have spoken were fasted, it would increase their value without causing extra expense. We are delighted to come to our last fault-finding. They are very badly packed, they are thrust into an old tea-chest filled up with oat straw, and here they lie and heat while journeying between Wicklow and London. They would travel just as cheaply if they were packed in a stout square hamper, and carefully divided in layers by good stiff wheaten straw their value would be much increased.

We are quite aware the Irish chickens have made enough to satisfy the senders; but we contend, that by following our advice, they will make a larger sum without incurring any more expense. They evidently have a climate that is suitable for rearing early poultry, and there is no reason why some of the hundreds of thousands that go abroad should not remain at home. Much may be done next winter in Turkeys. Immense numbers come from abroad and make good prices; many come from Ireland and sell badly, if they sell at all. The reason is, it is known they are badly fed, and they are, therefore, only saleable to those who buy for a chance market. Better food would remedy this.

### HEN PIGEON DROPPING HER EGGS.

Is it possible to prevent a hen Pigeon dropping her eggs on the floor, and not sitting at all? I have given her a nest, and also let her make one herself, but to no avail. There are only six pair of birds in the room. Can you tell me where I can get a pair of Merles (Antwerp)?—JAMES BARTON, JUN.

[We have always found that the best remedy for any irregularity in the egg-organs of a Pigeon is to give her a pair of eggs, and allow her to hatch and feed off the young, after which she will generally proceed in the regular course; but it must be remembered that Pigeons in a confined space never do as well as those that are permitted to fly.

With regard to the Merles. Some three or four years since Mr. Thomas Townley Parker went to great trouble and expense in importing birds from the best strains in Belgium, including those of Mons. Lejeune, Fernel, Roth, &c. We believe that he has since retired from the fancy, but possibly he may have some flyers left. Mr. Tegetmeier had several pairs of Mr. Parker's birds, but at present we do not think he has any to dispose of. Several of his birds are from M. Simonis, who won the second prize in the great fly from Marseilles to Brussels, eight hundred miles, which was flown in a violent storm, that greatly interfered with the rate of flight.]

### HATCHING CALIFORNIAN QUAILS.

Will you tell me how I shall manage my Californian Quail's eggs? The hen has made her nest in a sheltered spot and lays daily. Will it be safe to allow her to hatch them, or should I put them under a Bantam? In the latter case I fear the eggs may be broken, as they are so small.—BOUGHTON KINGDON.

[Let the hen sit on the last three or more eggs that she lays. If, as is frequently the case, she lays a large number, you may let her have more. Put the others under Bantams, and when they are hatched let them at first be under a Cuenumber-frame or something like it, the larger the better. Let it be filled with dust, sand, and gravel. Feed as you feed young Partridges or Pheasants; and as soon as they are old enough to eat corn, give them buckwheat and oats. They are hardy and easily reared.]

AN EXTRAORDINARY BROOD OF CHICKENS.—On the 1st day of May last a hen, the property of Mr. Thomas Ibb, farmer and brewer, of Hesthote Road, Longton, Staffordshire, produced an unexpected brood. The hen was sat upon seven eggs, and by some chance or other some of the other hens must have laid to

her; for on the day named above there came jumping and chirping forth the most extraordinary number of twenty-one chicks, and I am happy to say that both hen and family are all doing well. The hen is of the Spanish and Game (cross). The above came under my notice on the 4th inst.—HENRY AVINS.

### GOOSE-CULTURE IN AMERICA.

THE chief requisites for keeping Geese are a pond of water and a pasture for grazing. The latter is essential, as the bird is granivorous as well as granivorous. An occasional cabbage-leaf will form an acceptable variety of food, and during the winter any spare vegetables will help to supply the deficiency of the pasture. If fed high, some varieties of Geese will often lay in autumn, but the advantage of a brood of goslings in November is questionable.

In allowing Geese to range at large, it is requisite to be aware that they are very destructive to all garden and farm crops, as well as to young trees, and must, therefore, be carefully excluded from orchards and cultivated fields. It is usual to prevent them getting through the gaps or holes in fences by hanging a stick or yoke across their breasts.

They are accused by some of poisoning the grass, and of rendering the spots where they feed offensive to other grazing stock; but the secret of this is very simple. A horse bites closer than an ox, a sheep goes nearer to the ground than a horse; but after the sharpest shearing by sheep, the Geese will polish up the turf, and grow fat upon the remnants of others. Consequently, where Geese are kept in great numbers upon a small area, little will be left to maintain any other grass-eating creature. But if the commons are not short, it will not be found that other grazing animals will object to feeding either together with, or immediately after a flock of Geese.

It has already been said that Geese are much given to grazing, but we have not said that they improve the pasture. This, however, is the case, although there is an old proverb to the effect that nothing will eat after a Goose—whereas the auxiliary verb should be can, and not will. The fact is, the Goose will thrive on a pasture so short that a goat would starve on it; and the consequence is a short sweet herbage.

Although water is the natural element of Geese, yet it is a curious fact that they fatten much faster in situations remote from rivers or ponds. They should not be allowed to run at large when they are fattening, as they do not acquire flesh nearly so fast when allowed to take much exercise. It is stated that Geese can be raised, in a proper situation, at a profit far greater than almost any other stock. But to do this, more attention is required than is usually bestowed on their keeping and management. Like other fowls, they may be brought by proper management to a great degree of fatness; but the period at which they are the fattest must be chosen to kill them, otherwise they will rapidly become lean again, and many of them would die.

Geese may be fattened at two different periods of their lives—in the young state, when they are termed "green Geese," and when they have attained their full growth. The methods at each period are very nearly the same. A Goose diet, for the first two weeks, is formed of oats and water mixed in a trough; after this the food is gradually changed to barley meal mixed with water, of the same crumbling consistence that has been recommended for the goslings, the water being given separately in small quantities. Steamed potatoes, mashed up with four quarts of buckwheat or oats, ground, to the bushel, and given warm, is an excellent diet, and will render Geese, cooped in a dark place, fat enough in three weeks.

**HABITATION.**—In selecting a situation for a Goose-house, all damp must be avoided; for Geese, however much they may like to swim in water, are fond at all times of a clean, dry place to sleep in. It is not good to keep Geese with other poultry; for when confined in the poultry-yard they become very quarrelsome, and harass and injure the other fowls: therefore it is best to erect low sheds, with nests partitioned-off, of suitable size to accommodate them; and there should never be over eight under one roof. The larger ones generally beat the smaller, in which case they should, of course, be separated one from the other, by partitions extending out some distance from the nests. The nests for hatching should be made of fine straw, of a circular shape, and so arranged that the eggs cannot fall out when the Goose turns them. From fifteen to seventeen eggs will be as many as a large Goose can conveniently cover.

In the event of any one being induced by our account to keep Geese, let us recommend him not to begin with young birds. They are not to be depended upon for breeding till the third year, and do not attain their perfection for a year or two subsequent to that age. When once in their prime they never retrograde, so that, barring accidents, a person possessed of a gander and three or four Geese (no way related to each other, and in their prime of life) may consider himself set up in the anserine for life.—C. N. BEMENT.—(*Genesee Farmer.*)

### "B. & W.'s" APIARY IN 1862.

I MADE my first swarm out of my Italian stock by driving, on the 29th ultimo, and my second out of one of the Anglo-Italian hybrid stocks the next day. In both instances most successfully securing the whole adult population in each case to the swarm. Not a bee offered to sting, nor was there any fighting. I like amazingly this plan of Langstroth—*i.e.*, making one swarm out of two hives. I can scarcely imagine it to fail, and can now recommend it from actual manipulation (experience I can hardly say). The Italian queen, which I have now seen several times, is most unmistakably marked in the Ligurian fashion, although not to the extent of some of her offspring. Some, I say, because a great many are in no way (that I can see) distinguishable from our common hive bee. A few of the drones found in this stock had the Italian colouring, the rest were similar to common drones. There are drones in three or four of my stocks, but, except in the pure Italian stock, I could not detect any sign of colour different from that of our common drone, and in that, I repeat, only a very few showed it. The Italian queen is small, and not remarkable as a breeder. Not so the only Anglo-Italian queen (her offspring) which I have as yet seen. She was large, and is a capital breeder, but has no distinguishing mark of colour whatever, and yet some few of the common bees in the hive are partially marked, but they may be old bees bred last autumn out of the Italian brood given to this stock to breed a queen from.

I cannot say that my apiary is in as forward a condition as usual this spring, although everything is going on promisingly, and I have secured two first-rate April swarms. The season, however, has been late, and I must not forget the rough treatment my bees got last autumn. A neighbour of mine had a fair-sized natural swarm on the 24th April, on which day we began to have real heat, and since then the weather has been everything that could be wished. Such a May-day as to-day we have not had for years. My experience so far tallies with Mr. Fox's, that I have found it necessary to feed to some extent to make up what I failed to give the bees last autumn, but only four hives out of eight required anything. However, no honey was visibly collected before last week. Decidedly, the bees have been very backward this spring where they have not been stimulated by food. But for the plan of Langstroth's I should not have dared to make a swarm for ten days from this time. As it is, the bees are doing splendidly in all hives, the swarms as usual doing most. If this hot weather continues I predict a very poor honey-season later on.—B. & W.

### WOODBURY ON BEE-KEEPING.

#### SECOND NOTICE.

MR. WOODBURY proceeds to advocate a plan for preventing excessive swarming, first, I believe, recommended by myself in the pages of THE COTTAGE GARDENER, and explained more at large in "The English Bee-keeper." This plan, "whilst it adds strength to the first swarm, generally prevents any subsequent issue. As soon as the swarm is quietly settled, which will generally be in from ten minutes to a quarter of an hour after living, it should be put in the place of the old stock, which must be removed to a new position at a little distance. The returning bees will seek their old locality, and generally in sufficient numbers to prevent the issue of another swarm." I may add that subsequent experience encourages me to recommend this plan without hesitation to the special notice of cottage bee-keepers, who still adhere to the natural-swarming system. It can fail only in exceptional cases—fail, I mean, in preventing after-swarming; but it invariably strengthens the first swarm, which should always be plundered at the beginning of August, except in heather countries. I cannot promise the like success

as a rule without unusual caution \* where the artificial-swarming system is adopted. The absence of the queen, and the great consequent migration of the full-grown bees to their old site, will be productive of mischief where great attention to the condition of the hives both before and after swarming is omitted.

As I was writing the above, the post brought in the first Number of THE JOURNAL OF HORTICULTURE for April, where I read with surprise Dzierzon's verdict on the subject of "Divided Hives." Exceptional cases may occur, but I cannot give in my adhesion to the statement that "the profit from undivided hives, even if the bees never want room, will not amount to so much as from those which have swarmed either naturally or artificially"—that is, of course, in any single summer: therefore, from all experience with which I am acquainted, I adhere to my own recommendation by all means to prevent swarming as soon as the apiary is well stocked. In this respect I endorse Mr. Woodbury's statement that, "where ample additional space is afforded, bees will seldom swarm; and when a sufficient number of stocks has once been established, a larger honey-harvest can be secured by working them on the depriving system than by any other means." Mention is, of course, made of the "Woodbury comb-bar," of which Mr. Bevan Fox speaks in high praise. Having always at command a sufficient store of spare guide-comb for affixing to bars, I have never yet adopted this novel invention. Its utility, however, has been proved beyond question. I may make the same remark with regard to frame-hives. The objections to the use of these frame-bars, as stated by Mr. Woodbury, are sufficient in my own case to outweigh the advantages. Their one advantage is, "that every comb may be extracted, examined, and replaced without injury, or endangering the life of a single bee." Their disadvantages are extra expense in construction, and cumbrousness from their large size, whilst the frames block both back and front windows so as to render them almost useless.

The compound bar-frame is a contrivance of Mr. Woodbury's, which, he says, "I have found very advantageous in enabling me to use bar-hives and frame-hives indiscriminately, without departing from the rule before laid down, that 'every bar should fit every hive in the apiary.' It will be best understood by reference to the accompanying sketch, in which the comb-bar is shown slightly raised from its frame. By adopting the compound bar-frame, any bee-keeper using bar-hives may readily introduce frames without forfeiting the advantages arising from the power of interchanging combs throughout all the hives in his apiary."



The description of what Mr. Woodbury considers "the best and safest mode of making artificial swarms when the apiarian has the advantage of either bars or frames" is nearly identical with an article from his pen, which appeared in No. 20, New Series, of THE JOURNAL OF HORTICULTURE.

Another excellent and safe plan is that recommended by Langstroth, the celebrated American apiarian. Perhaps it is the simplest and the safest yet discovered. It may be described as follows:—Let A and B represent two prolific stocks in about an equal state of forwardness. On a fine calm day drive out the whole population of A, hive the bees, and let the new swarm (C) be put in the place of A. Next move B to a distant stand (which it is permanently to occupy) at the hour of the day when most of the bees are abroad; and in its place locate A, out of which the swarm C had been previously driven. The hives will now stand as follows:—C A B. It will be seen that one swarm is thus got out of two hives. Three weeks or a month later B may be driven in the same way, the forced swarm D taking its place, and C removed (as B was before) to make way for B; the hives will then stand—B A D C. Swarms forced out this plan may be made very early in the season, as soon as drones appear, often in April, with no risk of loss (provided the swarms be fed in bad weather), because of the very slight weakening of the several populations. It is my intention to adopt this plan largely this year, particularly in the apiary of a friend, number-

ing two hives, which are under my superintendence. Langstroth improves upon this plan by giving fertile young queens (which he raises artificially for the purpose) to the deserted hives, which otherwise must raise their own queens artificially; by this means two strong stocks may be multiplied to eight in one season. According to his plan he forces a swarm about every ten days: this will be best explained by an extract from his book:—"Let a fertile young queen be given to A as soon as it is forced, and in ten days force a swarm from B, which I shall call D. Put D on the stand of B, and after removing A to a new place set B where A stood, giving to B a fertile young queen. If another colony E is to be formed make it in the same way, by forcing A and transposing with B; and so continue by the transposition of A and B, forcing the new colony alternately from each, to make successively, at intervals of about ten days, F, G, H, &c., A and B being supplied with a fertile queen as often as they are forced."

In concluding my imperfect review of this essay, I cannot help congratulating my brother apiarians on the accession to their number of so perseveringly scientific, and at the same time cautious an associate as Mr. Woodbury, *alias* the "DEVONSHIRE BEE-KEEPER," has proved himself to be. I always read his communications to this Journal with interest. May he long continue to have health and leisure to enable him to pursue his hobby with undiminished vigour.—B. & W.

### HIVING INTO COMBED HIVES.

In hiving a new swarm of bees it is considered advantageous to give them a hive with empty comb in it? I have a set of boxes, of Nutt's construction, with the middle box full of comb down to the floor and perfectly empty. The box is perfectly sweet and clean. I had purposed, when I have a swarm, to take them in one of the end boxes and draw-up the partition-slide, and so let them have the option of taking possession of the middle box furnished ready for them. The comb is two years old, and not very much discoloured.—C. P., *Herts.*

[It is almost impossible to over-estimate the advantage of placing a swarm in a hive ready furnished with combs. If you hive the bees in a side box of your Nutt's hive, and open the communication with the pavilion, they will, probably, soon betake themselves to the furnished apartment. It should, however, be ascertained beforehand that the combs are in good condition, and free from the ravages of the wax-moth.]

### OUR LETTER BOX.

BROKEN SICKLE-FEATHER (*A Subscriber, Monkwearmouth*).—You may safely pull the feather out. It is not impossible that it should become white, but it is unlikely. It is too important to be left in a broken state.

BEES TRAVELLING BY RAIL (*Sutton Abbott*).—Under the circumstances the best mode of conveying them would be to sew the hive up in a thin canvass, and suspend it by a rope either from the roof of a first-class carriage, or from a nail driven into the roof of the guard's van. If this cannot be done, carry them on your lap. Shake them about, or tilt them on one side as little as possible. The price varies from 10s. to £1 in country districts.

PAYNE'S HIVES.—If some country hive-maker would make these and advertise them at a reasonable price, they would sell largely.

BEST KIND OF HIVE (522).—No one can answer such a query. Every one must determine for themselves after examining the drawings, or the hives, and after considering what characteristics they would especially prefer. Price, facility of observation, character in deprivation, ornamental appearance, and many other points have to be considered before any one can say, "That hive is the best for me."

PREPARATION OF RABBIT SKINS.—D. will be obliged by instructions to prepare Rabbit skins, to be made into muffs or other articles of dress. No doubt there are other amateur Rabbit-keepers who would like to use their own skins in preference to selling them if they could dress them in a satisfactory manner. D. has tried alum and salt, also arsenical soap, but the skins are then too dry and stiff for sewing together.

### LONDON MARKETS.—MAY 12.

#### POULTRY.

Our supply is very small, but the trade is less. In the memory of man it was never so dull in the month of May.

	Each—s. d.	s. d.	Each—s. d.	s. d.
Large Fowls	5 0	to 5 6	Ducklings	3 0 to 3 6
Smaller do.	3 6	„ 4 0	Pigeons	0 8 „ 0 9
Chickens	3 0	„ 3 6	Rabbits	1 3 „ 1 4
Guinea Fowls	3 0	„ 3 6	Wild do.	0 8 „ 0 9
Hens	6 0	„ 6 6	Hares	0 0 „ 0 6

\* See "The English Bee-keeper," chapter vii.

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	MAY 20—26, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.	Sun Sets.	Moon Rises and Sets		Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	m.			h.	m.			
20	Tu	Heaths (fifty kinds).	30.352—30.280	deg. deg. 79—43	W.	—	m. h. 3 of 4	m. h. 49 of 7	m. h. 33 0	°	m. s. 3 45	140		
21	W	Sun's declin. 20° 12' N.	30.371—30.207	80—50	W.	—	2 4	51 7	53 0	23	3 42	141		
22	Th	Pelargoniums, many.	30.159—30.100	73—46	N.W.	—	1 4	52 7	11 1	24	3 38	142		
23	F	Melaleucas.	30.114—29.877	81—43	S.W.	.03	1 11	53 7	29 1	25	3 33	143		
24	S	QUEEN VICTORIA BORN, 1819.	29.984—29.878	73—37	N.	—	58 3	55 7	47 1	26	3 28	144		
25	SUN	ROG. S. PAS. HEL. BORN, 1846.	29.803—29.693	67—45	S.W.	—	57 3	56 7	6 2	27	3 23	145		
26	M	Pimeleas.	29.860—29.795	66—43	S.W.	—	56 3	57 7	29 2	28	3 17	146		

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 66.7° and 44.2° respectively. The greatest heat, 89°, occurred on the 23rd, in 1847; and the lowest cold, 29°, on the 25th in 1839. During the period 144 days were fine, and on 101 rain fell.

CYCLAMENS.



ATHER more than three months ago you obliged me by inserting in your Journal (Vol. II., p. 354), an inquiry respecting the Cyclamen, which has been found wild in our country, and to which our most popular floras give the name of *C. hederæfolium*. My object has been to ascertain whether our plant is the same as *C. neapolitanum*

of Prof. Tenore; and from the remarks of Mr. Beaton appended to my inquiry, and from other information subsequently received, I am nearly satisfied that it is the same. That the plant which grows at Sandhurst, in Kent, and blossoms in the autumn, is so there can scarcely be a doubt; and I am now satisfied that the one which grows at Stackpole Court, Pembroke-shire, is the same as the Sandhurst plant, having lately received from that locality dried specimens of the flowers, both purple and white, which were produced in September.

Of the Suffolk plant, I have not till lately doubted that it blossoms in the spring, having relied on the statement of Sir J. E. Smith in "English Botany" and "English Flora;" but I am now somewhat sceptical about it. He does not, that I am aware of, anywhere say that he had seen it in blossom in the spring; but as he evidently considered it identical with the Ivy-leaved spring-flowering Cyclamen of the older botanists, which, as well as *C. hederæfolium* of "Botanical Magazine," 1001, is, I have no doubt, *C. repandum* of recent botanists, he might naturally conclude that it did blossom in the spring. The specimens which he mentions having received from Suffolk may have been of roots only, which he would be likely to plant in his garden; and if he did, his saying that in a cultivated state it sometimes blossoms in the autumn, is readily accounted for. I must not, however, hastily conclude that the Suffolk plant does not, at least sometimes, blossom in the spring; for though the specimens which I have received of seedling descendants from that locality have with me invariably blossomed in the autumn, they were sent to me with the statement that their time of blossoming is the spring; and if those to whom I am indebted for them were mistaken, I can only account for it by supposing that they were led into the error in some such way as I have supposed Smith to have been. Perhaps some others of your readers may possess the Suffolk plant; and if any of them have had it blossom this spring, they would oblige me as well as others by communicating the fact through your pages, and sending you specimens for your opinion as to its identity with *C. neapolitanum*.

In your Number for February 11th, page 388, *C. europæum* is spoken of as a sickly plant under cultivation. So I have found it when grown in pots—at least, in small

pots; in larger ones—say 7 inches or 8 inches diameter, half filled with stones, and filled up with light earth mixed with a few small stones, I believe it would do well. It has done fairly with me in the common open border; but it would no doubt be an improvement to provide for it a raised bed of light earth mixed with stones, such being the kind of habitat in which I have almost invariably seen it in a wild state. But I cannot do better than refer such of your readers as are interested in its cultivation to the excellent paper of "J. A. P." at page 39 of the Number for April 15. If a few large stones were placed on the surface of the bed, especially on the more exposed sides, they would give the kind of shelter which, he remarks, is so congenial to this plant.

My knowledge of this species in its wild state is not nearly so extensive as that of "J. A. P.," being confined to a rocky district about ten miles south of Geneva, and to a few spots on the borders of the road between Geneva and Chamouuy. On these roadside places I observed it but sparingly; but in the rocky district it grows plentifully, especially on the western slopes of Mont Salève. From this locality I have at different times taken up and brought home many of the roots, which are here found for the greater part amongst loose stones—sometimes nearly on the surface, sometimes 6 inches or more deep. Seating myself on the ground for the purpose of removing the stones, I once extricated eight good roots without moving from my seat; and my friend Jas. Atkins, the originator of the beautiful hybrid Cyclamen which bears his name, who was my companion at the time, obtained eleven roots without shifting his position. We found a few roots, perhaps about one in a hundred, bearing pure white flowers, which I do not remember to have seen anywhere else. The leaves, so far as I have observed them, are generally heartshaped, seldom round like those of *C. coum*, and they are as large at least as those of that species, I think for the greater part rather larger; they are so, as I have the two now growing in my garden. They are entire at the edge, or but obscurely crenate; very unlike the crisped and sharply-crenulate leaves of the figure of Sweet's "British Flower Garden." But that figure was drawn from a specimen of Hungarian origin, and "J. A. P." informs us (page 40) that in the more northern localities the leaves are more decidedly toothed. The earliest time of the year at which I have seen this Cyclamen in blossom is the 10th of July, and then it was but partially so; it was in full blossom from about the middle of July to the end of August, and early in September I observed that the blossoms were beginning to fade.

Now that the inquiry about Cyclamens has been so fully opened in your pages, I hope it will not be closed until the several species are better known and more clearly defined than hitherto they have been. Some botanists, and Mr. D. Beaton appears to be of the number, are of the opinion that *C. vernum* is of hybrid origin; others make it a variety of *C. coum*. In the Prodromus of De Candolle it appears as a variety of this species, or as synonymous with it. But "J. A. P." evidently

considers it a distinct species; and from his long cultivation of it, as well as from his knowledge of the whole genus, his opinion is entitled to much consideration. It appears doubtful, however, whether it was known to the old botanists. I cannot find a reference for it to any one of them, except that Sweet quotes Morison's "Hiatoria Plantarum," an old folio of 1650, which I have not seen; but he also quotes Miller's "Dictionary," No. 4, "Cyclamen (vernale) foliis angulosis integris," which appears to agree better with *repandum* than with *vernum*; for, in addition to the "foliis angulosis," the flowers are said to be large, white or pale purple, with a bright red or purple bottom; whereas in Sweet's figure the leaves are nearly round, not angular, and the flowers are nearly of as full a red as those of *C. coum*. If Miller has *C. vernum* at all it is, I think, his No. 2, "Cyclamen (Purpurascens) foliis orbiculato-cordatis, inferne purpurascens." I refer to the eighth edition of the "Dictionary;" Sweet quotes from the third, but I suppose the numbers and descriptions are the same in both editions.

The "Cyclamen vernum" of Gerard's "Herbal" and of Parkinson's "Paradisus" is, I have no doubt, *C. repandum*. Gerard's "Cyclamen orbiculato folio," and Parkinson's "Cyclamen Romanum Autumnale," come the nearest to our *C. vernum*, and except in the time of blossoming, there is not much either in the figures or descriptions to prevent their being received for it. *C. neapolitanum* is well figured and described by Gerard's "Cyclamen folio Hederae," and Parkinson's "Cyclamen folio hederae autumnale."

Another impediment in the way of receiving *C. vernum* as a distinct species is, that no country appears to be known to which it is indigenous. If it can be found wild in any country, that, of course, would settle the question.

Of *C. ibericum*, I see no reason to doubt its being indigenous to the country from which it takes its name. In the "Horticultural Magazine" of August, 1849, where a description is given of it, it is said to be a "native of Iberia;" and a friend has informed me that he has received two parcels of imported roots, which he had every reason to believe were direct from that country.—T. C., *Halesleigh*.

P.S.—At page 61 of your Journal of April 22, there is the same error of "Genoa" for Geneva, as occurs at page 492, Vol. II., in the Number of March 18.

## RAISING EVERGREEN AND DECIDUOUS STANDARDS.

In the early Volumes of THE COTTAGE GARDENER there were long chapters about how to make standards and half-standards of most of the old evergreen and deciduous shrubs, and reasons and arguments were adduced for the application of such plants on terrace gardens, and every inducement was put forth for going that way to work; but, unfortunately, the old Horticultural Society set its face against any such move, and Mr. Appleby was just lucky enough to escape being transported for venturing to exhibit the first standards of *Deutzia gracilis*, and the last that were ever seen at Chiswick Shows. Things are otherwise now, and no plants are more prized by the revived Royal Horticultural Society than standards inside and out its garden structures. I went through the grounds and conservatory the other day, and the standards of the Portugal Laurel seemed to me likely to do there after all. During the winter they and the Cedar of Lebanon looked wretched, but they are breaking strong.

If Mr. Appleby comes up to the Exhibition he could revenge himself now for the vituperation inflicted on his *Deutzias*, for the new Society has a collection of the most ridiculous Tom-Thumb-looking bronze statues about some of the upper steps near the conservatory, which no mortal with a grain of artistic genuine taste would ever put in such places—unless, indeed, they are meant to signify that the Society is now pliant, and that you could do anything in reason with them, and select even standard *Laurustinuses* above all other things for their display of winter flowers in fine glass houses.

The Society patronises every good move in that direction now, and we have this week felt the first pulse of the new move coming back on us who led the storming party against Fort Prejudice a long time ago. That pulse was from an amateur, who wishes to know if the *Laurustinus* is worked on stocks of the *Guedres Rose*.

The question is not so far out as it might seem; for although there is no natural affinity for working between the two—the one

an evergreen, the other not—there is sufficient family affinity to warrant the idea. But standard Laurels of all kinds, from *nobilis* to the last variety of the family, are made ten times better on their own roots than on the roots of their near neighbours; and most fortunately, nothing is more easy of doing than to raise them all on their own roots, just as the old COTTAGE GARDENER said they ought to be done—that is, by cutting down to the ground; even as late as next week would do.

In the case of an old plant of Sweet Bay, of Portugal or common Laurel, or of Phillyrea, or *Rhamnus*, or *Alaternus*, scoop the ground from near the collar of the plant, and with a small hand-saw cut through the stem as low as you can do it; stir the ground all round, and if the stump bleeds let it—but let there be no doctoring, a little blood lost is often more saved; water the stool, and wait awhile. When the suckers come very thick together thin them, and when they are 6 inches high put 4 inches deep of cocoa-nut fibre refuse in a heap all round them, and the damp in that will keep the stems of the suckers as soft as they are then for the next six weeks. By the time the suckers are, any one of them, just 20 inches above the heap of cocoa-nut fibre refuse, open that heap down to the surface of the old stock, and 3 inches above the old-cut stock take off a ring of bark an inch wide from every sucker that is of that length, and before the end of August every one of these ringed parts will have a fringe of roots all round, and the cocoa-nut fibre refuse is then quite full of such fat white luxuriant-looking roots as you never saw before coming above ground, even from a Vine in a wash-house-like temperature.

I said, seven long years since, that there was nothing on the face of the earth or under it, in which the roots of Hollies and *Deodars* and all manner of trees would luxuriate so soon and so much as in this cocoa-nut fibre refuse, just then fully proved in the Experimental Garden, and I repeat the same now, when every one is holding up the hand in its favour. But prove the fact, and secure to yourself such beautiful evergreen standards at the same time as the Royal Horticultural Society are now growing in their splendid new conservatory. All the plants in this do one real good to see how well they thrive, and none of them better than the standard *Laurustinuses*, which have been beautifully in flower there all the winter, and are now left there to make and ripen their young wood, and to be hardened-off in the autumn, just like Chinese *Azaleas* and *Camellias*, for flowering again next winter, even in a more flourishing state than they ever had the chance of being in before they got into such comfortable quarters.

But, about the rooted young standards, which are to be, in that wonderful cocoa-nut fibre refuse, let us now follow them to their final separation from the old stools. In the autumn of the first year, as we have just seen, they have each a mass of roots, and they ought to remain unmoved all that winter, and to the middle of next April if they are evergreens, then to be cut below where they have been ringed for rooting from. Choose a dripping time to separate them, and before you plant them out for nursing up to be what you require, find out all the buds or eyes, which are situated among the matted roots, and pick them out thoroughly so as to do away with the chance of suckers ever rising from them. Disbud also a foot or 18 inches above the roots, and for the next two years only stop the rest of the side shoots that may issue from the stems of those which ultimately are to be the standards, and see that none of the shoots which are to form the head get on faster than the rest; stop them if they do, and bring all of them up on equal terms, and you never could expect to see such beautiful standards as you will have, or may possess, if you keep strictly to these well-known simple rules of obtaining such things.

But, recollect also, if you were to give them plenty of cocoa-nut fibre refuse as others would give them manure, you will gain time and finer roots.

Then, if your stool standards are of deciduous kinds, as Persian and common *Lilacs*, *Guedres Rose*, or any *Spiræas* and the like, they must be parted from the stools by the end of February, and be done exactly as the evergreens. And, moreover, every hardy tree or shrub, deciduous or evergreen, in this country or in any other, will yield to propagation on that plan. The only special and essential proceeding in the whole of the treatment is to keep the bottom part of the young shoot as soft and as succulent as table *Asparagus*, until the shoot is large enough to be ringed near the bottom, and that can be done only by a heap of the cocoa-nut fibre refuse, exactly on the plan here set forth. I have seen suckers of variegated Hollies root that way as freely,

seemingly, as Verbenas, and there is not a shade of doubt in my mind about the young shoots of any plant rooting the same way under similar circumstances.

D. BEATON.

## A FEW DAYS IN IRELAND.—No. 23.

MONTROSE.

THIS beautiful residence of William Jamieson, Esq., is only a short distance from Alderman Roe's, and the demesne is of much less extent as far as appearances go. On entering the lodge and passing along the approach we noticed some nice plants of Hollies and Conifers, and learnt that more, in addition to Thu-jopses and Cypresses, were to be added. By the sides of the approach were little dots of circles of flowering plants, with Roses—thus destroying everything like breadth of view, and giving an undesirable sensation about flowers before reaching the flower garden. On speaking to Mr. Laidley, the gardener, who had only been there a short time, he told us all these circles were to be turfed-up, and we were glad to hear it. Scarcely any other arrangement could so thoroughly break up the massiveness of a place, and lessen and even destroy all sense of dignity as this frittering with flower-beds along a carriage road, and the evil is anything but uncommon. As you get near the mansion a large Portugal Laurel and a Yew-hedge, &c., conceal the offices on the right side of the approach.

As at Nutley, the pleasure grounds are south and east of the mansion, and the kitchen garden more eastward still. A walk runs through a slip of shrubbery on the south side of the lawn, and this walk is thoroughly concealed from view by a combination of rotery and rockery in irregular sweeping lines, and perhaps some 4 feet in height. That on the west side immediately in front of the mansion is so well clothed with Ferns, creeping plants, Moss, Saxifrage, Sedums, &c., and overhung with evergreen Oaks, &c., as to be rather unobjectionable in an artistic point of view. That on the east side is equally well seen from the house and the conservatories, and, whatever may be the material of its chief construction, showed great masses of white flints, yet uncovered in September. In such an elegant place the flints seemed as glaringly out of place as the white flint-mound alluded to in another pretty place a few weeks ago.

The whole gardens would be nearly three acres, and rather more than one-third we should suppose was devoted to lawn and flower garden. On the east side of the lawn there did not seem to be a very good separation between the ornamental and the useful departments. We forget whether the ridge of rockwork was continued there from north to south or not; if so, it was not so high as on the south side.

Notwithstanding the rage for roteries and rockworks, we are unable to see the propriety of such mounds bounding a fine-dressed lawn, and in front of an elegant mansion, unless it be true that the more violent the contrast the greater the pleasure. If desirable to conceal the walk in the slip thoroughly from the pleasure ground, an evergreen shrubbery faced with Rhododendrons would furnish a nice background; and as the south side of that would be screened by the trees farther south still, there might have been no end of rockeries, and roteries, and ferneries, as distinct and separate objects of attraction, and which could not be seen at all from the lawn or the mansion. We may be thoroughly wrong in our idea, though not wrong in expressing it, that such mounds on a fine-dressed lawn and seen from fine sitting-rooms, speaking from every wall and corner of refined taste and artistic skill, are as much in the right direction as setting the most rustic rough-looking three-legged stools as ornaments in a lady's boudoir. Taste, however, is an undefinable thing, and every man has a perfect right to carry out the ideas which he cheerfully pays for. Some love the showy and gaudy; others the neat, the retiring, the small, or even almost microscopical, in vegetable nature. For giving comfortable homes to such little beauties there is nothing so suitable as the crannies and recesses in a rootwork or rockery. When we meet with a thorough enthusiast in this branch of vegetable study, and observe the pleasure and satisfaction which it yields, we seem to catch a portion of the same spirit; and as in the case of the rockwork close to the elegant mansion of Lamport Hall, in Northamptonshire, forget each and every thing about the position.

As to flowers, there seemed to be a nice group of beds close to the principal rooms of the mansion, a nice group in the centre

of the lawn, Roses on each side of the main walk with small circles of flowers round them, which Roses it was proposed to make of even height, with circles of flowers between, or a waved ribbon-border instead; and, besides all this, the borders in front of the houses were filled with bedding plants pretty well up to the wall-plates—a practice perhaps a little too common, not so much for impoverishing the border as riveting the sun's rays from it. The chief thing, however, that kept our attention, and which has been too much neglected in most flower gardens on the grouping system, were two massive stand-points of colour that by their height gave something like repose to the rest of the lawn, otherwise dotted quite enough. The first is on the west or entrance side of the lawn, and consists of a cone-shaped bed some 9 feet in diameter at base, and fully 4 feet in height, forming a pyramid of Scarlet Geraniums. In a line with this, and on the east or farther side of the lawn, is a raised vase basket about 3 feet in height, and 8 feet in diameter, filled likewise with Scarlet Geraniums elevated in the centre, and having a handle across it covered with the Canary Plant. The effect of such stand-points should be seen by those who can see no beauty in a flower garden, but in masses of colour as level as a mown lawn.

The chief range of glass looking on this lawn, commencing at and connected with the mansion, is close on 200 feet. Many of our English gentlemen, and expecting no end of results too, will think and think for years before they decide to erect some little hotbouse. A glass house seems nothing to these worthy merchants of Dublin. Ere long even the neighbourhood of London will have to look to its laurels if it would not be beat in gardening by the suburbs of Dublin. The first conservatory attached to the mansion is a hipped-roof building, 11 feet high at the sides, 21 feet in height in the centre, and 23 feet in width; the back is covered with a trellis, on which were trained Scarlet Geraniums, Clematises, *Lapageria rosea* doing well, &c. A walk passes all round. A platform, 2½ feet in width, goes all round the three sides for retaining smaller flowering plants. The centre is a bed of clean gravel, on which the plants stand. On our visit the house was decorated chiefly with *Fuchsias*; in winter and spring it is filled chiefly with *Camellias*, *Azaleas*, *Cytisus*, &c.—a row of tall *Camellias* in the centre, *Azaleas*, &c., on the sides. Next to this is the greenhouse with wide steps as a stage, and this too was chiefly devoted to *Fuchsias*; but in winter and spring it has a general collection of *Epacris*, *Heaths*, *Geraniums*, &c. In several places we noticed fine specimens for these houses, slightly sheltered out of doors, as *Heaths*, *Epacris*, *Correa*, especially splendid plants of the best of them still, *speciosa*. Among other fine specimens we noticed *Camellias* 6 feet in height by 4 feet in diameter, and *Azaleas* 4½ feet in height and nearly as much in diameter: these will give some idea of the greenhouse plants.

A viney separates the greenhouse from the centre somewhat-domed conservatory. Some of the vineries showed signs of hard cropping for continued years, and perhaps a little of over-cropping the borders. This one was to be excavated to a depth of 4 feet, drains laid across, a foot of brickbats put over them, a thick layer of lime rubbish over that, and the fresh soil mixed with sweet dung and leaf mould; the young Vines to be planted inside, and Vines in pots grown to supply the deficiency at first. Next, the centre conservatory 20 feet in height and about the same width sets off the range. Here were some fine tree *Rhododendrons* and *Azaleas*, and a good place for wintering large *Fuchsias*, &c. The roof is covered and festooned with *Glycino sinensis*, which must be very beautiful in spring. There is one drawback connected with this plant—namely, that when grown over a general collection of plants in a house there is no end to the trouble in getting rid of the faded petals. Next we come to two vineries, 12 feet at back, 12 feet in width, 4 feet in front, one 21 feet and the other 28 feet in length. Both are supplied with pits in the centre about 4 feet in width; and one to be made the earliest-house was to be filled with fermenting material, alike to excite and break the Vines gently, and to bring on *Roses*, *Lily of the Valley*, &c. We wish we had pits in our houses instead of stages, or rather them both. There is nothing that suits Vines better than the gases and vapour from such pits. With plants the fermenting material must be sweet at first; with nothing but the wood of well-ripened Vines the manure at first may be rank enough, provided it is sweetened by the time the buds break. The next pit was chiefly filled with rubble for setting plants on without heat. As far as we recollect, the range is finished with a Peach-house nearly 30 feet by

12 feet, wires placed horizontally about 15 inches from the glass, and the roof covered with a fine specimen of the Noblesse.

Passing from the houses, the same wall continues onward for 300 feet into the kitchen garden. The wall is 10 feet in height, and seems to have been thoroughly renewed, painted of a black colour, trellised with wire longitudinally, 3 inches from the wall, and not long planted with young Peach trees. We should like to hear of this wall and its success. At present, we are inclined to suppose that unless under certain circumstances, the free absorbing of heat by the black colour is greatly counterbalanced by its free radiation. If the wall were covered at night in front of the trees, the radiation would be so far arrested, the heat would be gradually given out for their benefit, and from the absorbing quality there would be no danger of that scorching in a bright sun which is apt to take place when the heat is reflected from a light whitish surface.

The kitchen garden seemed well, extra well, supplied with old and young fruit trees. This is all right enough for an orchard, but scarcely the thing when a proprietor expects good vegetables as well as good fruit from a kitchen garden. Vegetables without sun, however well manured, are apt to be hard, stringy, and without much flavour; and cooks and gardeners are blamed when the fruit trees above them are the sole cause of the evil. We understood a thinning was to take place.

At the end of this main walk stands a rustic house backed and flanked with rockery and rootery, with climbing Roses, &c., clambling over them. At a little distance is an old ice-house, proposed to be converted into a shell house, communicating by rockwork with the rustic house, and the shell house is to have glass openings in the roof, each painted of a different colour, to reflect the colours on the shells. As we lately stated, we are yet novices in the effects that thus may be produced.

In the Melon ground, in addition to a good collection of frames, we found a span-house 25 feet long for Geraniums, with a stage in the centre and narrow stages at the sides; a Cucumber-pit, 31 feet by 6 feet, 7½ feet high at back, and 2½ feet in front, and which Mr. Laidley wished had been span-roofed, a wish many others would join him in, at the risk of gentlemen saying "It is no use trying to satisfy these gardeners; give them an inch good humouredly, and they will tease your life out to obtain the yard, and not be satisfied then." Well, well, a little teasing brought to bear on employer and employed too is no bad thing after all. It helps to keep down the insidious fungus-growth of thorough self-satisfaction—the great bane and drawback to all progress and improvement.

We were told of a nice place belonging to a brother of the proprietor of Montrose, and also of other places in the vicinity well worthy of a visit; but the shades of evening were now falling, and we felt rather pleased with the day's work at Black-rock, &c., since meeting with Mr. O'Brien early in the forenoon. If we did not tire out the courtesy and patience of the gentlemen, superintendents of these gardens, we found we had pretty well exhausted ourselves, and wanted rest before entering on other scenes; hoping, meanwhile, that we have been able to excite a little of the interest for this suburb of Dublin which we ourselves felt.

R. FISH.

### COLEUS VERSCHAFFELTI.

WE are very much indebted to M. Verschaffelt for the introduction of this striking ornament to our plant-houses. What a magnificent colour, and how elegantly lacinate its beautiful foliage, forming a striking contrast to all the various plants with fine leaves that we possessed previously to its introduction! Even without the presence of other variegated plants, how cheerful it makes a place appear by having a plant or two placed among the various tints of green foliage and flowers that usually decorate our greenhouses and stoves at this season of the year. I say greenhouses advisedly, as our old plant from which others had been propagated has, during the past winter, been in a temperature rarely exceeding 45° Fahr. at night, and often much below; so that we may quite set this down as being much harder than its congeners *C. Blumei* and *pectinata*, for these in the same house have completely perished.

Those who remember the immense specimen of *C. Blumei* shown by Mr. Dodds in the first-prize collection at the last great show at Chiswick, may imagine what a splendid thing *C. Verschaffelti* will be, grown to even half that size. I hope the exhibitors will bring it out well this year, as the plant

cannot be too well known, and should be in every collection of plants—not as a single specimen merely, but in half-dozens or dozens, according to the size of the place; as a few of them, even in the absence of many flowers, make a collection look quite cheerful.

I find that it cannot have too much light, air, and "muck pie" to bring up the colour to perfection; plants that have been coddled-up in great heat and shaded looking little better than the older varieties. But what I wanted particularly to ask was, Will it do for a bedding plant? If so, it will soon put *Perilla* out of the field in high gardening. The latter to my mind having such a sombre appearance; while *Coleus*, both in colour and form, looks quite cheerful.

About ten days since, the weather being so mild, we began to bed out here; and having a plant to spare we put it into one of the beds. I have watched it daily since with great interest, and observed up to Saturday that it seemed quite as much at home in the open air as *Geraniums*, &c.; but yesterday (Sunday) we had a very heavy hailstorm here (in Kent), the ground being quite white, as though snow had fallen for some little time. This morning I went quite expecting to see my pet with its head down; but was very agreeably surprised to find that, as far as appearances go, it looks quite as well as before. I hope, therefore, that others may be induced to try it this season as a bedding plant. If the nurserymen will put it at a bedding-plant price—say 9s. or 12s. per dozen, it might be a temptation to try the experiment.—J. A. S.

### THEORY OF COLOUR, AND THE INFLUENCE OF LIGHT ON VEGETABLES.

THERE are, perhaps, no phenomena in nature better calculated to arrest our attention than the gay and varied colours of the vegetable kingdom; they have been the subject of admiration in all ages, and in almost all ranks and conditions of life. From the study and contemplation of these colours have sprung the arts of dyeing and painting. The savage, to whom clothing is a superfluity, tattoos and daubs his body with all the varieties of colour his ingenuity can prepare and his imagination devise. The civilised man, with more refinement, imparts this colour to articles of clothing. The study of the sciences of light and heat—the two subtlest agents in nature—is, indeed, one of unbounded and intense interest, and likewise of much practical importance. They divulge to us Nature's secrets, and make us acquainted with many, if not all, the phenomena witnessed in everyday life. It is with the former of these only—viz., light, that we have at present to do. And in entering upon the subject of the laws of light I am very well aware that it might be carried to an almost indefinite length; but, as neither time nor space will permit of this, I shall content myself by taking a general and brief view of the effects of light on vegetables.

Science has demonstrated that colour has no material existence—it is a mere optical delusion; at least the colour does not reside or exist in the object that appears coloured. All colours depend for their existence on the rays of light. A beam of light is composed of three distinct rays or colours—red, blue, and yellow—and, according to the ray or rays reflected by the particular objects, so will be its colour. When a beam of light falls upon the surface of a body, part of the rays composing the beam are absorbed and become extinguished, and part are reflected or thrown back; these latter enter the eye of the spectator and determine the colour of the object. It should also be mentioned that the power any body has of absorbing rays of light depends upon its chemical constitution: thus, it follows, that when any change takes place in the colour of an object, a chemical change in its constitution also has taken place. If the red ray is absorbed, and only the blue and yellow rays reflected, the object from which they are reflected appears green; if the yellow ray also is absorbed the object appears blue; or if the blue has been absorbed, and red and yellow reflected, the object appears orange; or if the yellow ray only is absorbed the object appears violet or purple: thus from these three distinct colours—red, blue, and yellow—are the various shades of colour in nature produced. Green is unquestionably the dominant colour in the vegetable kingdom: this is well known to be a compound colour produced by a union of yellow and blue. In speaking of the green-colouring matter of plants, Berthollet says:—"The green of plants is undoubtedly produced by a homogenous substance in the same

way as the greater number of hues which exist in nature. This colour, then, owes its origin sometimes to simple rays and sometimes to a union of different rays; and some other colours are in the same predicament. Were the green of plants due to two substances, one of which is yellow and the other blue, it would be extraordinary if we could not separate them; or, at least change their proportions by some solvent." That this idea of Berthollet in regard to the green-colouring matter of plants being a distinct substance is correct, science has long since fully demonstrated, and the method of obtaining this in a separate state is so exceedingly simple that no one need long remain in doubt as to the truth of the matter, but ascertain it for themselves. It may be procured by the following process:—Bruise the green leaves into a pulp with water, and press out all the liquid; then boil the dry pulp in spirits of wine, or good-proof whiskey. When the alcohol has evaporated there remains a deep green substance, which dissolves on being washed with water; this is the green-colouring matter of vegetables, or, as it has been denominated, chlorophyllite. The formation of this substance depends on the action of the solar rays.—J. DUNN.

(To be continued.)

## PRODUCTS OF TOBASCO, MEXICO.

### SINGULAR CHANGE IN APPLES TAKEN HENCE TO MEXICO.

MR. KOCH, a German gentleman resident in the State of Tobasco, Mexico, about six miles from the mouth of the Tobasco River, at a recent meeting of the Farmers' Club of the American Institute, gave a most interesting account of that country and its productions, and, among other things, stated that he could not grow Apples there, though he had no trouble in growing trees from the seed, which came to bearing in three years. The first fruit produced were small Apples, but afterwards the fruit was exactly in character like the wild Guava, the same of which Guava jelly is made, which grows upon a tree somewhat resembling an Apple tree. He had also planted Pear seeds, but only got Guava fruit. Cherries change to a fruit quite unlike the original, being yellow and of a honied sweetness.

He is now preparing to take some grafted fruit trees out with him, to see if he can grow anything true to its kind in that climate and soil. The situation is about latitude 18°, and range of thermometer 65° to 95°. The soil is sandy and very productive—Sugar Cane growing to a height of 36 feet as a common thing, and sometimes 50 feet. Sweet Potatoes grow to a monstrous size, and in the State of Chiapas Corn grows astonishingly. The Coffee tree in Tobasco is very productive, yielding 15 lbs. or 20 lbs. to a tree, while 5 lbs. or 6 lbs. are considered a fair crop in Brazil.

Rice is grown three crops a-year, by the rudest cultivation. The Indians have no farming tools but the machete, which is a long, heavy knife, with which the brush is cut, and when dry, it is burned, and then the seed put in with a sharp stick, for all their crops.

Mr. Koch is about to take out a steam plough, and many agricultural implements, to cultivate that rich and productive soil, where the only drawback that appears is the insects and reptiles, which are truly by his description enough to deter any white man from attempting to live there. There is also a trifle of intermittent fever in the way, but he thinks that comes from getting wet.—(Prairie Farmer.)

CRYSTAL PALACE.—The great Flower Show of the season will be held on Saturday, 24th May. From the number of entries already received it promises to be the most complete exhibition of flowers which has yet been held at the Crystal Palace. Taking place on the Queen's birthday, a day which this year unhappily will be unattended with the usual military displays, drawing-room, or other rejoicings, a large number of distinguished and official personages will have leisure to attend this, one of the most attractive displays of the season. Considerable additional interest is excited on this occasion from the announcement that the great roof over the Handel orchestra, which has been so many months in preparation for the Festival in June next, will be completed before the day of the Flower Show. The orchestral band of the Company will be considerably strengthened, and, aided by military bands, will afford an

opportunity for estimating the effects which will be produced by the 4000 performers who have been so long in training for the Festival, when assembled beneath this gigantic covering. The vast circles of seats in the great orchestra will be thrown open to visitors, and as it is intended to erect in the great transept large circular trophies of flowers of considerable height, thousands of visitors will be enabled to contemplate the blaze of floral beauty dispersed below, while listening to the musical performances.

## THE GENUS CROCUS.

(Continued from page 115.)

25. *CROCUS OCHROLEUCUS* (Boissier, Bot. Mag., 1862, t. 5297). Native of Anti-Lebanon, near Scanderoun, above Sidon, flowering there and in England in the middle of December. Sir W. Hooker calls it a very elegant and charming cream-coloured flower, with a yellow eye and lily white anthers. It must have been known as one of the "Lilies of the field" to the foresters of King Hiram when preparing Cedar wood for Solomon's Temple; and it should be made known to the gardeners of the reign of Victoria as a likely type plant to diversify the aspect of a new race of midwinter-flowering Crocuses, and holding an intermediate position between *C. Boryanum* and *aërius*.
26. *C. ODORUS* (Bivona Bernardi, longiflorus Rafinesque, and serotinus of Bertoloni). This is a very fragrant and desirable Crocus, a native of Italy and Sicily, and another variety is in Malta. The variety *longiflorus* (Bot. Reg., 1844, 3, fig. 4), is a native of Sicily near Palermo, and on Mount Stella near Paestum, also in Calabria. *Melitensis* (Bot. Reg., 1844, 3, f. 5), occurs on Mount Verdala in Malta. It flowers in October and November, and answers well in pots and ripens seeds. The colour is a lilac purple with an orange throat.
27. *C. PALLASIANUS* (Bot. Reg., 1844, 3, f. 2). *Pallasii* of Maréchal von Bieberstein. A native of the Crimea on sunny hills, with a pale purple flower, hairy in the throat; never introduced.
28. *C. PULCHELLUS* (Herb., Bot. Reg., 1843, Misc., 28; Bot. Mag., 1841, 3862, p. 2). A most lovely Crocus, native of the forest of Belgrade, also on the Asiatic side of the Bosphorus and on Mount Athos. The flower is of a pale bluish-pearl colour with an orange throat, and some with a pure white flower, contrasting beautifully with the orange throat and milk white anthers. It is a great acquisition to our gardens, flowering freely at the beginning of October, and ripening its seeds willingly at Spofforth. The bluish-pearl and the pure white flowers will cross and produce quite a new race of autumnal flowers, which will exceed that of *versicolor*.
29. *C. PYRENEUS* (Parkinson, Paradisus, 1629). *Nudiflorus* (Smith, English Botany, 1793, fig. 491, a bad one). *Multifidus* of Ramon, and *speciosus* in Supplement to Eng. Bot., 2, 2765. A fine large purple Crocus, native of the Pyrennees, and naturalised near Warrington, Halifax, and Nottingham. Which is the yellow Crocus that accompanies it in the latter place?
30. *C. RETICULATUS* (Mar. v. Bieb., Bot. Mag., 1841, 3865, at the end; Bot. Reg., 1843, Misc., 30). *Susianus* (Ker, Bot. Mag., 652). The Cloth of Gold is the best known of the Reticulate Crocus. It occurs in five distinct varieties in the south-east of Europe as far as the Crimea. Variety 1, *auritextus*, is the pure Cloth of Gold, the *fulvus* of Pallas, and *susianus* by mistake, *Susa* being farther east than the eastern limits of Crocus. 2 is *variegatus* from Monte Spaccato, Trieste. 3, *Dalmaticus* of Visiani (Flora Daln.). 4, *Albicans* (Herb.), near Odessa; and 5, *Ancyrensis* (Herb.), wild near Angora. *Albicans*, from Bucharest and Odessa, is Parkinson's Cloth of Silver. And the golden variety of Angora is very different from the Cloth of Gold; having no stripes or suffusion on the sepals, but with a purple tube.
31. *C. SALZMANNIANUS* (Herb., Bot. Mag., 3868, f. 2). *C. ditto* (Tingitanus, p. 2; Bot. Reg., 1847, 4, f. 4; Guay, B. F. 28, 220). From hills near Tangiers, and on mountains near Tunis, flowering in the autumn; the flowers are pale violet purple. The only kind hitherto found in Africa.
32. *C. SATIVUS* (Linnaeus). *Autumnalis* (English Bot., 343). The well-known Saffron Crocus, a pale purple flower, and

- deeper purple at the bottom. Its native place is not certain. It has been found wild in Italy in the Ambruzzi, but is believed to have only escaped from ancient cultivation. Dr. Boyle found it in cultivation in Cashmere, which is beyond the eastern limits of wild Crocuses.
33. *C. SEROTINUS* (Paradisa Londinensis, t. 30; Bot. Mag., t. 1267). Native of Pine forests in the south of Spain near Cadiz, and on the Sierra Nevada; flowering in October. The flowers are pale violet purple with a yellow throat. A very acceptable plant for the table in November.
34. *C. SPECIOSUS* (Maréchal von Bieberstein, Bot. Mag., 3861). This is the very finest wild Crocus hitherto known. There are three wild varieties of it. 1, Caucasian (Bot. Mag., 3861, fig. 1), on Caucasus. 2, Transylvanicus (Bot. Mag., 3861, fig. 2; and Bot. Reg., 25, 40), in Transylvania. And 3, Laxior (Bot. Mag., 3861, fig. 3), on the high table lands in the Crimea. They have all bloomed and seeded at Spofforth from the latter part of September to the end of October. Dr. Herbert says that pyreneus, speciosus, pulchellus, medius, and byzantinus flower with equal freedom at the same time, and that longiflorus and Cartwrightianus follow them with equal freedom in blooming, and continue sometimes to January. The sepals, or three outside petals, are of a fine bluish-purple, with a deeper base and three lines up the back; the three petals not quite so deep, but most beautifully veined, and the throat is of a straw colour, and slightly bearded with strong white hairs.
35. *C. SUAVEOLENS* (Bertoloni, Bot. Mag., 3864). A very fragrant Crocus, straw-coloured and streaked, with an orange-spotted throat. A native of the Campagna of Rome, and the Valle d'Inferno in the old kingdom of Naples, and on calcareous hills near Fundi.
36. *C. SUTERIANUS* (Herb., Bot. Reg., 1845, Misc., p. 5). From the mountains of Naupli, and named after Mr. Suter, British Vice-Consul in Caramania, who found it near Angora. The flowers are of a fiery and sometimes reddish-gold colour, and often with a livid blotch at the base of each section of the limb. A very pretty and conspicuous small flower, blooming in the spring, which, if it could be crossed with the pollen of the Cloth of Gold, would produce seedlings to vie with the Jersey Sparaxuses.
37. *C. THOMASIANUS* (Herb., Bot. Reg., 1844, 3, fig. 6). Thomasi (Tenore, Memoria, &c., 12). A purplish flower, streaked on the outside. Allied to astivus, and flowering in the autumn. A native of upper and lower Calabria, where there are two varieties of it: 1, Princeps, with the edges of the leaves and angles of the midrib closely fringed. 2, lævis, all smooth.
38. *C. TOMASINIANUS* (Herb., Visiani, Flora Dalmaticæ). Named after Signor Tomasini, President of the Magistracy at Trieste, who discovered it in the Mountain Biokovo in Dalmatia. It is allied to vernus, from which it differs in not having an involucre.
39. *C. TOURNFORTIANUS* (Gay, Bulletin de Ferrussac, 25, 220; Bot. Reg., 1845, 37, f. 3, H. Misc., p. 6). Native of the Greek Archipelago, as Milo and Thernia. A desirable pot plant in November, as when the flowers are once expanded they keep so even at night. It has lily white anthers and white pollen, and is akin to Boryanus, from which it differs in the pale blue of the limb, the paleness of the throat and filaments, and other technical marks.
40. *C. VALLICOLA* (Herb., Bot. Reg., 1845, Misc., p. 7; ditto, 1847, t. 16, fig. 3). Native of the Alps of Trebizond, near the village Stauros, blooming in October. The flowers white, with two yellow spots at the base of each segment. Filaments and anthers pure white.
41. *C. VELUCHENSIS* (Herb.) Native of the summit and slopes of Veluchi in the Morea, with a violet purple flower, having a white bearded throat, and blooming in the spring. The flower-scape is so short at the time of flowering, that the ovary seems almost sessile—a rare feature in Crocuses.
42. *C. VERNUS* (Linnaeus). Vernus and sativus were the only two Crocuses known to Linnaeus. This is the most widely extended of all the Crocuses, with an alpine range from Spain to Odessa. It is pure white on the Bavarian Alps, purple in the Tyrol, and deeper purple on Calabrian mountains; but the finest of our garden varieties of it are from the Odessa plants, whose flowers are either pure white, beautifully striped inside, or deep purple. The throat of all the wild varieties of vernus is white and hairy, by which they can readily be distinguished from their powerful rivals—the race of versicolor, which is as constantly smooth in the throat. But whether garden seedlings of either race keep constant to that type feature in their generations has not yet been inquired into; the prevailing feature of the best of our present race of spring Crocuses, such as Sir Walter Scott, Queen Victoria, Prince Albert, and the like, is a smooth throat, which would indicate them as referable to versicolor. There are three very distinct varieties of vernus:—1, the vernus communis; 2, neapolitanus (Bot. Mag., 860), from the highest mountain in Calabria, Monte Pollino, flowering there in June and July; 3, nivigina (Bot. Reg., 29, Misc., 130), which grows on the Steppes near Odessa, is the finest of the three.
43. *C. VERSICOLOR* (Ker, Bot. Mag., 1110). A native of Nice. The prevailing colour is white, sometimes suffused with purple, and generally more or less streaked with deep purple on the outside. The throat is smooth, sometimes white and sometimes yellow. The race of versicolor prefer deep planting, 4 inches or 5 inches below the surface, as does the race of lagenæflorus.
44. *C. VISIANICUS* (Herb., Bot. Reg., 1845, Misc., 78). Pallasi-anus of Professor Visiani in "Flora Dalmatica." Flowers in the autumn, the flowers being of a violet purple, with a yellow throat, by which it is distinguished from pallasi-anus of the Crimea, and approaches more nearly to hadriaticus, its nearer neighbour. D. BEATON.

#### PRESERVING DAHLIA TUBERS.

MAY I be permitted to offer a simple suggestion relative to the preservation of Dahlia roots during winter? Though carefully dried before storing away in the autumn, I used continually to lose them by the rotting of the crown, till at length it occurred to me it was occasioned through the decay of the long stalk left attached to the tubers: this becoming partially charged with fluid kept the crown constantly wet. My remedy has been to leave not more than 4 inches of stalk; from this to scrape the whole of the outer covering or bark, and at the base to make a small opening which permits any watery deposit to escape. The result has been I have preserved the whole of my tubers, while experienced gardeners around me have complained of loss, notwithstanding that every precaution from damp or frost has been taken.—B. F. F., *Margate*.

#### THE CALCEOLARIA AS A BEDDING PLANT.

(Continued from page 121.)

THE GRADUAL PROGRESS OF THE CALCEOLARIA AS A BEDDING PLANT.—It has been stated that the old *C. integrifolia* was planted out in mixed flower-borders as early as 1830, or before, and subsequently the half herbaceous ones were planted out in like manner; but as bedding-out in masses of one colour only had not come into fashion at that time, I do not remember seeing a whole bed of any one kind, and as flowers were the more prized in accordance as they disclosed the more beauties by close inspection, the self-coloured ones were regarded secondary to the blotched or clouded varieties. Nevertheless, the sturdy habit of the yellow one gained friends, and a yellow Calceolaria amongst Campanulas, Phloxes, Chelones, and such-like plants was considered an advantage. But as every year brought forth something new in the half-herbaceous line, and new things then as well as now were eagerly sought after, the progress of the old yellow into general repute as a bedder was but slow until 1838, and afterwards. True, some cultivators in advance of the general public might have had beds of it before that time; but in far-away rural districts it had not become common until 1840, when an impulse was given to it, and soon after newer and improved kinds were forthcoming, one of the best being *C. viscosissima*, which though dating in catalogues as far back as 1832, I do not recollect coming into general repute until 1843, and as it still maintains a respectable position in the list, may be regarded as a sort of standard. The appearance of *C. amplexicaulis* a few years later added another tint as well as another habit to the plant, and beds of Calceolaria became as indispensable as beds of Verbenas. The dark ones being also improved were also sought after, though of late they have ceased to be regarded so important as the yellow

section; but the appearance of *C. Sultan* about 1851 was hailed as a boon, and subsequently *C. Beauty of Montreal*, and others, added to the already useful section of dark ones, while *C. Kentish Hero* had a run for some time as an intermediate variety, its large truss of bloom gave it great importance, but it did not afford that succession so much needed in the flower garden, and it fell into disrepute, so that for the last half dozen years, and more, only the more truly shrubby kinds have been in demand. Yellows also have been much improved during the last ten years, the most popular being *C. aurantia*, sulphurea elegans, aurea floribunda, amplexicaulis, Kayii, and two or three others; and more recently *Gaines' King*, as a dwarf yellow, has stood high in public estimation, and with *General Havelock* as a dark one, and *Prince of Orange* as an intermediate one, the list may be said to be complete, not but that there are newer, and, perhaps, some still better than those named; but I only mention such as I am acquainted with.

**THE PROPAGATION OF THE CALCEOLARIA.**—Amongst the many plants which require multiplying, there is none, with the exception of those which rise spontaneously from seed, which are propagated with greater facility than the shrubby *Calceolaria*. Cuttings put into a pan, pot, box, or plain mother earth in the month of October, or even later, and simply protected from the more extreme frosts, rarely fail to make good, useful plants, as no amount of damp seems to injure them, and the amount of protection they require is much less than is generally supposed. For many years I have been in the habit of putting in hundreds of cuttings into a cold pit in the kitchen garden, covered over only in severe weather with wooden shutters, very seldom with glass; at least a part of them only have that luxury, and I rarely lose more than two per cent., excepting of the delicate kinds, as *amplexicaulis*, and *Prince of Orange* is a little more tender than some; but I generally preserve a few of them in another place for fear of losing the whole. Even in the winter 1860-61, which may be regarded as one of the most severe of late seasons, we scarcely lost one, excepting of the two kinds alluded to. So that the trouble of keeping a good batch of *Calceolarias* is an easy matter.

I do not know to whom the honour of first striking them in this way belongs, but I used to treat the kinds grown about 1839 in much the same way, putting them in, however, much earlier, and potting them off before winter, to be kept under glass. A sandy soil suits them best, as it is not so likely to harden and crack with alternate wet and dry weather. We put our cuttings in little more than 2 inches apart, and by the middle of March take out one half of the rows to give the others room, planting out those taken up into another similar place to strengthen before finally planting out where they are to remain. No plant that I am aware of takes up and plants with so much ease and certainty of growing as the *Calceolaria*. The roots being exactly adapted to take up with a ball, a close, compact tuft of roots all of equal length radiating from the base of the cutting, clasp the earth in such a way as to give it more the character of a true ball than that of most plants to which that name is given, for, unlike most plants, the numerous roots of the *Calceolaria* are all of equal length, and, consequently, occupy all the ground they enclose. There are no long, rambling rootlets travelling long distances in search of choice food, as in the *Verbena* and *Geranium*, but a thick-set mass, or tuft, of roots all uniting in one common centre, and well adapted for assisting the plant to endure the ordeal of transportation with little harm to itself. Potting is out of the question with bedding *Calceolarias*, excepting new or choice ones, and amongst several thousand planted out last year, not more than twenty were honoured with a separate pot, and these only in consequence of being scarce. So that the keeping of *Calceolarias* over the winter is within the reach of many who have not, perhaps, even thought of it, as I have shown that both glass and pots may be dispensed with.

**PLANTING-OUT THE CALCEOLARIA INTO BEDS.**—Having shown that the plant takes up with the spade with an excellent ball, and having also pointed out the general hardihood of the plant, it need not be wondered at that I recommend it being planted out before the general mass of bedding plants. For some years I have, therefore, planted them out in April, and given them where practicable a slight covering of laurel boughs—not stuck in the ground, as the wind is so liable to blow them out, but laid over the plants; and though they have sometimes received a little nipping from frosts, they have never suffered to any extent that way. One bed of yellow *Calceolarias* planted out

the last week in March has been the best bed I have had this season. It is not absolutely necessary to plant so soon; only, if the plants are suffering for want of room, it is better to do so than allow them to get drawn. Plants pot-bound, if there be any such, ought to be turned out into some border of suitable soil, and the matted ball will emit a beard of nice useful roots, all eager to embrace the fresh and unexplored earth. It is always a bad plan to allow *Calceolarias* to become pot-bound, as the plants are not unlikely to die after the first flowers are over. And as a temporary shelter is only needed, some makeshift in that way will easily present itself to the anxious cultivator. It is, however, proper to say, that although the *Calceolaria's* roots do not ramify far, it likes a good rich soil and a fair share of moisture: hence it generally does better in showery neighbourhoods than in dry ones. Dry chalky banks are its bane, and wet and marshy places are also unsuited to it; but it is, nevertheless, so accommodating that few places come amiss to it. And as a single plant in a mixed border, its tidy uniform appearance recommends it to notice; and for a single row in a striped border it is also equally applicable; and the shrubby kinds at least require no trimming to keep them in order, while *C. amplexicaulis* can be either pegged-down to the condition of a low plant, or tied-up to represent a tall one.

**CONCLUDING REMARKS.**—It not being my intention to say anything of the herbaceous kinds so ornamental to the greenhouse in April and May, it is, however, proper to say that in some districts the *Calceolaria* has disappointed some of its most ardent admirers by plants of it dying off during the summer without any apparent reason for doing so. Although I have witnessed this I have never experienced it; as even in the driest season of 1857, 1858, and 1859, we scarcely lost a plant, although after the first flowering was over there was not much succession, and the plants only began to grow after the autumn rain came on, it being then too late to expect flowers. I believe, even in those districts where they had been in the habit of dying off, they did not do so during last season, so that we may fairly attribute their doing so in years gone by to their inability to withstand the dry weather, and yet this is hardly compatible with their enduring the dry weather at this place; but it must also be observed that their utility has fallen far short of what was expected, and I for one invited the readers of *THE COTTAGE GARDENER* to turn their attention to something else as a substitute if the *Calceolaria* failed any more. But the revival of last season has reinstated this old favourite; and until we can have something else as good in colour, convenient in habit, and easy of culture, we must content ourselves with the *Calceolaria*. Possibly our hybridising friends may assist us with something still superior to what we now possess. Assuredly the white one may be worked into something more useful than it has hitherto been, and if they can convert some of the reds into bright scarlets, they will confer another boon; and if they would again begin with the old arachnoidea, and see how near a blue they can command its progeny to be, giving them also the other requisites of a good bedder, not forgetting the property of withstanding rain, they will in this have an entire new field for operations, and I see no reason why their efforts should not be crowned with success.

J. ROBSON.

#### IMAGINARY FORMS IN SECTIONS OF FERN STEMS.

WOULD you tell me which Fern is said to present the appearance of the sacred monogram (I. H. S.), on cutting the stem or root?—M. D. P.

[We do not remember about this; but it is probably the rhizome or stipes of *Pteris aquilina* (common Brake) cut in some peculiar direction. The cuttings of this Fern are well known to give fanciful images of the spread eagle and of an Oak tree, and, by the aid of a little imagination, probably the above letters may be discerned. Can any of our readers throw light on the question?]

**SPERGULA PILIFERA.**—It may, perhaps, be interesting to some of our readers to hear that *Spergula pilifera* appears to succeed in this neighbourhood (Edmonton) for a lawn. I planted rather a large piece in the spring of last year, and it is now nearly closed up, and would have done so entirely; but I committed a mistake in having the ground made up from a

field, and have consequently had great trouble in weeding and keeping clean. The ground is a stiff clay, and I think in hot weather the Spergula will have a tendency to turn yellow unless kept well watered.—G. P. NICHOLLS, *Oakfield*.

### THE ROYAL EXOTIC NURSERY, CHELSEA.

To attempt to give in a single article any adequate idea of the vast resources of Mr. Veitch's establishment, replete with all that is ornamental, or useful, or merely interesting, would be vain. It would take a volume to contain an account of the tropical luxuriance that here everywhere abounds, not to mention the grand collection of the more hardy denizens of the garden, which also deserve and receive their due share of attention.

Having thus candidly avowed our inability to do justice to this place in the limited space at our command, we may, perhaps, be permitted to notice as shortly as possible, the fresh attractions which have been added, and the important introductions which have been effected, without being censured for our inevitable shortcomings. The general features of the nursery are so familiar to most of our readers, that we need not pause to describe what has been so often seen and described before. We may state, however, that the large conservatory or show-house through which the visitor passes from the King's Road, at all times gay, is now a blaze of colour, Azaleas, Rhododendrons, Kalmias, Geraniums, Heaths, &c., contributing their varied hues to set off the more modest greenhouse plants which are introduced to swell the general effect, which is rendered all the more striking by the relief of a due amount of foliage.

Near the entrance is placed a collection of large and handsome Japanese vases and trays brought home by Mr. John Gould Veitch, some square, some round, some hexagonal, interesting and beautiful specimens of the potteryware of the country. Several of the finest kinds were executed in alto-relief, the raised pattern exhibiting trees in flower and fruit; and others exhibited on their sides representations of the stork, which is a sacred bird with the Japanese, who never kill it. At the other end is a fine collection of Camellias, ranged on each side of the central avenue, backed up by magnificent specimens of tree Ferns such as are not to be seen elsewhere. Amongst these are especially noticeable noble *Cyathea*s; *Alsophila Macarthuri*; and a majestic plant of *Cyathea dealbata*, the New Zealand Silver tree Fern; and many other specimens of not less remarkable size and beauty.

Passing out of this grand house, in which we might well be tempted to linger, we come to a new feature which has been quite recently added. This is an area of more than 5000 square feet covered with a tiffany roof, supported by light and elegant cast-iron columns, and laid out according to a most elegant design, consisting of four large circular beds, with others of a form which it would belong to the engraver to represent, and which there is no word in the language to express, surrounding and harmonising with the whole. In the middle of each of these four principal circular beds is a handsome vase, containing a plant of *Yucca recurva*, with its leaves gracefully drooping over the edges.

In the centre of the space thus laid out is a large circular cast-iron vase, painted to resemble stone, round which the path passes on each side, filled with hardy Japanese plants brought home by Mr. J. G. Veitch from Japan. The outer row or edging consists of *Enonymus radicans variegata*, a dwarf distinct variety, with bright green foliage blotched with white, which renders it peculiarly well adapted for edgings; and occupying the centre is a larger plant of the same kind.

The intermediate space is occupied by young plants of *Retinospora obtusa*, one of the finest of all the Japanese evergreen Conifers; *R. lycopodioides*, another kind with fine dark green foliage, and of dwarf habit; and *R. pisifera*, a graceful species of more pendulous habit. Besides these are the beautiful *Thujopsis dolabrata*, one of the finest trees in Japan; and the Chilian *Libocedrus tetragona*, also a hardy and very fine Conifer.

The base is encircled with a selection of Chilian and Japanese Ferns, including *Polystichum setosum*, growing almost like a tree Fern when large, which we shall notice elsewhere; *P. flexum* from Chili, also a perfectly hardy and very fine species, suitable for rockwork; and *Lastræa opaca*, likewise hardy, with dark green and olive fronds, adapted for the same purposes as the preceding.

In addition to the above there were *Lomaria crenulata*, a pretty and desirable species from Chili, which answers to its

name in having crenulated dark green fronds; *Woodwardia orientalis*, a perfectly hardy and peculiarly interesting Fern, its spreading fronds bearing on their upper surface numerous young plants; *Woodsia polystichoides Veitchii*, a very distinct dwarf kind from Yeddo; and several others which, being better known, need not be adverted to just now.

Turning to the gay Rhododendrons, which are viewed at great advantage from the conservatory steps, we find many of the old hybrids interspersed with standards of *Blandyanum*, *Victoria*, *Etendard de Flandres* and other splendid kinds, and presenting to the eye dense masses of glowing colours; and a number of seedlings not yet named, which have been raised by Mr. Veitch, of Exeter; also several new and remarkably fine hardy hybrids due to the same source. Such are *Marian*, literally covered with flowers of a shaded pink with dark spots, a kind which it is expected will prove excellent for forcing; *Lady Lopes*, bluish, equally free and rather later; *Ochroleucum*, pale straw, dwarf, compact, and quite distinct in colour from any other kind; *Miss Buller*, a fine purplish-crimson, shading off to a rosy white; *Lord Elgin*, not yet out; *Rubescens*, and some others. This display is a grand feature, which will undoubtedly prove a great attraction during the remainder of the season; and the masses of colour being relieved by the dark green foliage, the eye does not become wearied, as is often the case at the great flower shows.

The COOL FERN-HOUSE, which adjoins, contains an endless variety of all the most interesting species, but we can only notice here a few of the most new and striking. Of such are *Acrophorus affinis*, from Borneo, with large finely-divided fronds, and very beautiful; *Adiantum chilense*, the Chilian Maiden-hair, with very handsome glaucous fronds; *Adiantum sulphureum*, the Golden Maiden-hair, which forms a thick tuft of great beauty, the whole of the under surface being thickly covered with golden powder; and *Adiantum scabrum*, the Silver Maiden-hair, which is likewise of dwarf growth, and being plentifully covered with silvery dust, it forms an admirable contrast with the preceding. *Leptopteris superba*, a most lovely species, with semi-pellucid finely-curved fronds deserves special mention on account of its peculiarly graceful character. It is from New Zealand, and will be an invaluable greenhouse kind. The plant we saw, however, is, we believe, the only one in Europe. *Polystichum setosum*, of which there is a large specimen, is another great acquisition, having very ornamental bristly fronds. It is from Yokohama, and is perfectly hardy. *Cheilanthes mysurensis*, forming a dwarf tuft, is new and elegant; *C. glauca hirsuta*, a beautiful little variety with very finely-divided triangular fronds, is also very attractive; whilst *Microlepia strigosa*, being of a lively bright green and growing about 2 feet high, forms a very desirable addition to the greenhouse.

Hastily glancing at other objects of interest we can merely mention the beautiful *Todea pellucida*; *Dicksonia arborescens*, with noble fronds densely clothed with yellowish hairs; *Lomaria gibba*, a very graceful species from New Caledonia; *Lomaria blechnoides*, and *Notochloa mollis*, the scarce *Trichomanes noronense*; and the Killarney Fern, *T. radicans*, which is here successfully grown uncovered by a glass.

The HARDY FERNERY, which we next entered, is more like an enchanted fairy scene, or an ocean cave in which the sea nymphs wring their briny locks, than the creation of art, the lovely green fronds of the Ferns completely hiding the sides and ends of the house, except here and there where the rockwork is permitted to peep forth for effect, whilst at one end a trickling cascade falls into a pool where a fine *Osmunda regalis* is growing, and giving a most refreshing effect on the ear on a warm sunny day. The rockwork is closely carpeted at its base with various English Mosses, and planted all over with *Lastræas*, *Polystichums*, *Scelopendrimms*, and other hardy Ferns, the central mass being crowned with a fine *Woodwardia radicans*. We also noticed *Woodwardia orientalis*; *Lastræa Sieboldi*, a rather scarce Japanese species; *Lomaria chilensis*; and *Gleichenia microphylla*, which is usually considered tender, but which stood last winter without fire heat.

The STOVE FERNERY also presents a pretty appearance, hanging-baskets filled with various graceful species with pendent fronds being suspended from the roof, whilst *Trelliseæ* covered with different kinds of *Lygodiums* are seen ever so far. Here were pointed out to us *Alsophila contaminans glauca*, a very rare and beautiful tree Fern obtained in Manilla by Mr. J. G. Veitch; *Thyreopteris elegans*, a very rare and graceful species; the new *Asplenium flabellatum*, and *rachirrhina* with its curious

whip-like ends; the rare *Gleichenia pubescens* and *Schizæa dichotoma*; that fine tree Fern *Cibotium princeps*, as well as many other interesting objects.

We next visited a large collection of new plants imported from Japan by Mr. John Veitch, to whose enterprise and botanical knowledge the country is indebted for so many valuable introductions, and which shall all be noticed in due time. Some of them, however, we cannot pass by unnoticed, as the *Abies firma*, one of the finest of the Japan Conifers, the leaves of which are bifurcate at the apex, and which forms in its native country a magnificent tree; *Thuja pygmaea*, a dense, close, dark green tuft, somewhat resembling a Lycopod, and always remaining dwarf; *Pinus koraiensis*, from the north of Japan, with long beautifully-glaucous leaves; the noble *Sciadopitys*; *Thujaopsis late-virens*, a dwarf, erect, exceedingly beautiful species with very light green foliage; the elegant variegated *T. dolabrata variegata*; the handsome *Eurya latifolia variegata*, with laurel-like foliage, variegated with white and pink; and *Osmanthus ilicifolius variegatus*, somewhat like a handsome variegated Holly.

There were, besides, many Bamboos and other new and beautiful introductions.

The INTERMEDIATE-HOUSE was filled with new Begonias and foliage plants, and several new Gloxinias, one of which, named Constance, was particularly remarkable for its large size and beautiful mauve and crimson colour. *Stenogastra concinna*, a singular miniature, covered with white and lilac flowers, also attracted our attention, and on inquiring about it we were informed that it continued in flower all the year. It is a charming little stove plant. *Ficus Cooperi* is also remarkable on account of its large glossy leaves veined with purplish-crimson.

In the GROVE we found *Caladium Veitchi*, with large bronzy leaves veined with white, a grand foliage plant; *Alocasia macrorrhiza variegata*, with bold and striking white variegation, a noble *Caladium*-like plant—a very fine new and formidable rival to *Cyanophyllum magnificum*, which has for the present been distinguished by the provisional name of *Spherogyne*, and many other valuable novelties, of which we shall have to speak on some future occasion.

In other houses were fine plants of, *Alocasia zebrina*, from the Philippines with large, velvety green leaves, the footstalks being yellow with zebra-like markings of dark green; an extensive collection of *Nepenthes*, among which one called *N. Dominiana* is remarkable as the first hybrid Pitcher-plant raised in England; large specimens of Ferns; grand foliage plants of all kinds; *Vandas*, *Dendrobiums*, *Cattleyas*, *Phalenopsis*, *Cypripediums*, and other Orchids in flower, New Holland plants, *Rhododendron Veitchi* exhibiting its large white flowers, and a legion of other plants. One of these, however, we must particularly mention. It is the new *Amaranthus melancholicus ruber*, the handsomest hardy red-foliaged plant we have ever seen, and which will decidedly beat *Perilla* out of the field.

Before quitting the nursery we were privileged to see a remarkable collection of curiosities from Japan, with models and specimens of the industrial and natural productions of the country, including some beautiful specimens of woods brought home by Mr. J. G. Veitch, and for which a large room is fitting up as a museum. When finished, the cases, which pass all round the room, will be filled with these interesting mementos of his visit, and we doubt not the visitors of the establishment will be permitted to view the collection. We observed particularly a plank of *Planera acuminata* upwards of a yard across; the wood of this is so much esteemed that the Chinese will never use it for any common purpose; also two lovely specimens of coral, forming erect silky feathers of snowy whiteness; and some beautiful China cups and vases, almost transparent.

### CATERPILLARS ON FRUIT TREES.

THERE is a very great show of fruit-blossom in this part of the world, and a great promise of fruit; but insects (and amongst them the Gooseberry caterpillar), are beginning to be very busy. In the Apple blossom, more especially, there are two sorts of caterpillars—one a small green, and the other black, hairy, and much larger. They seem to be in the centre of the blossom, and to eat its heart away. Can any of your readers furnish an effectual plan for dealing with them or a more successful one for destroying the Gooseberry caterpillar than tan, which in compliance with your advice I tried, but without success, as I have had two women constantly employed for the last ten days

in picking, and who literally collect bushels of them? Lime plentifully sprinkled on the tree seems to check them.

I observe a statement that a mild solution of chloride of lime applied to any tree will destroy any fly or caterpillar. But as "mild" is a very comparative term, could you give any information as to the comparative strength of this "mild solution?" and so oblige—AN IGNORAMUS, near Liverpool.

[It is difficult to determine the species of moth or saw-fly which gives birth to a caterpillar without first seeing the caterpillar. The "usually green" ones on the Apple blossom are probably the larvæ of the winter moth (*Cheimatobia brumata*), which are grey at first, but become pale green afterwards. But whatever their parentage, their most effective destroyers are the small birds. No application can kill the caterpillars that would not injure the blossom.

The Gooseberry saw-fly caterpillars, we suspect, result from the moths from the underground larvæ having emerged before the tan was put on to the surface of the soil, or it was put on too thinly. Dusting with fresh white hellebore powder will kill the caterpillars, but we believe that hand-picking, which you have adopted, is the cheapest and most effective remedy.

Any solution of chloride of lime sufficiently strong to kill caterpillars, we think, would kill the leaves also. It is very easy to try the experiment. Dissolve a teaspoonful of the chloride in a tumbler of water, dip into it a shoot, and if it kills the caterpillars and the leaves they are on too, then try one teaspoonful to a pint of water, and so on until you have ascertained the whole truth. Then you could not act more wisely and benevolently than by communicating to us a statement of the facts for publication.]

### OUR PRESENT SEASON OF BLOSSOMS.

AT no time previous do I remember seeing such an abundance of bloom upon deciduous trees, and this is not confined to trees under cultivation, but every tree of our hedges and our woods is, and has been, gorgeously decked with flowers. What other counties may have to report upon this subject I am not traveller enough to be in a position to say; but most certainly here on the south coast, the year 1862 is a memorable year for blossom, and one that will not soon escape man's memory. Our fruit-orchards are beautiful in the extreme, every twig to the very extremity is one mass of bloom. Trees that for years past have scarcely retained life enough in them to secure their remaining upon the ground, have this season put forth more vigorously than they were ever known to do before, while others that have yielded but little fruit bid fair to produce an unusually heavy crop, and each one is congratulating his neighbour upon the happy result that may reasonably be expected. Plums, Pears, and Cherries being more advanced than Apples, we can speak with a little more certainty as to a crop. They are all set in abundance. Wall fruit with us is rather above the average, which we are not surprised to see after a season of bloom such as we witnessed here. Gooseberries and Currants are plentiful, and fully a fortnight in advance of other seasons. Strawberries, too, are trussing-up strongly and plentifully, notwithstanding the prognostications of some of your correspondents that we should have a cold, backward spring.—J. C. CLARKE, Wakehurst Place Gardens.

### SUPERSTITIONS RELATIVE TO THE ELDER TREE.

ARE you aware that it is a superstitious opinion among country people in some districts that the cross on which our Saviour suffered was made of the wood of the Elder, and that they object to burn it on that account? It is also said never to be struck by lightning—an opinion founded, perhaps, on the same tradition.—F. A. W.

[We have heard of this before; but Sir John Maudeville says in his description of Jerusalem, that close by what was considered the Pool of Siloam, "is still the Elder tree on which Judas hanged himself for despair." It may have been for one or both of these legends that Boerhaave always took off his hat to an Elder tree when he passed it. He only shared the superstitious feelings of his countrymen; for Grimm says that in Germany the Elen, or Elder, was held in such great veneration

by their forefathers, that when they lopped it they usually addressed it thus—"Lady Elder, give me some of thy wood, then will I give thee also some of mine when it grows in the forest." This address was uttered kneeling, bare-headed, and with arms folded.

The most ancient tradition relative to the cross is that the upright stem was of *Cedar*, the cross-beam of *Cypress*, the inscription tablet of *Olive*, and the foot-block of *Palm*.

In Hildesheim, when any one dies in the country the grave-digger goes silently to an Elder tree, and cuts a wand to measure the corpse with; the man who takes it to the grave does the like, and holds this wand in place of the usual whip. Elder planted before the stall-door preserves the cattle from magic.

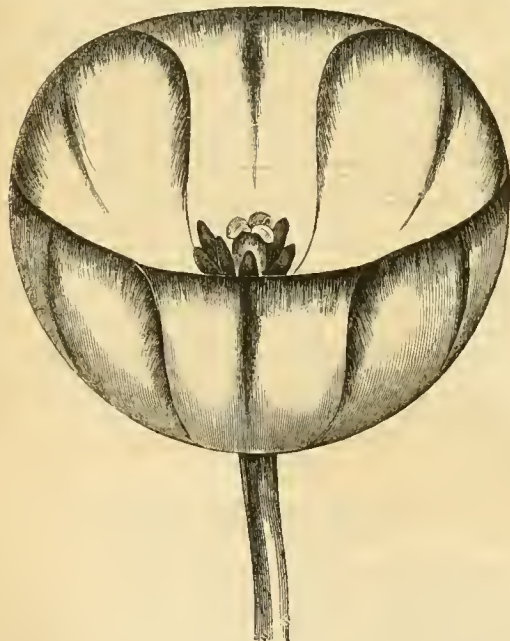
There are various other local superstitions relative to this tree prevalent in many parts of England. Thus, the rider on horseback, it is said, will never "lose leather" if he has two small sticks of Elder in his pocket; no one will have erysipelas who wears in a bag hung about the neck a piece upon which the sun never shone. Those on whom the shadow of age is falling may like to know that Lupton is certain that "the flowers of Elder gathered on a midsummer-day, dried and powdered, and a spoonful thereof taken daily will make one seem young a great while."

Many of our ancestors would not allow their boys to be chastised with a rod of Elder, "because it hinders their growth"—a prejudice the boys would willingly have had enlarged to include rods of all kinds.

The ancient name of this tree, according to Turner, was the "Bour-tree," or, as we should spell it, "Bore-tree," alluding to the large bore or hole through each branch containing the pith. Elder seems to be merely a corruption of the old German name referring to the same fact—Holder, or tree with holes.]

## FLORISTS' FLOWERS,

THEIR DISTINGUISHING CHARACTERISTICS, CULTIVATION, AND VARIETIES.—NO. 6.



THE TULIP

THERE are few flowers which have enlisted on their side so much real furor as the Tulip; indeed, we question if there be one in which extravagance in price, and indeed in language too, has been carried to such excess. It is but little use now referring to the oft-told tale of fabulous prices given for them in the gambling days of the seventeenth century in Holland; for it was not so much the intrinsic merit of the flower as the opportunity of gratifying the rage for speculation and gambling that obtained such ridiculous prices for them, just as people will gamble over the drops of rain running down a pane of

glass. But even at the present day a catalogue of Tulips reveals prices for flowers which have been some years in growth which are not to be found in the lists of any other of Flora's favourites; and were one to make a bid for the bed of 100 rows which Mr. Charles Turner, of Slough, offers for sale this month, he would find that it is no easy matter to get together a collection of Tulips.

I, who have only a very small bed and do the flower in a very humble way indeed, asked in my innocence last year how it came to pass that there were so many ill words, such bad language, and nasty feeling on the subject of this flower, and I honestly confessed that I was almost afraid whether there was not something in the flower itself that might bite me. I bethought me of what the old gardener said of horses—"I've noticed all my life that horses seem to spoil anybody that has much to do with them, whether master or man;" and I began to fear whether the Tulip might not be as bad as the poor horse. And, as if to confirm all my previous fears and suspicions, a controversy is even now pending on this subject in which said controversy personalities of all kinds are flying about thick as possible, and one almost even fears to allude to it, lest one should be dragged into and receive a sound castigation; the controversy (into which even microscopical science has been brought), turning on the question as to whether form or marking is to be considered the first point in a Tulip.

It will be necessary to mention here that this is one of those points in which Northern and Southern florists entertain great difference of opinion. And here, as in the case of the *Auricula* and *Pink*, "Northern" must be understood in a restricted sense—Scotland, which is far north, agreeing with us in the more sunny South; while the what-I-cannot-but-call-erroneous view is shared by the Tulip-growers of Lancashire, Yorkshire, and the midland counties. Dr. Horner's idea seems to be that in the South we lay too much stress on colour, which not only is a prominent feature in Tulips, but which, as he says, really distinguishes their classes; flowers being feathered or flamed according to the disposition of the colours on them. Upon this subject the Northern florists we believe to be decidedly wrong; and Dr. Horner, who only partially sides with them, to some extent admits this, the purity of the base of the petals and of the ground colour of the flower having been much overlooked by them, and those flowers whose markings were the most gaudy and distinct being considered the favourites, even though the petals were pointed and irregular (I believe their taste is improving). But at the same time he upholds the marking of a flower as permanent, and contends that marking, combined with purity and brilliancy of colour throughout the petals, constitutes the first property of the Tulip; while form, with substance and smoothness of petal, is but the second. From this I beg most emphatically to dissent, not from my knowledge of Tulips simply, but because I consider that form in every florist's flower constitutes the first point, colour the second, and size the third.

What, then, is the form which we assign to the Tulip? The accompanying drawing will give Mr. Glenny's notion on the subject; and, as I have before said, his ideas of characteristics have now come pretty generally to be considered the standard ones. It will be seen that the six petals of which it is composed form a perfect cup, spreading out a little horizontally from the base and then turning upwards, that the edges are perfectly smooth and rounded at top, and that there are no interstices between the petals to mar the perfection of its shape: the three outer petals being a little larger than the inner ones materially aids this. The cup should be wider, too, at the top than at the base, for where the petals turn in it is a great hindrance to the beauty of the flower. Substance and smoothness are naturally connected with shape; for if a flower be flimsy it is impossible that it can retain its shape for a day, and therefore the petals should be thick and waxlike, and not coarse in the grain, refinement being quite as much an essential in a well-bred florist's flower as in a duchess. As neither the title nor grandeur of the one can make people overlook coarseness of mind, so neither can fine colouring nor even good shape in the other be tolerated if the substance be coarse. So, again, smoothness of the edge is absolutely necessary; jagged and uneven ones thoroughly destroying its beauty.

Colour comes second in the list of properties, and this must be held to comprise both purity and marking. Tulips are divided into three sections—Bizarres, Byblemens, and Roses; in the former the ground colour is yellow, and in the two latter

white. Now, this ground colour should be perfectly pure, a muddy yellow or a creamy white spoiling the beauty of it. The base of the flower inside should be quite clear—that is, none of the marking should run down to the bottom of the petal, nor be stained in any way; the same is to be said of the stamens, which must be white or yellow according to the class. With regard to the marking, each of the above classes has a further double division into flames and feathers. Bizarres having yellow grounds marked with purple scarlet, when confined to the edge is feathered; when with a dark broad stripe down the centre of the petal it is flamed, some flowers being both feathered and flamed. Byblomens, again, have white grounds marked with violet and purple, and are either flamed or feathered. Roses have also white grounds, marked with rose or cherry red.

In no case must the colours be run, or shaded-off; the marking must be distinct and clear—a difficult point to keep to; for some will oftentimes disappoint the most ardent and particular grower by running, and then they are a sad disfigurement to the bed.

Size comes last in the list of properties; and I think a very large Tulip, such as Lord Raglan, is out of place. It seems too commanding for the graceful and elegant forms around it.

Such are my views on the properties of the Tulip, and I have written so much about this one point, that I must defer what I had to say about their cultivation and varieties until another time; hoping, meanwhile, to get a peep at Mr. Turner's bed, which he pronounces to be in first-rate condition this season.—D., Deal.

## ARTIFICIAL WATER IN GARDENESQUE SCENERY, FOR GROWING AQUATIC PLANTS.

BY H. NOEL HUMPHREYS, ESQ.

(Continued from page 122.)

THE engraving exhibits a canal supplied in a similar manner, and for a similar purpose, as in No. 1, but which is treated in a manner precisely the opposite of the symmetrical or architectural. The picturesque, as it is termed, has been the effect aimed at, in the form of a rocky valley, which it is intended should be entirely screened from the rest of the grounds by means of well-disposed shrubberies, leaving only an approach through a tunnel of rock. A completely sequestered spot of such totally distinct character

would form a very pleasing contrast to the more regular portion of the grounds, and the aquatic plants, which may be the same as those in the engraving No. 1, would, in a situation so sheltered, thrive with great luxuriance. In the interstices of the surrounding rocks, Broom and double-flowering Furze should be planted, with hardy Cistuses, and a variety of Ferns; and so completed, the scene would be very original in its general effect.

A tank of rocky character must be prepared exactly in the



PICTURESQUE OR ROCKY TANK FOR WATER PLANTS.

same way as the one previously described as far as its foundations, supply of water, &c., are concerned. The form, however, must of course be irregular, the rocky effect of the sides being produced by bricks irregularly placed, and roughly covered with cement, as also the opening for letting in the water. The detached pieces of rock should, if possible, be rough pieces of real stone, collected in the neighbourhood, which in many places, such as the red sandstone districts, is easily accomplished; such pieces, in picturesque forms, being very abundant. But where real stone is not available, such masses may be formed by bricks roughly covered with cement, and will produce a very good effect if the eye of a tasteful director superintends the formation

of the outline and position. I recommend this latter mode of producing rockwork as very superior to a collection of heterogeneous materials, which always produces a petty, broken, and patchy effect, while the general similarity of colour of the cementwork gives continuity and grandeur to the design, and the forms may, with these materials, be made large and majestic in their character to any extent that the nature of the design admits of.

In the rocky tank I have supposed the waste water to escape in the form of a small open stream among pieces of rock, which, with the addition of a few well-selected pebbles in its channel, would produce a very pleasing feature in such a scene.—(*Gardener's Magazine of Botany.*)

## CYCLAMEN VERNUM.

IF "J. A. P." insists upon the true explanation of the reason why I said *Cyclamen vernum* "on travelling as far north as Naples," after denying it a home anywhere, I suppose I must come out with *peccavi*, and tell the whole truth and nothing but the truth. But, first of all, let me clear the mist of the misfortune in assigning the locality of *C. europæum* to the southward of Genoa, instead of Geneva. I had only the previous week corrected the reading from a manuscript, and said the Po was still the southern boundary of the species: therefore, any one who took an interest in the question, could easily perceive that Genoa was a misprint for Geneva, and if the thing were in a book the first correction would have been enough for the next edition; but in a serial work like this, such corrections are less useful in practice. "The south of Europe" and "the Levant," are very useful places for authors and for compilers who know very little of what they are writing about, for referring the locality of a plant to; but such loose writing will not do now-a-days, and this most useful article from "J. A. P." is a proof of that assertion. Geneva, Genoa, and Gibraltar are in the south of Europe; but if Loudon, or any of the authors from whom he quoted, or who assisted him in his great works, had known which of these places, or which place in the "south of Europe" a certain plant could be found, they surely would have said it. But "J. A. P." has, very obligingly, assisted us in this inquiry, and the conclusion of it is this—that no author since the days of Linnæus has been wholly right on *Cyclamens*, or rather, that every one of them has been on the wrong scent all their lifetime: therefore, I hold it firm as Loudon, that no man now on the earth knows exactly where to look for *Cyclamen vernum* in a wild state.

I have the "root" and the name *vernum* from Italy this very month from my own "Sardinian Correspondent;" and the Messrs. Carter, Butler & McCulloch, and Barr & Sugden may guess if my correspondent be the same person as they had their *Cyclamens* from, when I say my correspondent is *now* farther to the southward than theirs was a short time since.

Specimens of a score of nursery plants of *vernum* from several Sardinian correspondents have been sent to me for the last two or three years for identification, not one of which was true: therefore, I can only go on supposing that I am in the same fix by my own correspondent until I flower the plants. And therefore, also, as *vernum* can be made here by crossing, and *ibiricum* as well, I see no cause to give up the point till we are better informed.

Now for the *vernum* which I supposed to have travelled northwards from the south point of the Peninsula, through the subalpine risings all through Calabria, and wishing to get nearer to the east on approaching Naples. The whole was a fiction founded on fact to provoke discussion, for one never tires of this sort of thing as long as there is a stone left unturned; and the fact on which it was founded is, that the true Ivy-leaved *Cyclamen* of Clusius occupies all that tract of the country, and blooms there constantly in the spring, and the spring is *vernum*, of course. But neither fact nor fiction seems sufficient to turn many people from the wrong way, and who is so universally wrong on the Ivy-leaved *Cyclamen* as the bulk of British gardeners?

I am delighted with "J. A. P.'s" idea of making *Cyclamens fine-foliaged plants*; that is worth trying for most certainly. I once said I could make them all *macrophyllums* like the variety from Algiers, and I succeeded so well that last autumn I passed off, in review, before a first London authority, several sorts in my border as true *macrophyllums*, although I had not that kind then in stock. But I had to trust them to the care of another for some time after that, and had from 300 to 400 frosted to the ground.—D. BEATON.

**CARTER'S CHAMPION BROCCOLI.**—We have received from Mr. Swinerd, gardener to John Swinford, Esq., of Minster Abbey, Kent, two heads of Carter's Champion Broccoli, which are of very large size, even and beautifully grown, and of a fine colour; they were each 2 feet 3 inches in circumference. This is evidently a form selected from the *Wilcove* Broccoli, and appears to be also somewhat later than that variety. Mr. Swinerd states that the crop of *Wilcove* was over on the 2nd of May, and this is now just in perfection and will last another week.

## NEW BOOKS.

*The Orchard House: or the Cultivation of Fruit Trees in Pots under Glass.* By THOMAS RIVERS. Tenth Edition, enlarged and improved. London: Longmans.

LIKE all great things that spring from small beginnings, the orchard-house system of cultivating fruit trees has gradually developed itself until it has become almost a distinct branch of gardening. From time to time Mr. Rivers has furnished us with the progressive steps that have been made in this mode of culture; and now in the tenth edition of his book he brings us down to the latest improvements in these structures and the most recent discoveries in the management of the trees. In this edition we have some instructions on the application of heat to the roots—a subject which in the present day is occupying the attention of gardeners, and it is one upon which there is not a doubt that the success of the cultivation of all exotic fruits depends.

The instructions given for the construction of arrangements for this root-heat are very simple.

## "FORCING WITH ROOT-HEAT."

"The most efficient method of forcing Peaches and Nectarines and also Grapes in pots, is to give them root-heat, forming a hot-air chamber by enclosing two 4-inch hot-water pipes between two 4-inch brick walls, and then placing bars either of iron or wood, across from wall to wall; on these should be placed slates; the heat from the hot-water pipes thus enclosed, will give a surface constantly heated; on this flooring of slates the pots should be placed, not plunged in any material, for if so, the air of the house will not be heated sufficiently. So favourable is this root-heat to the growth of trees in pots, that I have found Vines in pots placed on the brick-work over a boiler, with a surface heated to 130°, make shoots 30 feet in length, and bear very fine fruit. In a house 12 or 14 feet wide, with two 4-inch pipes going round it, the path should be in the centre, and a bed or hot-air chamber, 5 to 6 feet wide on each side; the pipes should be near the ground, but not resting on it, and the brickwork may be from 20 to 24 inches in height. This method will answer well for moderate forcing, so as to have Peaches ripe in June, but if early forcing is practised there should be two 4-inch hot-water pipes above the hot-air chamber, so as to fill the house with warm air. This extra heat may however be dispensed with, if a house is double glazed, which, as compared with a house single glazed or heated with the same apparatus, will give an increase of from 10° to 12° of heat: for example, a house heated with two 4-inch pipes round it in cold weather in spring, may, with a single roof of glass, have a temperature of 60°, but with a double roof, and with the same heating force, it would have a temperature of 72°. This is an enormous gain, and the construction of such roofs for early forcing will ere long be very general."

Then we have instructions "How to form an Orange grove;" and why not? Oranges are as easily cultivated as Vines; and there is no reason why St. Michael's, Tangerin, and other edible varieties should not be grown as those large, worthless, woolly, and abominably acid sorts that have occupied our conservatories for generations past. It is a high flight of fancy certainly, but it is one which after all is far from Utopian, as the following extract will show:—

## "HOW TO FORM AN ORANGE GROVE."

"A large span-roofed house 100 feet long and 24 feet wide would form a grove large enough for a most enjoyable promenade. An amateur living near Clapham, Surrey, has recently built three houses of this size, one of which will most probably be formed into the first Orange grove ever seen near London. There is another mode of forming an Orange grove under glass, more expensive and luxurious, by adopting 'geothermal culture,' and heating the borders as well as the air of the house. A house 24 feet wide under this system would require four 4-inch hot-water pipes under each border (with rubble 4 inches deep over them), placed about 2 feet under the surface; with a path in the centre of the house 5 feet wide, each border may be from 9 to 10 feet wide; the pipes about 2 feet apart; besides these there must be two 4-inch hot-water pipes to heat the air of the house in the ripening season. In a house thus heated those delicious (when first gathered) Maltese blood Oranges may be grown, and the Pernambuco and other tropical varieties of the genus *Citrus*. Tangerin and St. Michael's Orange trees planted in these warm borders would ripen their fruit very early, and it would be more sugary and rich. There seems, indeed, no end to what can be done by Englishmen with the aid of artificial heat and glass. What a beautiful vineyard under glass could be formed by such heated borders as I have described above; and how charming "to make a promenade," as our neighbours say, in such a place. The Tangerin Orange is an abundant bearer when cultivated under favourable circumstances. A correspondent has recently informed me that a tree in his garden at Alexandria, Egypt, not more than 6 feet high, has often given him a crop of 500 fruit."

Our space is too limited to say more than that this edition is much improved, many additions have been made, and that it is a worthy successor to those that have gone before it.

*A Handy Book of the Chemistry of Soils: explanatory of their composition and the influence of manures in ameliorating them, with outlines of the various processes of agricultural analysis.* By JOHN SCOFFERN, M.B. Lond. London: Bell and Daldy.

This is a pleasant book for the tyro, but it is quite misnamed. It is called "A Handy Book of the Chemistry of Soils;" but it

is a fact, that not more than 24 pp. out of 216 pp. strictly relate to that leading title. It is a pleasant book, nevertheless, and much information may be gleaned from its pages; but we recommend that when it comes to a second edition that it be revised by some one who is a master of English as well as of chemistry. As evidence that this is needed, we will give but one quotation out of many we have marked as incorrectly expressed. "The idea was entertained by Lavoisier and his associates that oxygen was the universal acid of any principle," page 8. What Dr. Scofield meant to say is—"that oxygen is the univocal acidifying principle."

It is a more grateful task to quote passages which are evidences of excellence, and these are by far the most numerous; but we can afford space for but two:—

"It is a remarkable fact, in connection with the chemistry of starch, that it frequently exists in exceedingly poisonous plants, but when once extracted, it is always innocuous.

"A facile instance in illustration of this point, is furnished us by the Potato, which belongs to a very poisonous tribe of plants, the Solanaceæ, or Nightshade tribe, and which itself is somewhat poisonous; for, if Potatoes are allowed to sprout in dark places, the pale blanched sprouts are poisonous, even to danger; and every housewife knows that good Irish stew must by no means have in its composition any of the water in which the Potatoes were first boiled, because of the poisonous extract which such water contains.

"A far more striking exemplification of the poisonous agents with which starch sometimes associates, is furnished by Tapioca. The tree which yields this favourite article of food, not only belongs to one of the most poisonous tribes known to botanists, the 'Euphorbiaceæ,' but the *Jatropha manihot*, as it is termed, is one of the most poisonous of the tribe. A little of the juice of this tree, poured on a wound, or inserted by means of a puncture, almost infallibly kills the animal to which it is applied: indeed the natives of regions where the *Jatropha manihot* grows, employ its juice with the object of poisoning their arrows. Taken internally, this juice is equally fatal. Yet, diffused through the whole of the *Jatropha* trunk, and easily separable from the latter, by washing, is Tapioca starch—perfectly harmless—and which is rendered in the commercial form of Tapioca, by a process of torrefaction or partial baking."

"It is a prominent quality of diastase to render starch soluble in water of a temperature insufficient to cause its solution unaided. According to Liebig, the diastase contained in 1 lb. of malted barley is sufficient to dissolve and convert into sugar 5 lbs. of starch. This fact is turned to great practical use in the operation of brewing—especially in the brewing of pale-coloured ales. If the diastase in 1 lb. of malt be sufficient to turn into sugar 5 lbs. of starch, then it follows that we may save our malt to the extent of that quantity which corresponds with 5 lbs. of starch, and use a corresponding quantity of raw grain. By following this plan, we not only economise to the extent of the labour-value, corresponding with the amount of malt saved, but we lower the colour of the resulting beer; inasmuch as even pale malt, at whatever temperature produced, contains a certain amount of colouring matter.

"In Germany, and many parts of Belgium, where a light colour is desiderated for beer, the above-mentioned chemical principle is taken advantage of. The white beer of Louvain is made from a wort, formed of a little malt, added to a large quantity of wheat flour; and, in the manufacture of the celebrated Bavarian pale beer, a large quantity of unmalted barley is employed.

"If starch be baked, it is rendered soluble in cold water; acquiring under this treatment the leading property of a gum. Under the name of British gum large quantities of this material are manufactured for employment in the operation of calico-printing. The chemical term for this substance is dextrine; and it may be regarded as starch advanced, by one stage beyond diastase, towards the condition of sugar. Dextrine is not only the result of the torrefaction of starch, but it is formed when starch is boiled with very dilute oil of vitriol. As before remarked, it is also generated when starch is operated on by diastase."

## PORTRAITS OF NEW AND RARE PLANTS, FLOWERS, AND FRUITS.

**RHODODENDRON ARBOREUM var. LIMBATUM** (Broad-zoned Tree Rhododendron).—*Nat. ord.*, Ericaceæ. *Linn.*, Diandria Monogynia.—A variety raised from seed sent from the Sikkim Himalaya by Dr. Hooker. "Not one is better worth cultivation than this, whether for its early free-flowering habit, or the exquisite delicacy of the broad rose-coloured limb of the corolla gradually fading into the almost purely white throat, marked at the base with a deep blood-red blotch."—(*Botanical Magazine*, t. 5311.)

**LIMATODES ROSEA** (Rose-coloured Limatodes).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Native of Moulmein. Flowers pale rose-coloured.—(*Ibid.*, t. 5312.)

**CLERODENDRON THOMSONÆ** (Mrs. Thomson's Clerodendron).—*Nat. ord.*, Verbenaceæ. *Linn.*, Didynamia Angiospermia.—Native of Old Calabar, on the west coast of tropical Africa, whence it was sent by the Rev. W. C. Thomson, and is named in memory of his wife. It flowered during January in the stove of the Edinburgh Botanic Garden. Branches long and twining, or prostrate and rooting. Flowers in clusters and very showy, the corolla being deep crimson, and its large campanulate calyx white.—(*Ibid.*, t. 5313.)

**HEMANTHUS CINNABARINUS** (Cinnabar-coloured Hemanthus).—*Nat. ord.*, Amaryllidaceæ. *Linn.*, Hexandria Monogynia. Native of Ambas Bay, western tropical America. Flowers scarlet.—(*Ibid.*, t. 5314.)

**HELICONIA METALLICA** (Metallic-leaved Heliconia).—*Nat. ord.*, Musaceæ. *Linn.*, Pentandria Monogynia. Native of "the wet shady gorges at the foot of the Sierra Nevada of Santa Martha." Stem 6 feet or 8 feet high. Leaves about 2 feet long, rich velvety green above, coppery metallic purple beneath. Flowers scarlet with greenish-white tips.—(*Ibid.*, t. 5315.)

**AMARYLLIS UNIQUE**, raised by Mr. B. S. Williams, Paradise Nursery, Holloway. Colour deep brilliant scarlet, the centre of petals shaded with black, throat marked with white.—(*Floral Magazine*, pl. 97.)

**HYACINTH DUC DE MALAKOFF**.—"A very striking flower, nankeen yellow ground, with broad stripes of crimson in each segment of the corolla."—(*Ibid.*, pl. 98.)

**PELARGONIUMS**.—CELESTE has "an entirely new shade of colour, the lower petals being of a rich orange scarlet, the upper petals deep maroon with a bright scarlet margin, and a clear white centre; altogether a very novel and striking flower." MRS. HOYLE, "a fine light flower, lower petals violet rose, upper petals same colour shaded with red, with a small black spot." PRINCETTA, "a very beautiful dark flower, upper petals glossy black with a fiery crimson margin; lower petals heavily pencilled with dark red and rose, centre clear white."—(*Ibid.*, pl. 99.)

**EPACRISSES**.—Three varieties raised by Mr. Storey, and sent out by Messrs. Henderson, Wellington Road Nursery. FIREBALL, brilliant crimson; BUTTERFLY, white and rose; and EXQUISITE, bright rosy pink.—(*Ibid.*, pl. 100.)

**POMPON DAHLIAS**.—From Messrs. E. G. Henderson, Wellington Road Nursery, St. John's Wood. STAR, flowers bright orange yellow. LITTLE DORRIT, flowers deep purplish-rose.—(*Florist and Pomologist*, i. 65.)

**CHERRY NOUVELLE ROYALE**.—One of the "Duke" race of this fruit. "A first-rate Cherry ripening in the end of July, and continuing in use till the middle or end of August."—(*Ibid.*, 72.)

## CULTURE OF THE PINE APPLE.

(Continued from page 122.)

**PLANTING IN A BED OF EARTH**.—This method is now followed by many cultivators with great success. At Trentham, the Duke of Sutherland's seat, I saw a few years ago a bed of earth in a pit in a lean-to house planted full of Queen Pines; and, at the time of my visit, they were all in fruit, many in a ripening state. I was assured by Mr. Fleming himself, who had the charge of the garden then, that the fruit would average at least 6 lbs. weight each; and certainly I believe they would, for better swelled or larger fruit of that kind I never saw.

Supposing, then, that some of my readers may choose to follow such a successful example, and supposing also that they have the means in the shape of a proper house and a right sort of a pit—that is, one heated under the bed by hot-water pipes running through a shallow tank of water; let that tank be covered with flags, and on the flags place a layer of rubble, such as broken stones or brick ends, 6 inches thick, and on that layer lay a covering of turf, and then fill the pit up to the curb stones with good rough compost such as I prescribed for fruiting plants in pots. Let this bed of earth settle and become warm and moderately dry. Then select from amongst the fruiting plants a sufficient number to fill the bed without crowding. Choose them as nearly as possible all of a size and age. Set the first row on the pit, and commence to plant them by first laying a broad board on the soil to stand upon, and then open a hole at one corner at the north side of the pit; a three-pronged fork with a short handle is a suitable tool for the purpose. Make the hole deep enough to receive the ball, then turn the ball carefully out of the pot and place it in the hole as entire as possible. Fill in around the ball the soil that came out of the hole, which will raise it a sufficient depth to cover the ball an inch or 2 inches deeper than it was in its pot. Press the earth rather firmly to the plant, and then take the next plant in hand and plant it out in a similar manner, and so proceed till the first row is completed. After that is done, remove the board and gently stir-up the soil that has been pressed down by the board; that board, if of a sufficient length, will be a good guide to keep the rows straight

by. Place the second row ready, and then commence again at one end and plant it out in a similar way, only observing to plant them opposite the spaces in the first row in this fashion . . . . . When that row is completed, plant the next, and so proceed till the pit is filled; only observing, that if the plants have been tied-up with bast mat, to cut the ties loose in each row as the work goes on, so that there may be no disturbance afterwards. The outside rows may be loosened from the back and front path. When all is finished, give a good watering with warm water, wash the floors, and leave all sweet and clean. The after-management is much the same as for the pot system, only when planted out in such a large body of earth less water is necessary at the roots.

Where a succession of fruit is required there ought to be two pits, one for summer fruit and the other for winter fruit; that for summer should be planted out in February, and for winter plant out in July.

**TREATMENT OF OLD STOOLS.**—After the fruit is cut the old stocks should have a liberal supply of water, both from the garden-pot and syringe. This will encourage the growth of the suckers very much, and they may be still further encouraged to grow strongly by pulling off a few of the old bottom leaves, and piling up some fresh turfy soil around the old stem. The young roots of the suckers will strike into this, and, of course, draw nutriment from it. When, however, all the fruit in that pit is gathered, then lift out the old plants at once, and take off the suckers and pot them in the ordinary way. It is quite possible that some of the suckers will be so large as to require pots nearly as large as any in the succession-house. Some kinds are shy in producing suckers—such for instance, as the White Providence. When such a one has only one sucker on it, I have taken that sucker off and repotted the old plant, cutting off and shortening the leaves and replanting it in the bark bed. By this method I have, as it were, forced the old plant to throw out two or three more suckers in succession.

#### WINTER TREATMENT.

The winter of Pine culture, as I remarked before, commences in October and ends in January.

**HEAT.**—The internal heat during this season should never exceed 70° at noon, and if it falls to 60° at midnight that will be warm enough. If a higher heat is kept up the centre young leaves will come up thin and bleached in colour, showing evidently a too great excitement. The same remark applies to the bottom heat. During the short dark days, if the bottom heat averages from 65° to 70°, it will be quite warm enough. In fact, what we want in winter is a slow steady growth, and to attain this we must lower all stimulants, whether they be heat, or water, or steam—that is, moist air. Let this principle, then, be borne in mind by the young gardener—namely, feed a plant in proportion to the work it has to do, and let that work be done mostly in the longest and sunniest days. Grow slowly in winter and quickly in summer. There is, however, one objection to this rule, and that is, when you have a house full of fruit, swelling off to ripen about Christmas, these must have 5° or 10° more heat, and a liberal supply of water at the roots, and moisture in the air. Bottom heat should also be kept up by additions of fresh tan, when the heat falls below the minimum, in all pineries, whether in fruit or not.

**AIR.**—Fresh air is as necessary in winter as summer, but, of course, cannot be given to that extent; yet in some days there is sun and a warm soft air, and on such days air may be given freely, even from ten in the forenoon to three in the afternoon. But in doing this great attention must be exercised, and if the weather changes to a cold dampness close all up immediately; hence the cultivator of the Pine Apple should either be constantly in his garden himself, or leave a competent man in charge that he can depend upon. In November, December, and January very little air can be given, and in very hard frost none at all, unless the sun shines, when a small aperture may be opened for an hour or two in the very middle of the day. It is true in our variable climate we have sometimes a short season, lasting, perhaps, for a week or ten days, of fine, clear, sunny weather without any frost. The diligent cultivator will take advantage of such an occurrence, and give air accordingly.

**WATER.**—During these winter months the Pine Apple requires but little water—only just sufficient to keep the soil moist. If the soil becomes wet and sodden the roots will perish, and very likely many of the half-grown plants will start into fruit when more heat is given: hence the grower should be careful not to

give water till the soil is very dry, and even then to give a very moderate supply. Should by chance any water appear lodged in the hearts of the plants, either from drips from the roof or from the watering-pot, that water should be drawn away. I have generally for that purpose used a long, small, tin tube, and sucked it out with my mouth, and so got rid of it entirely.

There are no actual manual operations required during winter, excepting the renewing the heat of the bark-bed when it falls too low in temperature. As it cools and decays most at the sides and ends next the walls, I have sometimes renewed the heat sufficiently by taking out the outermost rows of plants and removing this cold decayed tan, replacing it with fresh tan in a state of fermentation produced by laying it on a heap in the shed.

With close attention to the above points the plants will be carried through these winter months in good health; and will be short, stout, broad-leaved plants, of a good dark green healthy colour, ready for the spring repotting.

T. APPELBY.

(To be continued.)

#### WORK FOR THE WEEK.

##### KITCHEN GARDEN.

THE weather is now favourable for carrying on the various operations of planting and sowing. Where any main crops in the kitchen garden have failed, more seed should be immediately sown; where they have partially failed procure plants, if possible, to fill up. Thin out all seedling crops as soon as they are fit; delay on this point frequently does great injury, the plants get weak and drawn, and never recover the ground they lose as compared with those that have been attended to in proper time. *Beet*, thin the plants to a foot apart while they are small. Fill up vacancies with those that are drawn out; they will produce plants equally good with the others. If the first crop has altogether failed, it is not yet too late to sow again. *Broccoli*, make another sowing of both early and late sorts; the former to come in in October and November, the latter late in the spring. *Carrots*, where young ones are continually in request, another sowing may now be made; and advancing crops of the same must be kept well surface-stirred and thinned-out from 4 inches to 6 inches apart, as very large Carrots are seldom required. *Capsicums*, plant-out on a warm rich border; water them during dry weather throughout the season. *Cauliflowers*, those in a forward state to be supplied with liquid manure, even if the ground is wet. *Chervil*, make a sowing of that, and also a sowing of American Cress. *Dwarf Kidney Beans*, make another sowing. *Endive*, sow a little seed for an early crop. It is advisable not to sow much, as it will soon run to seed. *Leeks*, make a sowing to plant-out for winter use. *Lettuce*, plant-out a few about once a-week. *Parsnips* require to be thinned to 9 inches apart or more if the ground is rich. *Tomatoes*, plant-out in light compost under a south wall, also Chilies and Basil. Let the roots be gently loosened and spread out, if they are at all potbound.

##### FLOWER GARDEN.

As all apprehensions of danger from frost are now over, the planting-out of half-hardy plants for the summer and autumn decoration of the flower garden should now be proceeded with, and carried on as vigorously as circumstances will permit. Select a shady border, and give it a good dressing of rotten dung or leaf mould slightly forked in, for planting with the runners of the different kinds of Violets for forcing. The Neapolitan is the best for frames or pots, and the runners will now be found in a proper state for removal. Plant them 8 inches or 10 inches apart; water them abundantly in dry weather, and pinch off the runners as they appear. If the soil be rich and open they will grow into stout bushy plants by the autumn, and may then be either potted or planted into pits or frames for forcing. The many beautiful climbing plants that are at present in cultivation, make it as easy to produce pleasing effects on walls as in flower-beds; and there is no reason why an interesting variety should not be produced there as well as elsewhere;—Clematis, Tropæolum, Sollya, Passiflora, Cobæa, Lophospermum, Billardiera, with their differently-coloured flowers, as well as some of the Loniceras, Jasminums, &c., which are worthy of notice either for their flowers or the fragrance that they diffuse around them.

##### FRUIT GARDEN.

During the process of nailing-in the shoots of Peaches Nec-

tarines, and Apricots, examine if there are any nails so placed as to be likely to injure the swelling fruit, and if so, remove them. When nailing-in young shoots it is advisable to use strong cloth shreds cut to a sufficient length to allow plenty of room for the young wood to swell, for it frequently happens when short shreds are used, that at the pruning season, many of the shoots will be found to have an indented ring, and very often a large piece of gum. Vines will now require constant attention in stopping and nailing-in.

#### STOVE.

All plants will now be making rapid growth, and will, therefore, require to be treated liberally, both at root and branch, taking care to pot in time all such things as require it. *Stephanotis*, *Gloriosa*, *Allamanda*, *Dipladenia*, and other climbers will now be showing bloom, see that they do not get entangled. Keep up a brisk temperature with plenty of air. Attend to the plants preparing for winter. *Achimenes* to be placed in an airy situation, stake them out neatly as the shoots progress. *Gloxinias* require a partially shaded situation and moist heat. *Gesneras* may be treated in the same way with the addition of more light. *Amaryllis*, &c., to be removed to the conservatory or show-house for blooming, mark any striking varieties for seeding. After blooming plunge them in a little bottom heat, in a frame near the glass, to perfect their growth.

#### GREENHOUSE AND CONSERVATORY.

Remove the inferior specimens and kinds so as to give plenty of room to the best specimens, and do not allow the plants to touch each other during the time they are making their growth. All plants that are getting shabby to have their blooms removed immediately, and, if necessary, to be cut back and started into fresh growth. Look well to watering, but avoid saturation, and give abundance of air at all times, unless when you have occasion to syringe and to shut-up for an hour or two before sunset.

#### PITS AND FRAMES.

As soon as they are clear of bedding stuff they should be occupied with young stock of hard-wooded plants, for the summer growth of which they are more suitable than large houses. Such places will be suitable for late-blooming *Pelargoniums*, *Balsams*, *Salvia splendens*, *S. gesneriflora*, and many other things which are generally grown for blooming in the conservatory in summer and autumn.

W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN AND FRUIT GARDENS.

The general work was much the same as last week, looking after young crops, staking Peas when the weather was suitable, sowing main crops of Scarlet Runners, planting them out of boxes, &c., and keeping an eye on insects among different kinds of fruit trees. The weather was so warm at times that fires were scarcely necessary in the hothouses; sun heat when it can be got and enclosed being for all purposes far superior to any fire or other artificial heat we can give.

In the pleasure ground and flower department the work has been as varied as the weather. The sides of the walks have been fresh cut by the line and edging-iron, the grass ranging from 1 inch to 2 inches above the gravel. This cutting once a year with the iron makes it an easy matter to cut straight with the clipping-shears all the season afterwards. Hating anything like a raw edge to a pleasure-ground walk, nothing is allowed to be cut off except what is necessary for straightness, and a piece of turf is thrust forward at a gap, rather than allowed to go far from the verge at another point, in order to secure a uniform sweep. From the slight elevation of the turf-edgings, all traces of the cutting-iron will be lost in a week or two, and as stated above, the edging-shears will do their work more easily. A more perfect edging would be formed by our friend Mr. Robson's plan of bevelling hard bricks, so as to maintain a continuous edge, and yet to be so covered by the turf as not to be seen, or but scarcely so. We use the common edging-shears, and a certain gentleman was very wroth, because we could not see the great superiority of other kinds with a paraphernalia of wheels and rollers and all the rest of it, vastly nice and amusing for ladies and gentlemen, as the fine new syringes with their bends and sockets are; but the gardener who could not make his arms superior to all such appliances, would never be of much value as a workman. By-and-by such knickknacks will so thoroughly keep under and destroy the faculty of attention, that if the

great results are to depend merely on the turning of a valve, that valve will be left unturned.

#### PLEASURE GROUNDS.

Rolled lawn and mowed in damp weather, and dug in fine days, turning over the flower-beds after getting their edges all straight. In line, sunny days, and again in warm, heavy showers I sometimes wished that a lot of my plants had been out; but then they are growing away where they are, and we may have a cold bluster yet, though I hope to have a fair commencement before this is in print. About the 15th or 18th is the time I generally commence, and, indeed, can scarcely get things square to commence earlier. What is lost in time, as to earliness, I find is made up by a thorough turning frequently, so as to get beds and borders into good order.

For eight days past we have left most of our earth-pits with bedding stuff uncovered, and only kept under glass what was small and just pricked-off. Among such are *Lobelias*, *Perillas*, *Prince's Feather*, and *Love-lies-bleeding*, of which I spoke the other week. The last two generally do well with me sown in April out of doors, but when I want a row in a good principal place, I would rather plant, so as to secure all being uniform. Other things struck in tins and boxes so thick as to injure themselves, and require much trouble in watering, have been divided in lumps, and turned out into *Celery-trenches*—a far better plan from the middle of April than attempting to plant them singly. That can be done in the flower-beds if desirable.

Cleared out all the *Scarlet Geraniums*, *Salvias*, &c., from the conservatory, many of which will come in as centres to flowering pyramids out of doors. Removed also the greater part of *Cinerarias*, early-flowering *Cytisuses*, and the hardier greenhouse plants, and set out afresh with *Azaleas* in bloom, and *Pelargoniums* coming in, &c. Took a good portion of the *Camellias* now nearly over blooming to the floor of a lateinery, where they can be kept closer, and by-and-by more shaded, and in more heat. All these things being done beforehand we have more time to set about bedding, and to concentrate all our strength upon it, so as to get it quickly over. Took to the conservatory, too, the greater portion of the larger and earlier *Fuchsias*, and will now help them on with a little manure water.

Stocks, *Zinnias*, *Asters*, and lots of such things were pricked out about the 10th on a border prepared much as stated last week for *Celery*, and there they will be growing all right until we find it convenient to want them. There is something grand in a bed of *Zinnias* well grown, and the secret of success if not well supplied with glass room, which, of course, few gardeners are, is to sow late enough, never to let the plants get a check when young. If they do, it is all up with them. I shall see what the double will be if I have the seeds true, for there are a good number of plants. Last season not one vegetated. Had it been determined on they should not?

Potted succession *Fuchsias*, put in cuttings of favourites, sliced-up leaves of some favourite *Begonias* as cuttings for young plants, repotted established and older plants of *Begonias*, potted *Achimenes*, keeping them at first under the shade of Vines, repotted Ferns and other stove plants, and did the same with some variegated *Geraniums* desirable to keep in pots and flower in the house in summer and autumn, and potted singly the last stripe of *Golden Chain*, *Alma*, &c., for the sides of beds.—R. F.

#### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c."* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

PALEA CIBOTII (X. F. Z.).—We do not know such a plant, but whatever it is, it will have no effect, we think, if used to stop the bleeding in Vines.

The Cauliflower Broccoli you mention is worthless. Of what advantage is it waiting for two years before obtaining that which you can obtain as good in one?

**BERBERIS JAPONICA INTERMEDIA** and **BEALI**, &c. (*M. C. D.*).—These are of the same section of large-leaved evergreen kinds, and all of them should be planted in the shade, where they should hardly ever have the sun on them. A moist deep sandy loam suits them best, or with a little peat mixed if the loam is strong. If you had said what county your garden is in, your account of these and the other plants you name would have been interesting. *Rhododendron Edgeworthii* is always a sad struggler in the way of growth. *Rhododendrons* *Thomsonii*, *barbatum*, and *Campbelli*, are only now beginning to bloom in some few places, and all you can do is to let them do as they are till they come to a flowering age. The *Thermopsis*, or rather *Piptanthus nepalensis*, is a delicate subject, and is soon killed down to the ground in some places; in other places it is a deciduous plant, and in some other situations it is quite an evergreen. All that depends on the country and climate it is in. It has large yellow pea-flowers, and is free in producing them.

**BISHOP'S WEED** (*L. M. H. G.*).—Its botanical name is *Egopodium podagraria*. We know of no other mode of destroying it than by forking out its creeping roots, and mowing down any stems thrown up as fast as they appear. It is very tenacious of life, which may have suggested one of its common names—Masterwort.

**FLOWER-BEDS AND BORDERS** (*T. L., Liverpool*).—There is nothing to alter in your planting, but the system of matching might be improved in beds No. 1 and No. 3. No. 1 is of mixed *Verbenas* edged with *Gazania splendens*; and its yellow, No. 3, "mixed *Pelargoniums*" edged with *Gazania splendens*. We never put *Pelargoniums* in flower-beds at all, we leave them for the florists, and put *Geraniums* instead, but never to match *Verbenas* with. You have a right to do your way, and in that way the planting is very good.

**DANDELION** (*Taraxacum*).—To obtain its efficacious constituents in a condensed form that will keep unspoil—Clean, slice, and dry the roots; then take 4 lbs. of them, and soak them for twenty-four hours in water just sufficient to cover them; then press out the liquor, heat it to the boiling-point, filter while hot, and evaporate the clear liquor by the heat of a water bath, or other gentle heat, until reduced to 16 fluid ounces. Add to this 12 fluid ounces of rectified spirit. If we required *Taraxacum* to keep for use, we think we should clean, wash, and thoroughly dry the root, and then grate it and take it as a powder. When thoroughly dried, and cut into small pieces, would it not grind in a coffee mill? If so, the powder might be kept in a stoppered bottle.

**MATERIALS USED IN GEOMETRIC BEDS** (*W. O. Hammond*).—The yellow and white grits used in the geometric beds of the Royal Horticultural Society at Kensington Gore, are obtained from Mr. T. Masters, Bakewell, Derbyshire. The green slate grit is bought of Messrs. Jones, Bangor Wharf, Pimlico.

**SOIL FOR FUCHSIA-BED** (*A Constant Reader, Sheffield*).—Two parts strong mellow loam, such as the top soil of a fertile pasture; one part thoroughly decayed stable manure, such as that from an old hotbed; and one part of the cocoa-nut fibre refuse would make a good compost for your *Fuchsias*. The drops exuded from the branches and stems of your very vigorous *Vine* growing in a tub have nothing to do with mildew. Give the *Vine* less nourishment to its roots and more air to its leaves and the drops will disappear.

**LABURNUM TREES SPLITTING** (*W. A., Fulford House*).—Have a piece of iron hoop with holes punched half an inch apart at each end. Put a flat-headed nail with its lead next the bark through a hole in one end of the hoop, and bring the other end tightly round the trunk, and pass the projecting nail through one of the holes in the other end of the hoop. If thus braced round where the splitting asunder of the branches is taking place, it will be prevented going farther. The holes in the hoop enable the bracing to be tightened or loosened as may be needed.

**SULPHUR IN HOT-WATER TROUGHS** (*W. C., near Dublin*).—You may put in the sulphur without any fear. The boiling-point of water is 212° of Fahrenheit's thermometer. We should dust flowers of sulphur over the leaves of the *Vines*, and over the surface of the borders as well. The fumes of sulphur raised at such low temperatures are harmless to plants, but fatal to thrips, red spider, and mildew.

**PLANTING VINES LATE** (*Upminster*).—Yes. You may plant a *vine* as late as June, if you keep it up to stove heat through the summer, and cut the *Vines* down to the lowest three eyes next spring.

**GLOXINIAS FOR EARLY BLOOMING** (*Idem*).—You should not let them get dry till they have ripened the leaves—say towards the end of August, and they will not bloom in winter to do much good, and you had much better not attempt it, but let them be dry till January or February.

**GRAFTING RHODODENDRONS** (*A Subscriber from 1856*).—In London they graft these exactly like Apples and Peas, and on the continent many split down the stock, and put in the graft like a wedge. We never would recommend grafting *Rhododendrons* if it could be avoided.

**TREATMENT OF STANDARD LAURUSTINUS** (*Idem*).—The very same treatment lately detailed by Mr. Anderson for *Camellias* suits these. The *Camellia* is more hardy than the *Laurustinus*, but the same treatment suits both of them the year round when *Laurustinus* is used as *Camellia* are. Mr. Eyles has his standard *Laurustinus* now in with his standard *Rhododendrons* and *Camellias* in the large conservatory at South Kensington. Standard *Laurustinus* are not "worked" in the sense you mean—that is, not grafted. The best are on their own roots, and the way to have them so is told by Mr. Beaton to-day.

**BEDDING PLANTS IN POTS** (*N. V.*).—No bedding plants do well in pots all the summer except *Geraniums*, and in most gardens even they do better out of pots.

**VINE LEAVES AND PELARGONIUM LEAVES BLOTCHED** (*A Subscriber*).—You may well say that your greenhouse is badly glazed. The glass must be of very irregular surface, and when the sun shines the rays are concentrated as in a glass lens, and where the concentrated rays fall upon a leaf they scorch it. Whitewash the inside of the glass.

**CUCUMBERS GUMMING** (*E. V. Minster*).—You will have seen what we said last week, and we have no other course to suggest to you. Your plants being "very strong" is usual, for gumming we consider to arise from an excess of sap supplied by the roots to the fruit.

**COCOA-NUT FIBRE REFUSE MIXED WITH SOIL** (*L. F. F.*).—Yours is the right kind, and you may use it exactly as you would peat along with good loam for most pot plants—that is, about one-third of it to two-thirds of loam, and no sand, and it will improve all kinds of garden soil, especially all kinds of clay soil by mixing it with the surface soil; and to much very light soils with it—say an inch thick, but 4 inches thick would not be too heavy a dressing for strong land.

**CONSERVATORY RHODODENDRONS** (*B. H.*).—The "best scarlet *Rhododendron* for the decoration of a conservatory," is still the old favourite *Nepal Rhododendron arboreum*; and the "best white *Rhododendron*" for the same purpose is *Rhododendron Nuttallii*. No white *Rhododendron* can come near it. There is no yellow *Rhododendron* yet, nor yet likely to be in our time such as you contemplate—namely, "a real yellow" without "a dirty tawny shade." These, the best scarlet and the best white conservatory *Rhododendrons*, will not stand much cold, and when grown as conservatory plants they should not be exposed to any degree of frost.

**SWEET-SCENTED VINE** (*A. A. S.*).—It requires just the same culture as any other *Vine* that is hardy. It may be propagated either by eyes, cuttings, or layers.

**WATERING TREES IN ORCHARD-HOUSE** (*Wyeside*).—After fruiting plants for the orchard-house, have the pots (surface) of the soil half renewed late in the autumn. The whole of the soil and roots, from that day to the first appearance of a move in the buds, should be in the condition called neither wet nor dry—that is Mr. Rivers' practice.

**ANEMONES AND TULIPS AFTER FLOWERING** (*Idem*).—The "best way" for all kinds of *Anemones* is to allow them to ripen off all the foliage and "roots" in the bed they flowered in. The next best way is to sow *Saponaria* or other annual seeds between the rows in April to succeed them; and the third best way is to lift them when the flower is over, and to plant the bed with bedding plants. But this third best way, if followed up, will ruin them after a few years. Tulips should not be removed till the new bulbs are perfectly ripe, because all the old bulbs of all kinds of Tulips are merely so many annuals, and die off with the flowering; then if the young fry of new bulbs are disturbed before they are ripe, you must go to market for a fresh lot.

**FUCHSIA LEAVES CURLING** (*E. M. H.*).—The cause is the roots having had some severe check, probably from being too soon in the season watered with the grand water. The *Calceolarias* are "run out" and not worth keeping. The bed with the *Perilla* in the centre and the *Tropaeolum elegans* round it will not want an edging, and the 50 yards of a six-foot-wide border would make an excellent ribbon-border if you had plants enough to fill it. Look over the different arrangements of such a border in former Numbers, and see what you can do.

**CRYSTAL PALACE SCARLET GERANIUM** (*Old Subscriber*).—No. 1 seems the true *Crystal Palace Scarlet*. There is no such variety as "Crystal Palace Gem" that we are aware of. Certainly no such name has yet appeared in that garden. The best of the two arrangements is *Flower of the Day*, *Brilliant*, and *Purple King*, and allow the latter a space of about 14 inches or 15 inches wide.

**WORK ON VINE CULTURE** (*J. Lynch*).—The best is Sanders "On the *Vine*," a new edition of which we shall publish in a few days. Our correspondent wishes to know if there is a market for unripe Grapes for chemical purposes.

**ROSE SHOOTS CUT OFF** (*R. C.*).—You will find a dirty brown grub just under the surface soil near the bottom of the Rose trees. They do the mischief at night and hide themselves through the day in the earth.

**ANT-HILLS** (*B. M. K.*).—Level them, and water them with ammoniacal gas liquor for a few successive days. The insects soon migrate to a locality less offensive.

**NAMES OF PLANTS** (*J. B. P., Gardener*).—*Lastrea Sieboldii*. (*J. P. Shrevesbury*).—1, *Eupatorium fruticosum*? 2, *Pitiosporum Tobira*; 3, *Ameletich vulgaris*. (*J. O. Shrevesbury*).—1, *Cerasus padus*; 2, *Staphylex pinnata*. (*R. B.*).—*Gnidia simplex*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

MAY 27th, 28th and 29th. BATH AND WEST OF ENGLAND (City of Wells). Steward, S. Pitman, Esq., Manor House, Taunton. Entries close May 1.

MAY 28th and 29th. HULL AND EAST RIDING OF YORKSHIRE. Sec., Mr. J. Hooton. Entries close May 14th.

JUNE 3rd. ESSEX AGRICULTURAL ASSOCIATION. Sec., R. Emson, Slough House, Halstead. Entries close May 10th.

JUNE 4th and 5th. BEVERLEY AND EAST RIDING. Sec., Mr. Harry Adams.

JUNE 12th, NORTH HANTS AGRICULTURAL SOCIETY. Sec., Mr. H. Downes. Entries close May 21st.

JUNE 26th and 27th. SUFFOLK (Woodbridge). Sec., Mr. J. Loder, jun. Entries close June 5th.

JULY 3rd. PRESCOT. Sec., Mr. James Beesley. Entries close June 21st.

JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. Secs., G. Newton and J. Wade. Entries close June 21st.

SEPTEMBER 9th. WORSLEY AND ARNLEY (near Leeds). Sec., Mr. Robert Hoyle, Arnley, near Leeds.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.

### TAUNTON POULTRY EXHIBITION.

The exhibition of poultry just closed at Taunton, Somerset, was anxiously looked forward to by the generality of poultry amateurs with far more than customary interest from the fact that it was the first Chicken Show of the present year.

There were not wanting those who foreboded that the Meeting would prove itself a comparative failure, from the combined influences of the fact that many breeders could ill afford to allow the temporary absence of their laying hens; and again, that very few indeed could boast this year of chickens sufficiently

matured for the purpose of competition. In spite, however, of these admittedly cogent drawbacks, it is certain that as goodly a muster of both useful and fancy poultry was gathered together as ever yet was obtained in this locality. We cannot forbear mentioning that various sceptical remarks reached our ears as to the ages of some few pens of chickens; one old joker very bluffly assuring the bystanders "he at once admitted they were like the ladies, all out what was stated; but how much more was only conjectural." Certainly some of the pullets looked unquestionably suspicious. To absolutely prove an error of entry was impossible, however; and we fear that at shows held so early as the beginning of May such differences of opinion will be always entertained respecting chickens.

Last year the Exhibition took place in the barrack-yard, at that time temporarily unoccupied by troops; this season a fresh locality was compulsory, and, therefore, Billet Street was the spot selected; a considerable part of this street was, consequently, carefully enclosed, and proved both comfortable and suitable to most of the parties interested.

It is true, to even a proverb however, that it is a strange circumstance to hit on any plan to please every one, and in this case there proved to be a solitary objection. It was this: from the front of the Exhibition throughout the whole length of the remaining portion of the street to its junction with the main thoroughfare in Taunton, it had been purposed to temporarily plant evergreens on both sides the way, which, with banners and flags of various kinds, tended greatly to enhance the general effect, whilst in no way a hindrance to passers-by. But, as is frequently the result when applied to novelties, there turned up an individual whose impulse was to make himself disagreeable, indeed to so great an extent as to not only prohibit altogether any evergreens whatever being placed on his side the way (which, by-the-by, was only bounded by a blank wall), but actually went so far as to cause a rope bearing a wreath of flowers which spanned simply across the public carriage-way, and to which the town authorities had previously given sanction, to be cut through, and let fall. So much puerile churlishness of course drew down expressions of disapproval from those who were simply idle spectators; but we are glad to say such manifestations were carried no farther, though doubtless it will be long before the unpopularity thus self-earned will be forgotten. In pleasing contrast to such conduct we must mention that Colonel Phipps without a moment's hesitation at once permitted the attendance, on both days, of the 1st Somerset Militia band, which as naturally increased the attraction.

The space occupied by the Exhibition was about 60 yards by 9 yards, a double tier of pens being arranged down either side, and a refreshment-store at each end. The general appearance of the Exhibition was consequently good; nor need we do more than mention that the exertions of the Honorary Secretary were all that could be desired for the safety and welfare of the valuable poultry committed to his care, nor shall we be at all surprised to hear that many of the birds have greatly improved in condition during their visit to Taunton.

We were gratified to find, too, that Mr. Ballance had again pursued the plan he adopted on previous occasions—viz., not to restrict the plate prizes to cups only. The display of such premiums this year was effective and novel, embracing egg-stands, teapots, cream-ewers, candlesticks, waiters, claret-jug, inkstand, fish-knives and forks, card-baskets, flower-vases; whilst of teaspoons and tablespoons there was an effective array. Backed-up by looking-glasses, there was not any lack of curious visitors inspecting these tempting and useful premiums during the whole time the Exhibition remained on view.

*Spanish* were the first class that met the eye on entrance; and as we intend to briefly review the generality of the classes, it shall take precedence in our remarks. Here Mr. Rodhard took both first and second prizes for adults, and also the plate for *Spanish Chickens*—a premium offered to the best pen of any variety of Chickens of this year. All these pens were marvellously good; indeed, a hen shown in the first prize pen is perhaps the very best ever exhibited.

The *Grey Dorkings* were perfect, Lady Julia Cornwallis taking the lion's share by the awards of plate and second prizes for old birds, and first for chickens. Among the unsuccessful *Dorkings* were some very excellent specimens, the Rosy-combed ones coming to muster in rather considerable force. Mrs. Fookes' pen of this variety eventually taking third position on the list of premiums, though pressing very hard on the second-prize birds. It is very long since we saw three pens of such good *White Dorkings*

together as the successful ones on this occasion. They belonged respectively to Mrs. Fookes and the Rev. G. F. Hodson.

The *Bull Cochins* class was especially good, and here again Mrs. Fookes was triumphant with a pen that will doubtless yet add future trophies to her sideboard. Another of this lady's pens took second position. The Grouse-coloured *Cochins* were certainly not equal to our anticipations. The *White Cochins* on the contrary were exceedingly good; Mr. Whitwell's pen, after a long journey from Kendal, heading the list.

Mr. Charles Ballance easily swept the *Malay* premiums. The old male bird, however, bears evident proofs that age and infirmities are creeping on, yet in plumage he is excellent.

Mr. Fletcher, of Manchester, forwarded a first-rate collection of *Game fowls*, and this secured both the plate premiums; it is needless to say they were unexceptionable, the *Duckwing* pen being one of the gems of the Show. There was a close run in the *Black Game* class, but Mr. Dawson, of Selly Oak, managed to maintain the pre-eminence he has now for years enjoyed.

A somewhat singular feature of this year's Show was, that in the *Hamburgh* classes, whilst the *Golden* (whether *Spangled* or *Pencilled*) were decidedly imperfect, the *Silver* varieties proved admirable; indeed they were the two most interesting classes in the yard. By referring to the appended prize list it will be seen new names claimed both the plate premiums for these breeds.

As most of our noted breeders of *Polands* had entered birds, the display was peculiarly good, Messrs. Edwards, Pettat, and Ray dividing the prizes among them.

The class for *Peafowls, Guinea fowls, &c.*, was a good one, the *Peacocks* particularly proved most attractive; but the pens for these birds were too narrow for them to turn easily without injury to their plumage.

In the well-filled "Variety Class," Mr. Ballance exhibited a pen of first-rate (imported) *Silky Fowls*, taking first prize; and in the "Extra Stock" nine very healthy chickens bred from them this season elicited much attention from visitors, and proved remarkably true in every character. *White Spanish* and *Ptarmigan* fowls were also successfully exhibited.

In *Game Bantams* the Taunton Show has been rarely exceeded, and the prize list tells us that the winners came from localities as distant as Biggleswade, Southwell, and even Kendal. The *Sebrights* were very superior; nor must we, as faithful journalists, omit especial mention of the Rev. G. S. Cruwys' pen of *White Bantams*; they were remarkably small, and shown in capital feather.

Mrs. Fookes again supported the high credit of her yard by taking the plate for *Turkeys* and *Toulouse Geese* likewise: this lady was, however, very closely pressed in the *Goose* class by a wonderfully weighty pen of *Empden Geese* exhibited by Mrs. Seamons, but quite heavy in the moult. If shown when both varieties are in equally full condition the result will be very questionable.

Mrs. Seamons had it all her own way in the *Aylesbury Duck* class, taking the plate prize for the best pen of *Ducks* exhibited, backed by the second premium. When entries of these *Ducks* from her yard appear, the result really seems to be as was said on the spot—"always alike."

The collection of *Pigeons* was of the highest character, and perhaps the very best that has ever yet been realised in the west of England; they naturally produced much attraction.

The weather was splendid, and the Show in all respects proved satisfactory.

As on previous occasions, the office of arbitrator was filled by Mr. Edward Hewitt, of Eden Cottage, Sparkbrook, Birmingham, whose awards gave general satisfaction.

**SPANISH.**—Plate and Second, J. R. Rodbard, Aldwick Court, Wrington. Third, Rev. G. F. Hodson, North Petherton, near Bridgewater. Highly Commended, E. Brown, St. Phillip's Road, Sheffield.

**DORKING (Coloured).**—First and Second, Lady Julia Cornwallis, Linton Park, Staplehurst. Third, Mrs. Fookes, Whitechurch, Blandford. Highly Commended, E. H. Garrard, Clopton House, Broadway.

**DORKING (White).**—First, Mrs. Fookes, Whitechurch, Blandford. Second and Third, Rev. G. F. Hodson, North Petherton, near Bridgewater.

**COCHIN-CHINA (Cinnamon and Buff).**—Plate and Second, Mrs. Fookes, Whitechurch, Blandford. Third, Miss V. W. Musgrove, Aughton, near Ormskirk. Commended, B. Johnson, Watford Heath, Herts; H. Yardley, Market Hall, Birmingham.

**COCHIN-CHINA (Grouse and Partridge-feathered).**—First, Mrs. B. J. Ford, Conness Weir, near Exeter. Second, Miss V. W. Musgrove, Aughton, near Ormskirk. Third, Rev. G. F. Hodson, North Petherton, near Bridgewater.

**COCHIN-CHINA (White and Black).**—First, G. C. Whitwell, Kendal. Second, W. Yardley, Market Hall, Birmingham. Third, G. Lamb, Red Hill

Honse, Compton, near Wolverhampton. Highly Commended, Mrs. Herbert, Powick, near Worcester.

MALAY (Coloured or White).—First and Second, C. Ballance, Taunton Third, J. J. Fox, Devizes.

GAME (Black-breasted and other Reds).—Plate, J. Fletcher, Manchester. Second, E. Stamp, Houlton. Third, A. B. Dyas, Madeley. Highly Commended, S. Matthew, Chilton Hall, Stowmarket; C. W. Brierley, Rochdale; G. C. Whitwell, Kendal; G. Burgess, jun., Burleydam, Whitechurch.

GAME (Duckwings and other Greys and Blues).—Plate, J. Fletcher, Manchester. Second, S. Matthew, Chilton Hall, Stowmarket. Third, S. Dupe, Evercreech, Bath. Commended, Rev. G. S. Cruwys, Tiverton; W. Dawson, Selly Oak, Birmingham.

GAME (White, Black, and Piles).—First, W. Dawson, Selly Oak, Birmingham. Second, J. B. Weeks, High Street, Bromyard. Third, Rev. G. S. Cruwys, Tiverton.

HAMBURGH (Gold-pencilled).—First, N. Barter, Plymouth. Second, J. Llewellyn, St. Fagan's, near Cardiff. Third, A. Nuttall, New Church, near Manchester.

HAMBURGH (Gold-spangled).—First, W. Cuff, St. Fagan's, near Cardiff. Second, G. J. Houghton, Barnstaple. Third, no competition.

HAMBURGH (Silver-pencilled).—Plate, J. Fletcher, Manchester. Second, T. Broome, Upper Lambourne, Hungerford. Third, Miss H. M. King, Walford, near Taunton.

HAMBURGH (Silver-spangled).—Plate, G. L. Brown, Chardleigh Green, near Chard. Second, Lady Julia Cornwallis, Linton Park, Staplehurst. Third, Mrs. Pettat, Ashe Rectory, Overton, Hants. Highly Commended, Lady Julia Cornwallis. Commended, Rev. D. Binney, Shirley House, Southampton; Mrs. Pettat.

POLAND (Black, with White Crests).—First and Third, T. P. Edwards, Lyndhurst, Hants. Second, G. Ray, Minstead, Lyndhurst, Hants.

POLAND (Golden).—First, Second, and Third, Mrs. Pettat, Ashe Rectory, Overton, Hants.

POLAND (Silver).—Plate, Mrs. Pettat, Ashe Rectory, Overton, Hants. Second and Third, no competition.

PEA FOWL (Pheasants and Gallinae).—First, C. Ballance, Taunton (Pea Fowl). Second and Third, Capt. Adney, Lympstone (Gallinae and Pea Fowl). Commended, Miss King, Pyraland Hall (Gallinae).

ANY OTHER VARIETY.—First, C. Ballance, Taunton (Silkies). Second, Miss S. H. Northcote, Upton Pym, Exeter (White Spanish). Third, the Countess Poultic, Hilmster (Tarnigan). Highly Commended, Rev. G. S. Cruwys, Tiverton (Black Hamburg). Commended, R. W. Nicholas, Yewberry Cottage, near Newport (Black Hamburg).

SPANISH CHICKEN.—First and Medal, J. R. Rodbard, Aldwick Court, Wrington. Second and Third, no competition.

DORKING CHICKEN.—First, Lady J. Cornwallis, Linton Park, Staplehurst. Second, L. Pattou, Comestrowe House, Trull. Third, no competition.

COCHIN-CHINA-CHICKEN.—First, Miss V. W. Musgrove, Aughton, near Ormskirk. Second, Rev. G. Gilbert, Claxton, Norwich. Third, Mrs. Fookes, Whitechurch, Blandford. Third, G. Lamb, Red Hill House, Compton, near Wolverhampton.

GAME CHICKEN.—First, Capt. Adney, Lympstone. Second, J. G. Price, Wellington. Third, no competition.

SPANISH COCK.—Prize, J. R. Rodbard, Aldwick Court, Wrington.

DORKING COCK.—Prize, Lady J. Cornwallis, Linton Park, Staplehurst. Highly Commended, Mrs. Wolfenstan, Stafford Hall, near Tamworth.

COCHIN-CHINA COCK.—Prize, Mrs. Herbert, Powick, near Worcester.

HAMBURGH COCK (Pencilled).—Prize, T. Broome, Upper Lambourne, Hungerford.

HAMBURGH COCK (Spangled).—Prize, Lady Julia Cornwallis, Linton Park, Staplehurst.

GAME BANTAM COCK.—First, J. Camm, Farnsfield, Southwell. Second, V. Sandford, Mannamed, Plymouth. Highly Commended, E. Pigeon, Lympstone. Commended, M. R. Liscombe, Devonport.

ANY OTHER BANTAM COCK.—Prize, R. H. Nicholas, Newport, Monmouth.

BANTAMS (Gold-laced).—First, T. H. D. Bayly, Ickwell House, near Biggleswade. Second, Rev. G. F. Hodson, North Petherton, near Bridgewater. Third, Rev. G. S. Cruwys, Tiverton.

BANTAMS (Silver-laced).—First, Rev. G. S. Cruwys, Tiverton. Second, Mrs. Pettat, Ashe Rectory, Overton, Hants. Third, S. Mills, Mannamed, Plymouth.

BANTAMS (White).—First and Medal, Rev. G. S. Cruwys, Tiverton. Second, G. A. Beadon. Third, no competition.

BANTAMS (Black).—First, R. Brotherhood, jun., Almondsbury, near Bristol. Second, Rev. G. F. Hodson, North Petherton, near Bridgewater. Third, Rev. G. S. Cruwys, Tiverton.

GAME BANTAMS (Black and Brown Red).—First, T. H. D. Bayly, Ickwell House, near Biggleswade. Second, J. Camm, Farnsfield, Southwell. Third, Capt. Adney, Lympstone. Highly Commended, R. H. Nicholas, Newport, Monmouth.

GAME BANTAMS (Dorking and other Game).—Plate, G. C. Whitwell, Kendal. Second, J. Camm, Farnsfield, Southwell. Third, J. R. Rodbard, Aldwick Court, Wrington. Highly Commended, Master A. S. Altham, Stoke St. Mary, Taunton. Commended, W. S. Forrest, Eagle Cliff, Greenhithe.

TURKEYS.—Plate, Mrs. Fookes, Whitechurch, Blandford. Second, Miss J. Milward, Newton St. Loe, Bath. Third, Rev. F. G. Hodson, North Petherton, near Bridgewater. Commended, Mrs. Seamons, Hartwell, Aylesbury.

GEESE.—First, Mrs. Fookes, Whitechurch, Blandford. Second, Mrs. Seamons, Hartwell, Aylesbury.

DUCKS (Aylesbury).—Plate and Second, Mrs. Seamons, Hartwell, Aylesbury. Third, Rev. G. F. Hodson, North Petherton, near Bridgewater.

DUCKS (Rouen).—First and Third, no competition. Second, Mrs. B. J. Ford, Countess Weir, near Exeter.

DUCKS (Black East Indian).—First, Major W. S. Altham, Stoke St. Mary,

Taunton. Second, Capt. Edgell, Bramford Speke, near Exeter. Third, no competition.

DUCKS (any other variety).—Plate, T. H. D. Bayly, Ickwell House, near Biggleswade. Second, P. W. Brimwell. Third, no competition.

#### PIGEONS.

BARBS (Yellow).—Plate, Major Altham, Stoke St. Mary, Taunton. Second, F. G. Stevens, Fuzley House, Axminster.

CARRIERS.—First, Major W. S. Altham, Stoke St. Mary, Taunton. Second, A. L. Silvester, St. Paul's Square, Birmingham. Third, Major Hassard, Hilsen, near Portsmouth. Highly Commended, — Summerhayes, Taunton.

TUMBLERS.—First, A. S. Silvester, St. Paul's Square, Birmingham. Second, and Third, no competition.

OWLS.—First, F. Else, Westbourne Grove, Bayswater. Second, F. Key, Beverley. Third, Major W. S. Altham, Stoke St. Mary, Taunton. Highly Commended, H. Yardley, Market Hall, Birmingham.

NUSS.—First, J. B. Edge, Aston New Town, Birmingham. Second, F. Else, Westbourne Grove, Bayswater. Third, H. Yardley, Market Hall, Birmingham.

TURBITS.—First, Major W. S. Altham, Stoke St. Mary, Taunton. Second, A. S. Silvester, St. Paul's Square, Birmingham. Third, T. Hiscock, Taunton. Highly Commended, J. G. Price, Wellington; F. Else, Westbourne Grove, Bayswater. Commended, S. Mills, Mannamed, Plymouth.

JACOBS.—First, Miss J. Milward, Newton St. Loe, Bath. Second, F. Else, Westbourne Grove, Bayswater. Third, Major W. S. Altham, Stoke St. Mary, Taunton. Highly Commended, J. Hardwell, jun., Taunton.

FANTAILS.—First, Major W. S. Altham, Stoke St. Mary, Taunton. Second, T. Hiscock, Taunton. Third, F. Else, Westbourne Grove, Bayswater.

TRUMPETERS.—First, J. Silvester, Birmingham. Second and Third, J. Hardwell, jun., Taunton.

POWELS.—First, H. Yardley, Market Hall, Birmingham. Second, Major W. S. Altham, Stoke St. Mary, Taunton. Third, no competition.

RUNTS.—First, F. Key, Beverley. Second, H. Yardley, Market Hall, Birmingham. Third, E. Pigeon, Lympstone. Commended, — Summerhayes, Taunton.

DRAGONS.—First, — Summerhayes, Taunton. Second, J. B. Edge, Aston New Town, Birmingham. Third, A. L. Silvester, St. Paul's Square, Birmingham. Highly Commended, F. Else, Westbourne Grove, Bayswater; H. Yardley, Market Hall, Birmingham. Commended, Major W. S. Altham, Stoke St. Mary, Taunton.

ARCHANGELS.—First, A. L. Silvester, St. Paul's Square, Birmingham. Second, — Summerhayes, Taunton.

MAGPIES.—First, Major W. S. Altham, Stoke St. Mary, Taunton. Second, J. B. Edge, Aston New Town, Birmingham. Third, F. Else, Westbourne Grove, Bayswater. Highly Commended, W. H. Beadon, Cheddon, near Taunton.

ANY OTHER VARIETY.—First, Miss Elliot, Osborne House, Taunton. Second, — Summerhayes, Taunton. Third, no competition.

Silver Medal for the greatest number of First Prizes in Pigeons to Major W. S. Altham, Stoke St. Mary, Taunton.

GAME COCK (any colour or age).—First, J. Camm, Farnsfield, Southwell. Second, J. Hindson, Barton House, Everton, Liverpool. Third, S. Matthew, Chilton Hall, Stowmarket. Fourth, Rev. G. S. Cruwys, Tiverton. Fifth, V. Sandford, Mannamed, Plymouth. Sixth, J. Fletcher, Manchester. Highly Commended, A. B. Dyas, Madeley. Commended, C. W. Brierley, Rochdale.

## WORTH OF POULTRY IN BRITAIN 1000 YEARS AGO.

THE worth of a Goose one legal penny; of a gander two legal pennies. The worth of a brood Goose is as much as the worth of her nest, and there ought to be in her nest twenty-four goslings. [Broods have degenerated since then!] The worth of each gosling is a halfpenny, or a sheaf of barley, until it lays, and after it lays each is one legal penny in value: thus a brood Goose is twelvecence in value.

A hen is one penny in value, and a cock is two hens in value. Every chicken is a sheaf of oats or a farthing in value, until it shall roost; after that a halfpenny until it shall lay or shall crow.—(Ancient Laws of Wales. Record Commission.)

## PARROT LOSING ITS FEATHERS.

I HAVE a very good grey Parrot which is a first-rate talker, but it seems to be losing its feathers and gradually becoming darker in colour. Not knowing what month they generally moult, and having had one which died in the same way, I am desirous of your advice on the subject. It is fed upon hemp seed, and things which we eat ourselves. It seems to be very fond of animal food.—A WEEKLY SUBSCRIBER, Chesterfield.

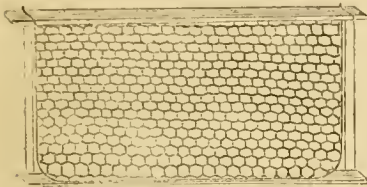
[The cause of your bird losing its feathers is its having a cold, or being too fat, and being fed on animal food. The autumn is the period for moulting, but when birds take cold they will sometimes shoot their feathers in the spring. The reason why your bird gets darker in plumage is through having too much hemp seed. Give it little or no hemp, and plenty of canary seed, Indian corn boiled or broken, nuts, and any kind of fruit when in season. They are fond of apples, almonds in the shell occasionally, scalded bread, but not until cold. No animal food of any description should be given. Any kind of grease will cause

an irritation of the skin, which makes the bird pick off its feathers. Place a pan of cold water in the cage for the bird to wash in. The bird which died no doubt was seized with apoplexy caused by being fed too well. The usual remedy is bleeding by making a slight puncture near the claw.]

**MODE OF ATTACHING FULL COMBS TO BARS.**

I HAVE some combs which are partly filled with honey extracted from a young hive of last year, and I wish to place them in a bar-hive; but I cannot understand how I am to fasten them to the bars. Shall I, therefore, trouble you to inform me? as the same will be a boon to the swarms lived therein.—BAR-HIVE.

[We attach heavy combs to bars by supporting them on trough-shaped strips of wood of the annexed sketch; these are sustained by binding-wire passed over the bar at each end as represented below—



The top edges of each comb are kept in their places by a couple of zinc clips from a half to three-quarters of an inch in width, and of the size and shape of the annexed sketch slipped over each bar near the ends, and embracing the sides of the comb. In two or three days the bees will fix the combs so firmly to the bars that all artificial supports may be removed.]



**BEEES AS CHEMISTS.**

MR. SHEARER is perfectly correct in stating that bees convert crystallisable into uncrystallisable sugar; and, although I have myself not the shadow of a doubt on the point, I should be much obliged by his applying the test of the saccharometer to the contents of the honey-bag of a bee which has been seen to fill itself with simple syrup, but which should probably be allowed some little time to admit of its effecting the anticipated conversion.

Very numerous observations have satisfied me that bees effect a marked change in the quality of the food with which they are supplied before storing it for winter, but whether that change be sufficient to entitle it to be considered true honey I must leave to wiser heads than mine to determine. In the case of simple syrup, which is what I am most familiar with, I have always found that, besides the loss of its crystallising properties, it acquired a pungent and slightly sub-acid taste, inferior, of course, to the aromatic flavour of honey collected from the nectaries of flowers, but quite sufficiently marked to distinguish it from the mawkish lusciousness by which it was originally characterised.

The alteration effected is, however, so delicate that it cannot be expected to overcome the taste of strongly-flavoured compounds, such as sugared ale, sweet wort, or syrup to which rum and salt have been added. If it were otherwise we should not find the colour, flavour, and aroma of honey so strongly influenced by the pasture from which it is obtained; nor should we probably have had this difference of opinion, which I believe to have originated from apiarists failing to detect any amelioration in the rank flavour of the strange compounds which it has been too much the fashion to inflict upon their little favourites. For this reason I was not surprised at "A NORTH LANCASHIRE BEE-KEEPER" declaring, in page 37, that he could distinctly see the difference between stored syrup and heath-honey, whilst he stated at the same time, that the former "had not undergone any change from the bottle to the cell;" nor is it at all astonishing, that "BAR-HIVE" should find syrup to which rum and salt had been added, "as much different as possible from honey." If either or both of these gentlemen will submit the contents of the combs in question to the decisive test of the saccharometer, or

even to the more simple experiment of comparative evaporation, as suggested by me in page 58, and will make public the results of their investigations, I shall be, indeed, greatly surprised if they do not confirm most decisively the conclusions which have been already arrived at by—A DEVONSHIRE BEE-KEEPER.

**PAYNE'S BEE-HIVES.**

ALLUSION and inquiry are sometimes made in your publication to what are called Payne's hives (as at page 130). It may be well to say to such correspondents, that there is no mystery about them, for they existed before his time, and any straw-hive-maker, if directed, can make one. Straight and cylindrical in form, flat on the top, of any required height and diameter, with a hole in the centre of the crown, through which the bees can pass onwards into a super when needed. In Payne's "Bee-Keeper's Guide" (Newby, Mortimer Street), is an illustration;\* and the same thing is in Taylor's "Bee-keeper's Manual" (Groombridge & Sons, Paternoster Row). The latter remarks (page 31), "Payne saw reasons for altering the dimensions of his hives from 12 inches wide to 14 inches, and 7 inches or sometimes 8 inches in height, inside measure."—A. B.

**AMERICAN BEE-KEEPERS' MEETING IN CLEVELAND, OHIO.**

THE American Bee-keepers' Association held its third annual meeting in Cleveland, commencing on the morning of the 12th of March, and ending on the evening of the 14th. It was more largely attended than any of its previous meetings. Rev. L. L. Langstroth, and other eminent gentlemen were present during its session. Prof. J. P. Kirtland presided.

The following is an epitome of the subjects discussed:—

I.—*The Winter Management of Bees.*—Messrs. Langstroth, Kirtland, Robinson, Merriman of Burton, Twining of Indiana, and S. C. Brown of Portage, took part in the discussion of this topic. Mr. Langstroth had experience with bees in New England, Philadelphia, and Southern Ohio, and said that what would be good management in one climate, would not be in another of different temperature. He is convinced that if bees have plenty of honey, free intercommunication between the combs, and an upward passage from the hive for the escape of the dampness caused by their breath, that bees can be wintered in any climate. Unpainted thin wooden hives are better than thick painted ones. Want of communication between the combs has caused the death of many bees. This can be remedied by boring holes through the sides of the hives, and then running a "butter-tryer" through the combs at right angles to the frames. If this is done late in the fall, the holes will not be filled by the bees. Mr. Langstroth to prevent this, has contrived a passage made of thin circular shavings. Prof. Kirtland thinks bees do best out of doors, in thin wooden hives. He would protect the hives from the northern and eastern winds, and hot suns. Ventilation must be good below and above. In his cellar he had kept some hives which were ventilated at the top, but not at the bottom, and carbonic acid gathered in the hive like damp in a well, and with like results. The past winter he has had forty-five stocks in a bee-house, and all are doing well. Some swarms, merely covered by dry goods boxes, had wintered perfectly. The boxes were thrown over them to hide them from thieves. Mr. Robinson has three hives, without tops to them, which have stood all winter near an open window, and the bees are in good condition. Messrs. Merriman and Twining agreed with Messrs. Kirtland and Langstroth in their views. Mr. Brown, of Portage, said that he had buried bees, which had come out in excellent condition; those so buried consumed only one-half the amount of food that those not buried did. He believed that in this changeable climate it was best to bury bees, and that such come out in better condition than bees which are wintered out of doors. He never lost a swarm so buried, except for want of food. Mr. Langstroth entertained the Association by reading some accounts from the French "Bee Journal" of the calamities to bees in the year 1860-61. It was a dreadful year. Among other statements was one, that out of 470 colonies of bees, 383 died during the winter.

II.—*Winter Feeding.*—Mr. Langstroth feeds with candy, by

\* So there is in "Bee-Keeping for the Many," which had Mr. Payne's last corrections. It may be had free by post from our office for five penny postage stamps.

laying it on the frames before the honey is exhausted, and prefers it to liquid food. A sponge saturated with liquid honey does excellently. Mr. Merriman thought maple molasses best. Mr. Langstroth, Mr. Sturtevant, and Prof. Kirtland, strongly recommended rye flour as spring bee-food. Mr. Langstroth makes it into a paste with syrup. Prof. Kirtland fed his weak hives in the fall on sugar syrup; this was before fall flowers, and those bees were stimulated to work, and added to their stock of food for winter use. The consequence of such feeding was that the weak hives worked upon the latest sprigs of mignonette in November, and after the strongest hives, which he did not feed, had ceased to work. That was all the winter feeding he gave.

III.—*Italian Bees*.—All agreed as to the superiority of the Italian to the common black bee. They deserve all the good things that European bee-keepers had said of them, save one. They are not more peaceable, but more irascible than the black bee, and their sting is more poisonous. Mr. Langstroth gave it as his experience, and that of some of his friends, that the Italian bees, instead of being more peaceable than our common kind, are more irascible (except in the season of honey-gathering), and are more difficult to quiet when once excited.\* The Italian who brought all Mr. Parson's bees, said that our bees are far more peaceable than the black bees of Germany. A German writer, who furnished a valuable article on bee-keeping for the Patent Office Report of 1860, says that our bees are much more easily handled than those of Germany. This accounts for the belief in Germany, that the Italian bees are more peaceable than the black species. The remarks of Prof. Kirtland seemed to sum up all that other gentlemen had said of the Italian bee. The Doctor prefaced his remarks by saying that he had no "axe to grind," and no bees to sell, and would not have until his experiments had been completed, which would be in three or more years. After discussing the good qualities of the Italian bee, he said that it was as much superior to the black bee as Short-horn cows and Chester hogs are to the "scrubs" of the country; and that the Italian bee is—1. Stronger, more active, and resists lake winds and chills better than the common bee. 2. It works more hours every day. 3. It collects more stores. 4. It works upon some flowers which the black bee cannot operate upon. 5. It breeds more freely. 6. It is more irritable, and its sting more painful. 7. It is more beautiful.

IV.—*Improvements in Hives*.—Six or eight hives were then exhibited and discussed. After this exhibition was concluded, the following topic was taken up.

V.—*Is it expedient to destroy queen bees when they have obtained either their third or fourth year of age; and what is the most successful method of raising young queens for supplying their places, and for forming new colonies?*—Prof. Kirtland said, that after the third year, the queen was nearly worthless and should be killed, and a fertile queen put in her place instantly. So thought Mr. Langstroth; he said a vigorous, fertile queen was worth half a swarm. Mr. Sturtevant thought the queen as good in her third year as at any other time; and at four years he would not kill her, unless he knew that he could instantly get a young fertile queen in her stead;—the risk was great, for at that season of the year the loss of a week or two was a serious loss; it was an exceedingly difficult matter to have young fertile queens on hand, ready for any emergency.

VI.—*Is it profitable to attempt to renovate and cleanse mouldy comb for subsequent use, and what are the best methods to accomplish that purpose?*—The unprofitableness of any attempt to renovate damaged comb was generally conceded.

VII.—*Hybridisation of the Italian and Black Bees*.—This was well discussed. The only sure way to prevent hybridisation is by keeping them long distances apart.

VIII.—*Artificial Swarming*.—Prof. Kirtland cautioned bee-raisers against too frequent division of swarms, or they would destroy all their bees. Mr. Twining thought the proper time for dividing a swarm is when the young queen bee commences piping, and is still capped over. If left alone, the old queen bee will probably attack the young queen, kill it, and then swarm. The young queen should be removed while still capped, with a part of the swarm. The bees would probably swarm on the next day of themselves, if this is not done, and, therefore, no injury can be done by thus swarming artificially. Mr. Langstroth said it sometimes happens that in one district bees will swarm abundantly of themselves, while in another district not far distant, artificial swarming is necessary. Mr. Brown related his experience, going to show that artificial swarming by the use of

movable comb-hives, when not overdone, is the best plan. In answer to a question, Mr. Langstroth said, that in this climate, one new stock to two old ones would be about the proper increase. In warmer climates, the increase might safely be much greater. Mr. Langstroth contended that the apiarian who aims at obtaining much surplus honey at any season cannot usually, at the furthest, more than double his stock; nor even that, unless all are strong, and the season is favourable. If in any season that is not favourable he attempts a more rapid increase, he must expect no surplus honey, but must even purchase food to keep his bees from starving. The time, care, skill, and food required in our uncertain climate for the rapid increase of colonies are so great, that not one bee-keeper in a hundred can make it profitable; while most who attempt it will be sure at the close of the season to find themselves in possession of stocks which have been managed to death. Very rapid multiplication of colonies by artificial processes, Mr. Langstroth pronounced to be hazardous speculation, sometimes successful, but ordinarily sharing the fate of such speculations.

IX.—*Artificial Comb*.—Mr. Samuel Wagner, Editor of the American "Bee Journal," sent a specimen of artificial comb made by a process which he has patented, which excited great interest, and which promises important results.

X.—*Bee Moth*.—Mr. Langstroth said that so long as a colony has a healthy queen, and plenty of stores and bees, it is seldom seriously injured by the moth.

XI.—*Milk as a Bee-feed*.—Mr. Langstroth stated that new sweet milk had been recommended as feed for bees. He had not tested its value, but advised a very cautious trial of it. Prof. Kirtland thought that the sugar of milk and albumen might afford nutriment to bees.

The Convention adjourned, to meet in Cleveland the first day of the Ohio State Fair in September, when a very interesting time may be anticipated.—(*Ohio Farmer*.)

OUR LETTER BOX.

DUCKWINGED BANTAMS (*Amateur de Volaille*).—They have made great strides towards perfection, but they are not as perfect as the Black Reds, nor as their full-sized brethren. It is difficult to say whether they are more prized. We should say not. We should advise you if you can keep but one sort to keep the Black Reds. In our opinion they are quite as handsome, and they breed true; the Duckwings do not.

CALIFORNIAN QUAILS (*Idem*).—These, like all live birds, vary in price according to demand, supply, and season. We believe now they are worth about three guineas or 70s. the pair.

BLACK BANTAM COCK'S EAR-LOBES (*Idem*).—The lack of the white ear-lobe is a grave defect in a Black Bantam cock. It would be a disqualification if it came in competition with good birds possessing it. If all were deficient in this particular, prizes would be awarded as though all possessed it.

DESTROYING VITALITY IN EGGS (*A Reader*).—After being punctured with a needle in treatment will give vitality to the egg.

COCK CANARY EATING EGGS (*A Young Fancier*).—Separate him from the hen when she begins to lay, and do not put him back until she has laid and you have substituted an artificial egg for the one laid. He will abandon the cannibal habit after a time when he finds he cannot penetrate the artificial egg.

PARROT BITING OFF ITS FEATHERS (*Fanny Fern*).—As your Parrot will not bathe, try a watering-pot with a small rose, and give it occasionally a shower-bath of warm water on a warm day. The cause of its pulling out its feathers is owing to an irritation of the skin caused by its having been fed on improper food, such as that of an animal or greasy nature. Give the bath mentioned in an answer to another correspondent to-day, and anoint the bird with a salve consisting of plain pomatum and wornwood, the latter being disgusting to a Parrot. Repeat the process as often as the bird pulls out its feathers, and give a very small quantity of Epsom salts dissolved in water to drink about twice a-week. Indian corn broken or boiled is good, but very little or no hempseed should be given. An aviary of an octagon shape for small birds is very good, one say 7 feet diameter with a domed top made with galvanized wire or one of an oblong form—say, 9 feet long by 5 feet wide with an elliptic top.

PARROT MOULTING (*G. P. Derby*).—Canary seed, bread, tapioca, or sago pudding, a white peppercorn or a chili pod, but no meat or fat of any kind is the proper diet for a parrot, and any ripe fruit in season which it will eat. See our previous answer.

LONDON MARKETS.—MAY 19.

POULTRY.

There is still a lamentably small supply of good poultry. Trade is worse than was ever known at this season of the year, or the numbers sent to market would not satisfy half the buyers.

	Each—s. d.	s. d.	Each—s. d.	s. d.
Large Fowls	5 0	5 6	Ducklings	3 0 to 3 6
Smaller do.	3 6	4 0	Pigeons	0 8,, 0 9
Chickens	2 6	3 0	Rabbits	1 3,, 1 4
Guinea Fowls	0 0	0 0	Wild do.	0 8,, 0 9
Goshugs	6 0	6 6	Hares	0 0,, 0 0

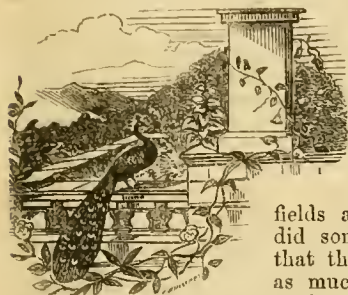
\* This is certainly contrary to the experience of English apiarians.

WEEKLY CALENDAR.

Day of Month	Day of Week	MAY 27—JUNE 2, 1862.	WEATHER NEAR LONDON IN 1861.							Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon Rises and Sets.			
27	Tu	KING OF HANOVER born, 1819.	30.032—30.017	deg. deg. 74—46	N.E.	.01	m. h. 55 af 3	m. h. 59 af 7	m. y. 57 2	29	m. a. 3 10	147
28	W	Pultenaea.	30.048—29.830	62—46	N.E.	.01	51 3	VIII sets	sets	☉	3 3	148
29	Tu	ASCENSION. HOLY THURSDAY.	29.912—29.865	74—43	N.E.	—	53 3	I 8	4 a 9	I	2 55	149
30	F	Aristolochia sempervirens.	29.911—29.843	81—46	N.E.	—	52 3	2 8	4 9	2	2 47	150
31	S	Gnildias.	29.969—29.862	74—52	N.E.	.08	51 3	3 8	22 10	3	2 39	151
1	SUN	SUNDAY AFTER ASCENSION.	29.805—29.795	67—38	S.W.	.04	50 3	4 8	50 10	4	2 30	152
2	M	Abelia floribunda.	29.865—29.779	72—43	N.W.	—	50 3	5 8	13 11	5	2 21	163

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 68.2° and 45.2° respectively. The greatest heat, 91°, occurred on the 28th, in 1847; and the lowest cold, 32°, on the 31st in 1857. During the period 145 days were fine, and on 100 rain fell.

UTILITY OF SMALL BIRDS.



SEND you in a little box what may amuse you. Here there has been, on the part of the farmers and cottagers, great complaints made of the mischief done by small birds to corn-fields and gardens. In vain did some hold the argument that these small robbers did as much good in destroying grubs and caterpillars as harm

to Wheat and Black Currants. For the last two years the township has not only paid for all dead sparrows, but so much a dozen for birds' eggs.

I am afraid to say how many thousand dozens of eggs were taken and paid for, and (as I believe) mainly in consequence of this (aided, perhaps, by the mild winter), we have this year such a plague of caterpillars and grubs as I never remember. Since I last wrote to you I have had three women constantly employed picking over Gooseberry, Apple, and Currant trees, and our destruction of caterpillars has been by bushels.

I felt so convinced that this plague was partly owing to the last two years' destruction of birds, that in my own grounds, and in all the coverts, I ordered the nests not to be molested. I now enclose you the head of a sparrow shot this morning in my garden. This was done to test what food it did take to its nest. I hope the head may reach you in the same state in which it was picked up—namely, with three green caterpillars, and three daddy-longlegs in its beak. If one journey from its nest could collect so many, it is easy to guess how much may be done by them to clear trees.

My trees from hand-picking are now pretty clear; but I am quite sure it would have been done cheaper and better by the birds had they been left alone. I cannot think I am sending you much information, but one fact is better than many theories.—AN IGNORAMUS, near Liverpool.

[We give this brief communication the most prominent position in our pages, because it relates to a subject of far more importance than it is usually believed to possess. The warfare carried on against small birds is a proceeding founded on the most self-injuring ignorance that at present overshadows our farmers and gardeners.

A similar warfare has been carried on in France, and the same result has occurred there which our correspondent records as now scourging the vicinity of Liverpool—namely, a plague of caterpillars and grubs. So serious has the plague become in France, that the Government have interfered, and a strong arm has been outstretched to save the small birds from destruction. We almost regret that a similar power cannot be similarly exercised on this side the Channel.

We have warned our readers again and again that these birds are far more powerfully benefactors than they are injurers by being thieves of seeds and fruits. They can be scared from these at a small expense, even if old women are paid to act as scarers; whereas, if the birds are destroyed, no outlay, however large, can rescue our crops from insect marauders. The destroyer of small birds is one of the most unmistakable illustrations of the old saying, "He is penny wise and pound foolish." It is preventing a small loss and insuring the occurrence of a far greater.

Nor are the services of small birds restricted to the destruction of insects, for they are great consumers of the seeds of weeds. As an evidence how far in advance of us in a knowledge of these facts are our descendants on the other side the globe, we have a letter before us detailing the successful importation into Australia of goldfinches, hedge sparrows, and other small birds. They were bought in this country and sent by steamer to Sydney, for the express purpose of consuming the Thistle seeds! We recorded some time since how a Scotchman had sown some seeds of his national emblem in Australia, and that it was overwhelming the land. The public authorities have paid large sums to children for gathering the seed-heads of the Thistles; but though this has brought in a vast tribute of heads, yet the Thistles are unconquered; so the Australian authorities have allied themselves, like wise men, with the small birds.

The head of the sparrow sent to us by our correspondent is now upon our table, with the green caterpillars and daddy-longlegs, parents of root-injuring grubs, in his mouth, and we wish every gardener and every farmer could see it, for it is a striking though silent rebuke to them all.]

ROYAL HORTICULTURAL SOCIETY'S EXHIBITION.—MAY 21st.

HONEST Old Moore used to put into his weather almanacs ever since I can remember, that such and such weather would be the day before or the day after certain given days throughout the year; but if he had been a Fellow of the Horticultural Society, old or new, reformed or unreformed, he would have hit nearer the mark to have said, not the day before or a day after such and such show days, but the very day of the show itself will be the showery one. And the crowning day of the year of the second great International Exhibition in London was not an exception to the rule—the worse luck. Nothing could be more provoking than the weather after noonday. In the morning the whole scene was most grand and glittering throughout. That was the thirtieth May show at which I had been present, and, as far as I can call to mind, if all the "best" of all that was at all the May shows for that time had been collected together, the whole would be in the wrong side of the scale, if compared with the brilliancy, and with the high artistic effect produced on this occasion.

First of all, Mr. Eyles scooped out a long oval of some 300 feet, or thereabout, in length, and of the usual mathematical width. All round this oval amphitheatre he made turf shelves in three successive rises, as for a plant-stage; then a

walk on a dead level all round, and I counted ninety-nine paces from the one to the other end—that is, one side or one half of the oval, and by doubling that, and taking the three doorways into account, I calculated 300 feet would nearly reach round the oval; but it must be more, and yet one of the best judges there, Mr. Henderson, of Trentham Gardens, declared it could not be quite so much, alleging that your humble servant could not step a yard fully and so often in succession. And, of course, we must have the oval tested by Euclid, else how are we to advise when oval beds come to be planted? Then Mr. Eyles scooped out the centre of the oval, and made a circle bed in the very centre, which is the very lowest part of the scoop. Then from a door at each end of the oval, and one in the centre of it, on one side, a walk slopes down to the centre and circular bed; and the slopes between the walk round the oval and the one through the centre of the scoop, are shelled in turf for stages, and the circular bed in the centre of the scoop is staged also in steps of turf. All that on what was recently a dead level has made the very best exhibition tent that possibly could be in such a garden. But, unfortunately, this season, this huge tent is up close to the feeding place in the International, and we could hear them, in the afternoon, above all the roar of the elements on our dripping canvases, growling and gnashing their teeth.

Another scooped space to make a match pair, is for Mr. John Waterer's grand exhibition of Rhododendrons, Azaleas, and other federates and confederates of that blood. In the opposite angle of the garden boundary, and between the two scoops there is a running avenue of awnings, and the half of that avenue next to the flower show was shelved on both sides and filled with the most rare, most gorgeous, most variegated, and most novel plants ever seen in this country, or in any other country, at any one time.

In practice two things struck me as improvable. The fittings of the canvases. Surely with all the ingenuity of the world next door to us, we might find means to make rain-proof tents, such for instance, as I myself used to sleep in, sound as I did, and dry as a bone, forty years since, up in the wildest parts of the highlands, where one faint squall from the brow of Ben Doran would sweep away every rag of covering at South Kensington, which would not keep out the mildest Scotch mist one ever was out in. The second thing was, that the sides of the entering avenue should not be filled with the most temptation plants in the book. In early afternoon one could no more get up one side of that avenue, or down the other side of it, than he could fly over crinoline. It was as much as His Royal Highness the Duke of Cambridge could do with all his military skill and daring, and he had to take up an extraordinary-looking new Panay he saw half-way down, and had to shout out to another nobleman who himself was in a fix, that that was the prettiest Panay he had ever seen, and that they had given it a prize. When I got up to it I saw it was from the Messrs. Downie, Laird, and Laing. In less than an hour after that I saw the newest of our great English baronets pushing along the enchanting avenue, firm as a thatcher, endeavouring to conduct their Royal Highnesses the Duchess and Princess Mary of Cambridge safely through the throng. The whole three, and three or four more of the same party, seemed in the very best humour and to enjoy the fun amazingly; but it was no fun for Sir Wentworth Dilke to pilot them through and all round so many and such dangerous islands of crinolines. And as like one hailing for help, he was up to the pitch of his lungs, at all the gardeners he could cast an eye on, inquiring if there were such Lilies of the Valley to be seen then as were shown at the Azalea Show, for the Duchess wanted to point them out to some of the party as the London pride of the Lilies.

The *Times* truly says, it would need a supplement to give the names even of all the winners, so I shall merely give the names of all the stove plants, and all the greenhouse plants, and all the Heaths, and as many more out of the new and out-of-the-way-looking plants as are likely to do good in two ways—good to have if one can afford it, and good for trade as well.

Let me first, however, say, that the best gardening-done plant there was a *Hedera tulipifera* in the first-prize collection of stove and greenhouse plants, by Mr. May. I estimated it to be more than 7 feet in diameter across the mouth of the pot, and it was as full of bloom as a *Ventricosa* Heath; but, strange to say, the name of that plant and most of the same all over the Exhibition were wrongly spelled. The old Horticultural Society cast a spell on the spelling of plants, by giving prizes to men for minding their P's and Q's, and now they are on strike and will

not spell the names rightly, vainly thinking, probably, that the new Society will be unwise enough to give prizes for writing out names properly from any nursery catalogue. This *Hedera*, without going further to-day, was thus spelled—*Hederoma*, *Hederedroma*, and *Aaderoma*.

The best-grown Orchids were the *grandiflora* variety of *Phalenopsis* by the Messrs. Veitch, the *Oncidium ampliatum* major by Mr. Green, and *Cattleya citrina* by Mr. Barker in his first-class collection. There were six flowers on the plant, and each of the six was, at the least, quite double the size of any such flowers ever exhibited in my time, and I was "out" before *citrina*. All the *Lælia purpurata*s there, would not number the same quantity of flowers as the one plant of it which Mr. Warner exhibited this time last year. The collection from the Messrs. Veitch was, every plant, in first-rate style, and the Judges must have made a holiday of it over them. All the rest of the Orchids were very well done; but the breed was not nearly so numerous as we had them at Chiswick ten years back. The Heaths were also behind.

The Messrs. Veitch are now pressing hard upon the heels of Mr. Turner at setting their numerous collections for the best effect. Nothing could be more telling than the way they exhibited their great Orchids, and their masses of variegated and new plants on this occasion. Their Orchids began to read from the centre, where the tallest *Vanda suavis* stood at the back; from thence the collection sloped down to each side, and to the front, in matched pairs to the right and left. In the centre of the second row stood a magnificent specimen of *Phalenopsis grandiflora*, the best plant of the kind yet exhibited; and *Saccolabium retusum* with six blooming spikes stood in the centre of the front row. A match pair of *Cypripedium villosum* and *C. barbatum superbum* had forty-six blooms on between them, and all the rest were equally well matched in pairs from the specimen plants in the centre of each row; one specimen of their *Cattleya Skinneri* had sported into more rose-coloured flowers, and was shown together with the original in the same pot.

Mr. Milford and Mr. Baker also made a good stride in the right way of setting. The former had the strange-looking *Cypripedium caudatum*, whose run-wild sepals might puzzle Mr. Darwin himself to account for the origin of those unearthly appendages. His *Lælia Brysiana* was fine, and the nearest to the race. If I recollect rightly it had sixteen flowers; and his *Dendrobium primulinum* was very good. Mr. Baker, who had that fine *Cattleya citrina*, had also his *Dendrobium Devonianum* particularly well trained, the slender shoots perpendicularly up from a wide flat pan or basket; two *Lælia cinnabarinæ*, a fine match pair happily set; and a fine *Anguloa Clowesii*. Mr. Green had a large bush-like plant of *Oncidium apicelatum* for a back centre, and he followed suit in suitable setting. His *O. ampliatum superbum* had four spikes, and two of them were each nearly 4 feet long, and as full of bloom as a branch of "May." In an off-angle on each side of the way from these Orchids, stood collections from Mr. James Burley, nurseryman, Limpsfield, Surrey, and the Rose nursery of Mr. Paul; and both of them might be burley proud of the strain.

At the risk of my knuckles, my fingers itch again to say that *Symmetry* (Turner's), was the best telling *Pelargonium* there; that *Amy* (Dobson?), was the next best, with its soft salmon tint; that *Etna* and *Sanspareil* are not yet beat for effect; and that *Eugène Duval* is still at the head of the fancy-colour class for my book. They may book me to the last page, but the strain will never leave me.

The following were the stove plants in the usual collections of stove and greenhouse plants—*Franciæa eximia* and *conferta*, *Ixora crocata*, *latifolia*, *coccinea*, and *Griffithii*; *Allamanda grandiflora*, *Clerodendron splendens*, *Stephanotis floribunda*, and *Imantophyllum miniatum*; and one from the Messrs. Jackson, of Kington, was the finest ever exhibited, it had fifteen scapes of bloom.

The greenhouse plants in ditto were these—*Hedera*, *Pimeleas* (of sorts), *Polygalas*, *Ericas*, *Aphelxias*, *Eriostemons*, *Epacris*, *Boronias*, and *B. Drummondii* (done to a T at last), *Leschenaultias* (blue and red, or orange), *Leptodactylon californicum* (fine), *Chorozemas*, *Gompholobiums*, *Hovea Celsii*, *Dillwynia splendens*, *Labichæa heterophylla* (the same called *diversifolia*), *Adenandra*, *Tetratheca*, *Acrophyllum venosum*, *Dracocephalum gracile*, *Rhynchospermum jasmimoides*, and *Farfugium grande*, if you please. These were all, and Mr. Chilman's *Acrophyllum venosum* was the best done, after *Hedera* by Mr. May.

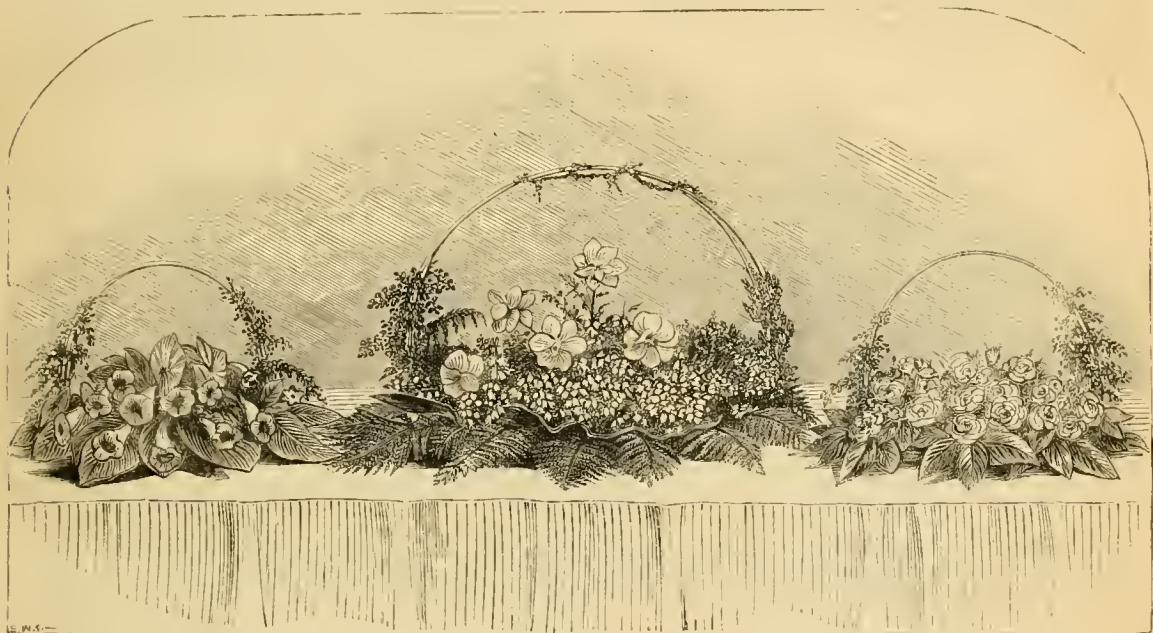
There were splendid specimens of *Rhododendrons formosum*

and aureum fulgens, from Mr. Edmonds, of Chiswick, and by them stood a noble standard of Rose Gloire de Dijon, with fine specimens of Paul Ricaut and Général Jacqueminot Roses from Messrs. Lane, who had the most noble Rosea in competition that ever were seen. Then a long flat stand for rare and new plants, and a match stand on the other side of the centre to suit, on which stood Messrs. Veitch and Fortune's harvest-homes from Japan and China.

These were the most interesting collections ever exhibited, and that by the Messrs. Veitch was accompanied by the specimens of wood mentioned the previous week as being at the Exotic Nursery; but the uses for so much novelty, and the characters of the other new and variegated plants from other parts of the world, must occupy a more descriptive account than can be got into a bare report, in order to make it at all of any use far away from London. And, moreover, the great Crystal Palace Show is held the same week, where most of the novelties can be seen without risking one's ribs; but I find my boots were dreadfully scratched in the pushes through and through the avenue where the vast masses of all the different and indifferent miscellanies were stowed away to entice people to keep there while

others get over the scooped oval, and were off to the colonnades above, to see the grand move caused by the well-timed liberality and kindness of Lady Dorothy Nevill, in instituting a reform on the Covent Garden style of cart-loading the drawing-rooms with heaps of cut flowers without heads or tails. But depend upon it, both the peerage and baronetage, as represented by her ladyship and Sir Wentworth Dilke, will have an up-hill work of it to up-root the Covent Garden style of heaping fruit in a dessert, and of bundling flowers for London drawing-rooms. Well, the same ladies who took the first prize last year for setting the dessert, showed equal confidence now in setting flowers on the drawing-room table. The Misses March, St. James's Palace, an engraving of whose baskets we give below, had the first prize of six guineas, the gift of Lady Dorothy Nevill, and Mrs. J. H. Lermite, Knightons, Finchley, was awarded her ladyship's second prize of four guineas.

Now, the reason why the prize went to Mr. March and the Misses March last year has never been explained to gardeners yet, which is not fair dealing on the part of the Royal Horticultural Society. It is of little avail to tell a man that he is a fool, if you do not let him know wherein his folly consists.



The flowers in one of the smaller baskets were Roses de Meaux; those in the centre basket were Lily of the Valley, White Lilac, and Narcissus; and those in the second smaller basket were purple Gloxinias. The baskets and their handles are of glass, and made expressly after a design by Mr. March. The foliage was partly of Fern leaves and sprays of Lycopodium.

It is not the fault of gardeners, but their misfortune, that there never was an acknowledged guide for setting dessert or furnishing rooms with flowers as the high nobility require them. All gardeners can never get into the high places of this earth, how then are they to know more than Covent Garden measure? Without the least hint or knowledge of the parties who won or judged, one class of gardeners could see at the first glance that the prize dessert last year, and the prize for grouping flowers for drawing-room tables this season, were not intended to be the actual things required by the makers, nor judged as if they were. The prize specimens if they could speak would just say, "Do not do as I am done with such common things, and in such small quantities; just provide all that is necessary, as costly as you please, and then but arrange them all in the simple and refined style in which you see all my parts put together." That is what ought to be taught, and not that men did wrong from not knowing better. There is no intention or need to set any limits to prodigality, but only that even profusion may be dealt with in a simple unstrained system. The idea has gone forth, and is rooted in the minds of gardeners, that unless you place the commonest things in this world before your guests, and that in the smallest quantities, you would be called a numskull by the Horticultural. No such thing. The idea is altogether wrong. All that is aimed at is just like all that we have said about planting beds—namely, that flowers and fruit should be arranged for

table on some plan which will give the greatest pleasure to the greatest number of those who know our fashion in artistic display. There is a fashion in everything, and the flowers were arranged better for Lady Dorothy Nevill's prizes this year than the sample dessert was done last year by the very same hands—success emboldened their simplicities, so to speak. Mr. Turner was the winner of the prize for the best setting of a conservatory, and he did it in the grandest and in the most extravagant style at the same time, which I shall explain another time.

D. BEATON.

#### FLORISTS' FLOWERS.

ALAS! It really seems as if the old enemy of the Horticultural Society, not content with the mischief it had done in old days at Chiswick, was bent on following it up with still more determined assault. This is the second fête this year that the "skiey influences" have marred. The lovely weather of the few previous days promised well. But on Tuesday an ominous fall in the glass, and an equally ominous rise of clouds of dust, portended wet; and although in the earlier part of the day gleams of sunshine deluded us with false hopes, in the afternoon the rain poured down as it seems best able to do on horticultural fête days, and completely spoiled what would have been doubtless the most brilliant gathering of the season. The large tent in which the larger portion of the plants was exhibited was a blaze

of colour; and the manner in which the plants were arranged promises, with a few alterations, to make it a most effective place for showing plants. Then the long annex which joined it with Messrs. Waterer & Godfrey's American exhibition was an excellent idea, and an admirable place to exhibit the new things, seedling florists' flowers, &c., in. And here let me say I think the growl from the International refreshment-room was quite out of place. The *habitués* of the Exhibition were not promised the view; and as the latter was brought there, it would be a strange thing indeed if the plans of the Society were to be thwarted on account of the frequenters of the Exhibition.

In the arrangement of the tent one missed the green background; and the centre mound ought, in my opinion, either to have consisted of ornamental-foliaged plants or of some neutral-tinted flowers. The Orchids from the want of green were killed by the brilliancy of the colours in the back rows: but of all this I dare say Mr. Beaton will discourse. I must keep to my own department, the florists' flowers.

The Azaleas were magnificent. Unquestionably the finest lot (although Messrs. Green's and Carson's approached very near to them), were Mr. Turner's nine; and the arrangement was, as is always the case with his flowers, perfect—contrasting in this respect with Mr. Veitch's, which were spoiled by the want of arrangement in the colours. Mr. Turner's stood thus:—

	Chelson (orange scarlet).	
Iveryana (white).	Alba Magna (white).	
	Extrani (red).	Juliana (scarlet).
Murrayana (purple or rosy lilac).		
Præstantissima (light orange red).	Criterion (light salmon pink).	

In this class Mr. Veitch was second, and Messrs. Frazer third.

In the class for 9, for Amateurs, equal firsts were given to Mr. J. Green, gardener to Sir Edward Antrobus, and Mr. S. M. Carson, gardener to J. C. Sim, Esq., Nonsuch Park, with the following:—Præstantissima, Sinensis, Iveryana, Broughtoni, Sir C. Napier, Perryana, Variegata, Symmetry, Coronata; and Speciosa, Broughtoni, Exquisita, Rubra plena, Sir C. Napier, Sinensis, Murrayana, Triumphans, and Carneæ. Second to Mr. Page, gardener to W. Leaf, Esq., Streatham. Third to Mr. Kaile, gardener to the Earl of Lovelace: and Extra to Mr. Peed, gardener to Mrs. Tredwell, Lower Norwood.

In the class of 6 Azaleas (Amateurs), Mr. C. Penny was first with fine plants of Madame Miellez, Juliana, Triumphans, Extrani, Chelson, Iveryana. Second to Mr. A. Ingram, gardener to J. J. Blandy, Esq., Reading. Third to Mr. H. Chilman, gardener to Mrs. Smith, Ashted House, Epsom: and fourth to Mr. Peed.

The large Roses in pots of Messrs. Lane and Wm. Paul were, as usual, magnificent immense bushes, with blooms the very perfection of beauty, but offering no variety; the same sorts of course, as in many other things, appearing from year to year. Messrs. Lane's twelve were Lamarque, Triomphe de Paris, Coupe d'Hébé, Louis Peronny, Comtesse Mole, Chénédole, Jules Margottin, Souvenir d'un Ami (very large and fine), Paul Perras, Charles Lawson, Duchess of Sutherland, Baronne Prevost. Mr. Wm. Paul's contained fine plants somewhat smaller of Souvenir d'Elise Vardon, Lord Raglan (very fine), Louise Odier, &c. Mr. Francis, of Hertford, was third, having amongst others a fine plant of Gloire de Dijon, showing its capabilities as an exhibition Rose.

The Pelargoniums were very fine, and evidently Mr. Turner has been teaching his pupils too well; and he must look to it, or his laurels will be plucked from him. As it was, he was beaten in the open class of Fancies; and in the show kinds Messrs. Dobson & Co. came very close to him. I was glad to see, too, that the Clewer Manor plants were there, and that the floral world is still likely to be benefited by the seedlings of that far-famed home of seedling Pelargoniums.

In the class of 9 show Pelargoniums Mr. Bailey, gardener to T. T. Drake, Esq., of Shardeloes, was first with Osiris, Desdemona, Mr. Marnock, Eugène Duval, Etna, Lady Canning, Sir C. Campbell, Monarch, and Ariel. Mr. Nye, gardener to Miss Foster, had Etna, Fairest of the Fair, Rose Celestial, Sanspareil, Flora, Conspicuum, Ariel, Prince of Wales, and Saracen. Of these only two were of Mr. Foster's own raising. Mr. James Shrimpton, of Putney Heath, was third: and Mr. J. Weir, gardener to Mrs. Hodgson, The Elms, Hampstead, fourth.

In the Nurseryman's class of 12, Mr. Turner was first. His Roseum was the most striking plant of Pelargoniums in the

Exhibition; while Fairest of the Fair was badly shaped and nearly lost him the first prize. He had besides Prince of Wales, Viola, Madame Furtado, Sunset, Beadsman, Rose Celestial, Desdemona, Sir C. Campbell, Vestal, and Symmetry. Messrs. Dobson, of Isleworth, were second: and Messrs. Fraser third.

The six Fancies of Mr. Bailey's were Celestial, Aeme, Clara Novello, Madame Sontag, Negro, and Lady of the Lake. They were beautifully grown and well bloomed. Mr. Turner second; Messrs. Fraser third; Messrs. Dobson fourth; and Mr. Weir recommended.

It was too late for Cinerarias. Messrs. Dobson & Son had six:—Queen Victoria, Lady Seymour, Perfection, Brilliant, Madpiece, and Miss Smith. There was a second lot which was a disgrace to the exhibitor and the Exhibition.

There were two sets of Rhododendrons, the first prize being awarded to Mr. Charles Noble. The best were Lady Palmerston, Lord Palmerston, Lord Granville, and Duke of Cambridge. Mr. Standish was second. He had, besides the six, a nice collection of various kinds. Dr. Hogg, General Wilson, Mr. Mangles, Impeatrice, and Madame Titienus were very fine.

It was too late for Tulips, the unusually warm weather of last week having driven them into bloom. But two stands were shown. Mr. Norman's, of Woolwich, were remarkably clean, though a little defective in colour. His blooms of Duchess of Sutherland, General Bamoseld, Anastasia, Triomphe Royal, Lady Denman, and Mrs. Smith (Norman), were excellent. Mr. Turner was second, but many of his blooms were past their prime.

Mr. Bragg, of Slough, had a box of Pansies, and another of Fancy ditto.

There were three stands of Roses. Those of Messrs. W. Paul and Lane securing an extra prize. Mr. Paul's were gathered, he told me, from trees planted out in a house under glass, and some of the blooms measured 5 inches across, remarkably clean and good. Lælias, Souvenir de la Malmaison, Empereur de Maroc, and Cardinal Patrizzi were very good. He had also a bloom of General Zachargersky, a curious crumpled-looking Rose.

Mr. Barley, of Limpsfield, sent some plants of his fine Calceolarias—Victor Emmanuel, Princess Helena, Monarch, Queen of Oude, Lord Raglan, and Primrose Perfection, besides a few plants of that first-rate bedding variety—Angustifolia globosa, which I fancy we shall find to be one of the best yellows grown.

Amongst the novelties in florists' flowers which came under the notice of the sub-committee of the Floral Committee were, in Pelargoniums, Belle of the Ball (Foster), and Improvement (ditto), the latter a flower perfect in shape, and which I did not fail to point out to those who are ever crying out that my friend Mr. Andrews draws too perfect flowers. These obtained First-class Certificates—as did Conflagration, a fine deep crimson, and Royal Albert (Hoyle), an immense flower. The scarlet Pelargonium of Mr. Turner, "Nesfield," received a Second-class Certificate for its free-flowering properties; and a tiny one, Waltham Pet, of Mr. W. Paul's, was awarded the same honour. The greatest novelty there, however, and one which the Duke of Cambridge specially noticed, was a Fancy Pansy exhibited by Messrs. Downie, Laird, & Laing. It was called Aurea marginata, and is one of very fair shape and size—a florist's flower, purple, with a narrow margin of bright gold round each petal. It is an immense acquisition, and opens up a bright prospect to us. Rhododendron striatum formosum of Mr. Standish was awarded a First-class Certificate, and Suwaroff Second. Mr. Bull had two nicely pencilled single Petunias, for which Second-class Certificates were awarded, Ruby and Emma. Mr. George Smith exhibited that fine Petunia Eliza Mathieu; and Mr. B. S. Williams a fine salmon-flowered Zonale Pelargonium which received a Certificate. With the exception of the Pansy referred to, the new things were not very remarkable.—D., Deal.

#### HORTICULTURAL IMPLEMENTS.

The display of horticultural machines, implements, &c., was meagre in the extreme, and quite unworthy of the Exhibition and the present advanced state of the mechanical art, presenting little of novelty. Were it not that our readers would expect some account of this portion of an exhibition, otherwise so interesting, we would willingly pass it over in silence. As it is, a few comments will suffice.

In Class A, heating apparatus, Messrs. Weeks & Co., of

Ohelsea, exhibited a powerful tubular boiler, of a description that has proved highly efficient in many establishments, and which presents 200 feet of surface to the fire. Also a very handsome pedestal, adapted for heating halls, churches, and conservatories, in any of which no fault could be found with its appearance. It was commended.

From Mr. Ormson, Stanley Bridge, came a large jointless tubular boiler; and from Mr. Jones, of Bankside, the well-known cannon boiler, both which need no description here. There was also a small cylindrical upright boiler adapted for heating a room or small greenhouse.

In class B, mowing, rolling, and transplanting machines, &c., Messrs. Green, of Leeds, exhibited mowing machines of various sizes on their well-known mode of construction, in which quiet working is combined with efficient action, and differing from all others in the use of a chain with peculiarly-formed links in driving the cog-wheel attached to the revolving blades. The contrivance in the larger machines for emptying the grass out of the box at front into the large receiver at back by means of a winch, cog-wheel, and cogged-chain, is very expeditious. Highly commended.

The lawn-mower from Kenman & Sons, of Dublin, noticed in our report of the International Exhibition, was also shown, as well as Shanks' machine of different sizes, by Messrs. Brown, of Cannon Street, the latter of which needs no commendation at our hands. Both these exhibitions were commended.

Newton, Chambers, & Co., exhibited their garden roller, the counterpoise to the handle of which is on the outside instead of within the cylinder as in the ordinary form; and Amies & Barford, Peterborough, a roller with a wrought-iron cylinder having closed ends, and which can be weighted more or less by pouring water through a hole left for the purpose in the cylinder, and which is closed by a solid brass plug that can be removed by a key. This application of water, by which a light roller can be made a heavy one at will, and at no more expense, is new to us, and if found to work well in practice would be worthy of general adoption. Commended.

In the same class we find the fumigator, invented by Mr. Spary, of Brighton, and which essentially consists in a cylinder perforated with holes at the bottom, within which is a lamp heating a pan containing the fumigating material, the smoke from which escapes through holes in the lid. It appears to be less generally known than it deserves.

Of garden chairs there were several, but none so good as that of Pickley & Sims, exhibited at the International, and also shown here. Those from Messrs. Brown & Co., have the merit of cheapness combined with good appearance, and the bottom part and back being of wood are not open to the objection so often made to iron chairs—that of being cold to sit upon. The same firm also exhibited portable folding chairs, and garden vases, the latter of cast-iron of a character that would not disgrace any mansion; in fact, there is no comparison between the classic designs which they exhibit, and the miserable imitations of stonework which so often disfigure gardens, in which if statuary and kindred decorations cannot be well done, they are better left alone.

In the other classes we noticed flower-baskets of galvanised iron wire, suspended from erozier-shaped standards, some ornamental garden pots from the Weston-super-Mare potteries, and Read's garden syringes and engines, of various forms and sizes; the former both in principle and practice are excellent, the ball valve with which the aperture that the water is drawn through is closed, being so little liable to get out of order; but the latter, owing to there being no parallel motion or other provision for the same object, must, in consequence of the piston describing a similar curve, but of less radius to that of the handle, be subject to more wear on one side of the forcing cylinder than on the other, and, therefore, in course of time become no longer airtight—a complaint which many other engines are also open to, and which might easily be obviated.

There were also water-barrows from Mr. Nixey, of Slough, one being on the old gravitation principle, the tub being of an elliptical form, and hung over the axle; the other of similar construction, but with the tub fixed and provided with a perforated pipe in front like that of a street watering-cart, and which is intended for watering garden-walks; a model of Cranston's conservatory, and some other articles either well known or which will be described elsewhere.

#### THE TENTS.

SOME weeks since, when it was announced that the Society

were intending to expend a large sum upon tents, we warned the Council against such an expenditure; and expressed our surprise that they had not been taught better by more than a quarter of a century's experience at Chiswick. Largo ridge-and-furrow tents, even from the best of makers, cannot be made proof against heavy continuous rains, and those who are under such tents during such a downfall, require umbrellas and macintoshes. This was quite apparent on Wednesday last, where, in all parts, the moisture came beating through in the form of a thin drizzling mist, and the visitors were compelled to have recourse to their umbrellas and parasols; and this quite independent of the overflows that took place in the furrows. Moreover, tents in wet weather are miserably chilly from the great evaporation from them; and to talk about "enjoying" a flower show under them in wet weather is to talk of what never can be. Let us add, that the consequences to delicate plants need no other illustration than was afforded by the splendid Orchids of Mr. Veitch last Wednesday. In one sentence, tents were a necessity when glass was dear, but now that glass is cheap they are no longer a necessity, and should be banished from the Royal Horticultural Society's exhibitions. If Mr. Eyles were asked to furnish plans for a glass structure on each side of the conservatory, in connection with the arcades, he would have little difficulty in forming a design harmonising with the arcades and the International Exhibition, the only imposing view of which is shut out by the present tents; and let us add, that never was a greater disfigurement than are the present tents, shutting out as they do the only imposing view that can be had of that building.

#### OFFICIOUSNESS OF OFFICIALS.

We will take this opportunity of calling the attention of the authorities of the Garden to the excessive officiousness of the subordinates wearing the Society's livery, which if not checked will become not only offensive as it is now, but positively intolerable. We have had more than one complaint on this subject; but that which induces us to take notice of it now is, the treatment one of our reporters experienced when engaged in the performance of those duties which are equally for the benefit of the Society, the public, and ourselves. Our reporter is a gentleman well known in the horticultural world, and one who is not likely even to cause suspicion of doing anything that is at all objectionable. We shall say nothing more on the subject at present, further than that the procedure is quite a change from the former system upon which the Horticultural Society was conducted, and we trust that it does not indicate the introduction of that high-handed and unbending administration which is sure to prove the ruin of any establishment depending for its existence on public support.—[Eds. J. or H.]

#### GRAFTING VINES.

MOST gardeners are aware of the uncertainty of success in grafting Vines. This seems to be owing to the bleeding or oozing out of the sap from the wounds made during the operation, which greatly tends to prevent the union of the grafts with the stocks or Vines. I have tried several plans commonly practised, but have found none equal to the following:—This spring I was anxious to have some strong Vines of the Golden Hamburgh, and had from a friend a well-ripened shoot of that kind, which afforded several good grafts. These I put on Black Hamburghs, close to the roots, which were previously turned out of pots. When the Vines were repotted the grafted parts were covered with soil, only two eyes or buds of each being left above it. In order to let the wounds heal, and prevent them from the bleeding already noticed, the pots were kept about two weeks in a cold pit, and afterwards in a warm one, where the Vines soon made fresh shoots from their adopted heads, and are now planted into a house and doing well. An experienced gardener may readily perceive that this plan affords a double chance of success, for if the stock does not unite with the graft the latter will strike root like a cutting. I have also grafted Oranges and Roses in spring in the same way, only they were put into a warm pit at once, there being less chance of failure by the wounds or grafted parts not healing, which is the greatest obstacle to Vine-grafting.—J. WIGHTON.

FENCE POSTS.—The *Ohio Farmer* says, "Many years ago we were building a new fence, and when setting our posts we saturated that part which we placed in the ground, and about

1 foot above, with coal tar, resin, and lime. The proportions were about eight parts of tar to one of lime, and sixteen of tar to one of resin. We melted the resin before mixing, but the lime we put in as we bought it from the kiln. Those posts are now nearly all of them sound and good, although the timber was a sorry mixture of Basswood, Beech, Oak, Chestnut, and Maple."

### AIR-ROOTS ON VINE STEMS.

THE air-roots upon the Vines in our first viney are an eye-sore to my employer. He wished me to write and ask your opinion upon the following points regarding them:—

1st. What causes air-roots on Vines?

2nd. Are air-roots injurious or otherwise to Vines?

3rd. Would it injure the Vines to cut the air-roots off at any stage of their growth?

The Vines have been planted five years. This crop, which will be ripe in three weeks, is the fifth, although I think not excessive crop. The Vines make good wood from the spurs; but the stems do not swell so fast as I could wish. I have a command of bottom heat, and the border now averages 76°. A considerable quantity of carrion was used in the original border. But eighteen months ago I partly lifted the Vines and mixed a lot of lime rubbish and rough turfy loam with the old border. Since then the leaves are much thicker, and the Vines are better, but still we cannot get entirely rid of the air-roots.

I keep the atmosphere pretty moist, and give plenty of air upon every favourable opportunity. In fact, the house is only shut up close upon sunny afternoons, when we put them "warm to bed." They have air again at night, which is on less or more till after dinner next day. The roots are not in want of water, but are running crowquill-like near the surface of the border. The berries swell and colour very well, but the bunches do not come very large. They are all Hamburgs.—W. C.

[These air-roots as you call them are the cause of a vexed question. Some gardeners are rather fond of seeing them, others detest them even more than you do. We have known fine bunches extra fed by letting these roots run into balls of earth and moss, and removed only when the fruit was gathered. We have also known Vines propagated successfully by such means. Others dislike their appearance as so many robbers, and we are pretty well inclined to look upon them in this light ultimately; because, though we are well aware that in an early stage they are caterers of nourishment in a damp atmosphere, we also believe that ultimately they are injurious, because their presence to a great extent on the shoots in the house, so far prevents the free development of fresh roots and spongioles in the border. With your precautions of raising the Vines we are rather surprised that you have so many of them. So long as the roots had to run into unwholesome carrion we would not have been surprised at the roots protruding anywhere and everywhere to escape it, and we have no doubt that as the roots rise and run in the calcareous matter you will have less and less of these stem air-roots, unless you keep an extra moist atmosphere.]

A clear understanding of the cause and the effects of such air-roots will lead to much difference of practice. Those who like to see them will no doubt encourage them and feed them, thinking, perhaps, too little of the roots in the border. Not only so, but seeing how thoroughly the Vine is a creeping or running plant, they will, to get strength and increase space, twist and layer the shoots in the ground in order to get masses of such roots in the soil. On the other hand, those who value them little, as I confess I do, will be chary of all such layering, and prefer Vines with their one set of main roots starting from one collar or crown. I have a strong belief that the finest Grapes can only be produced continuously on the latter plan. Some of our best gardeners have made valuable experiments in this direction, and, perhaps, none more so than Mr. McDonald, of Woodstock, in Ireland, to which I hope to allude before long.

In general circumstances, then, we consider it good policy to remove these roots as soon as they appear. For though they imbibe moisture when the house is moist, they dry up when the house is dry when ripening approaches, and the bunches are then deprived of the nourishment which they would have obtained from roots feeding in the border. We may be wrong, but we think the more fresh air-roots inside the house, the fewer new roots will be made in that border.

Now to the three queries.

1st. The Vine being naturally a creeping and climbing plant, these roots will be naturally protruded when resting on any damp surface, such as the ground or a rock, or when placed in such situations that the roots in the ground could obtain but little nourishment. In rocky districts the Vine in its natural habitats will throw roots from the stems into crevices and crannies in pursuit of nourishment, just as naturally as the Strawberry with us throws out its runners. A moist atmosphere in houses, and especially when stimulated with ammoniacal or other rich gases, will ever increase this natural propensity. In cultivation we do not permit thickets of Strawberry-runners; and if our views are at all correct, we would rather take means to lessen the production of these air-roots.

2nd. Are these air-roots injurious or otherwise to Vines? We think ultimately they are, because tending to lessen the production of roots in the soil. Where roots are deep and the soil unsuitable, they may at an early stage enable the plants to go on and set the fruit before the roots in the border come much into operation. But it would be unwise to depend upon such friendly action of theirs.

3rd. As to injuring the Vines from removing them. We think no injury at all would be given in such a case as yours, if done early. Nor do we think much injury would be done by removing them at any time; but as you have allowed them to remain so long, we would as a matter of prudence, if the berries are now colouring, not meddle with them until the crop is ripe. If the Grapes were only set or so, and in such a border as you speak of, and the roots running so nicely near the surface, we would cut off every one of these air-roots as they appear. The better the roots flourish in the border the less you will have of them inside, though a very moist atmosphere will render their production a natural result. With plenty of air and such a calcareous border, with the roots near the surface, you will not afterwards be much troubled with them.

The course of culture seems to be the very best. We are aware that a variety of opinion exists as to the cause and the results of these air-roots from the stems. I should be much obliged either to be confirmed or set right as to the opinions expressed above, as it is always well to hear all sides of a question.—R. FISHER.]

### MESSRS. CARTER & CO.'S., CRYSTAL PALACE NURSERY, FOREST HILL.

MESSRS. CARTER have long held an eminent position among the great London seedsmen, their assortment of seeds, and particularly of flower seeds, being one of the largest that is anywhere to be found, including not only every novelty, but also many kinds which, either from their scarcity or from being little in demand, can hardly be obtained elsewhere. At their extensive seed-grounds in Essex, where Mignonette, Lobelia, and Nemophila, and a multitude of other popular annuals are to be seen in the summer blooming by the acre, scarcely a season passes without their raising some new race, or effecting some improvement on old ones.

Extending their business to that of nurserymen as well, they have taken a nursery near the Crystal Palace, where they grow the large quantities of bedding and other plants required by their customers, and to the notice of this establishment we purpose devoting a brief article.

Perhaps the most striking feature in the place is a lawn of *Spergula pilifera* interspersed with the darker *agrinoides*, and forming a beautiful, close, green carpet, soft as any moss, and notwithstanding the recent heavy rain, dry and elastic to the tread.

If there are any who are still sceptical as to the value of *Spergula* for lawns, which was first demonstrated by Mr. Summers, the intelligent and persevering manager of this place, we would recommend them to view the specimen lawn here, and we are satisfied they will be convinced of the excellent qualities of the plant as a substitute for grass, and its eminent fitness for lawns laid out with geometric beds. The *Spergula* is now just beginning to show its minute star-like blossoms, but where these are objectionable, they can be swept off with the greatest ease.

On either side of the *Spergula*-lawn is a row of geometrical beds, small circular ones alternating with others of larger size, and of an oblong shape, with the ends having a sweep taken out of them concentric with that of the circles. The effect of this constantly repeated was very good, and, we may remark, it

would be an excellent simple arrangement for small suburban gardens with straight outlines, the laying out of which by way of parenthesis is so frequently carried out by the bricklayer's labourer.

These beds were being filled with variegated Geraniums, such as Cloth of Gold, Golden Chain, and Golden Fleeces, for yellow foliage, and Bijou, Alma, Mrs. Lennox, &c., for white variegation, and a variety of other bedders. Among these the handsome new Fuchsia, Carter's Meteor, was conspicuous by its bronzy crimson leaves shading off to a rich yellow, and its brightly-coloured shoots. The specimen we saw being young and only just planted out, could not be taken as giving an accurate idea of the ultimate appearance of the plant, but we were assured that when older the variegation is still more marked, and in that case the variety must be regarded as a decided acquisition. In another bed was *Coleus Verschaffelti*, which Mr. Summers has planted out by way of experiment, and although it has experienced some rough weather lately, it appears to be thriving well at present. Should it succeed out of doors in summer there can be no question that its crimson foliage will render it even a greater favourite than *Perilla* for beds and ribbons.

In the same bed with the *Coleus*, and planted all round it, was *Gnaphalium lanatum*, with very woolly, silvery grey leaves, and which proves to be an excellent hardy bedder for the middle of beds, and for front rows when pegged-down. *Salvia patula argentea*, another nice silvery-leaved plant for bedding, has also been extensively propagated. The Crystal Palace *Lobelia*, which comes true from seed, and is well known to be the finest of all for bedding, being in great demand, is, of course, largely grown; but the favour with which it is universally regarded is likely to be shared by a new and beautiful kind called *Lobelia speciosa kermesina*, purplish-crimson, with a white eye, of which we saw one little flower.

The frames were occupied by Dahlias, Verbenas, and a large stock of other plants, together with a good collection of all the usual occupants of the herbaceous border, several of which were prettily in flower, as *Viola lutea* and *cucullata*, both nice little spring plants, and several British *Orchises*, &c.

In the houses, the shelves and stages were crowded with bedding stuff, of which the stock is very large, and in capital health; and in the warm greenhouses and propagating-glass, *Gloxinias*, *Caladiums*, *Begonias*, &c., are to be seen in abundance, a large space being occupied by *Coleus Verschaffelti* alone, the crimson foliage of which met our eye at every turning. It is found to be one of the easiest of all plants to propagate, every leaf striking root if placed in a suitable temperature. Of *Mesembryanthemums* there is likewise a very extensive collection, comprising about 170 sorts.

Among flowering plants, *Pimelea Nieppergiana* was particularly worthy of note, on account of its free-flowering habit, which should recommend it for more extensive cultivation in the greenhouse; and the same remark will also apply to *Tetranema mexicana*, which from the profusion with which it produces its purplish flowers in long succession, is a pretty addition to any greenhouse. Judging from the fact of *Lapageria rosea* having been propagated here to the extent of 1500 plants, the demand for this, the finest of all greenhouse climbers, must be steadily on the increase, a circumstance which is easily accounted for by its value being now everywhere recognised, and by the low price at which the seedlings can now be obtained as compared with former years.

The Fern-house contained a collection of Gold and Silver Ferns, amongst which were the elegant silver-tasselled *Gymnogramma Wetenhalliana*, *Pteris tricolor*, *argyrea*, and other attractive species. For the growth of these as well as many other plants, Mr. Summers largely employs the cocoa fibre refuse, to which attention has been so often drawn in our columns, and with excellent results as regards the health and vigour of the plants, and he finds many cuttings root more freely in it than in anything else.

Before closing this notice, however, we must not omit to mention *Cerastium Biebersteinii*, of which we noticed a large pan in one of the houses, and which as a hardy silvery-leaved bedding plant must be regarded as a decided gain. The foliage is larger than that of *tomentosum*, and more densely covered with wool, whilst the plant possesses the same dwarf and compact habit, and is far more striking at a distance.

**BIRMINGHAM ROSE SHOW.**—An advertisement of this will be found in another page. The schedule of prizes and regulations

for the Show of Roses, Horticultural Implements, and Garden Ornaments, is now in circulation, and will receive all the attention to which its contents are entitled. We hear that the previous announcements of the undertaking have been received by both amateur and professional florists with most encouraging expressions of approval, and we trust that the support of manufacturers of the articles which it is intended to embrace will not be wanting. If so, the garden ornaments and implements will constitute a most interesting and valuable feature, and will have a beneficial effect upon various branches of industry in the town and district; and the information which will be applied relative to the various contributions—their purpose, special peculiarities, and cost—will render the catalogue, like the one issued from Bingley Hall, an annual publication worthy of being preserved for reference during the ensuing year. It must also be borne in mind that the Committee will stand in need of pecuniary aid in the shape of subscriptions, which we hope will be extended to them in a prompt and liberal manner. Persons who may add their names to the list, will receive admission tickets according to a certain rate, which is specified in the schedule to which we have referred.

## CRYSTAL PALACE EXHIBITION OF FLOWERS AND FRUIT.—MAY 24TH.

It would be impossible to secure a more effective illustration of the immeasurable superiority for a horticultural show of a glass-covered structure over one covered with canvass than was afforded by this Exhibition, compared with that of the very same plants at the Royal Horticultural Society, with but two days intervening. At the Crystal Palace the company, far larger in numbers, really enjoyed the floral luxuries brought together to gratify by their evidence of skill, colours, and perfumes. Every face was smiling; there was no occasion for anxiety to escape from wet feet and spoiled dresses; no chilliness; no dodging about to avoid streams coming from above, or puddles and marshy places formed below, as there was, so subservive of pleasure, at Kensington Gore. It is true the weather was bright and fair, yet no one who thought about the matter but felt that even if the day had been as wet and cold as on the Wednesday preceding, the Show at the Crystal Palace would still have been thoroughly enjoyable and unmarred by the weather. The glass would have excluded the rain and the cold.

The prize list will be found in our advertising pages, and to them we must this week be satisfied with referring our readers.

The chief feature, additional to the attractions at the Royal Horticultural Society's Show, was the fruit. We never saw finer or better-ripened specimens at a May exhibition.

Altogether it was one of the most successful and most effective Shows we ever attended. The statues mingled with the groups of plants especially added to the gracefulness of the arrangement

## RETROSPECTIVE CRITICISM.

HERE is a budget of commentaries on your No. 60. "*Lastræa Sieboldii*, a rather scarce Japanese Fern," page 138. The plant is a common hardy Fern, and has been so for some years. I observe you always spell this generic name *Lastræa*. This is wrong. The name, which was given to the present genus by Presl, is *Lastrea*. In the same page as the foregoing are mentioned two Ferns, "*Leptopteris auperba*" and "*Todea pellucida*." They are congeneric, and should, therefore, be both named *Leptopteris*, as some moderns do, or both *Todea*, which is certainly to be preferred. *T. pellucida*, by-the-by, ought to be called *T. hymenophylloides*. *Palea Cibotii* (page 145) are the scales of the caudex of a species of *Cibotium* (probably the same as the *Barometz*), which occurs in the islands of the east, and which has been for some time past collected, and exported to Europe for use as a styptic. It is believed to act by rapidly absorbing the aqueous particles of the blood, and thus facilitating coagulation. "There is no yellow *Rhododendron* yet," "a real yellow without a dirty tawny shade," page 146. *R. Boothii*, a Bhotan species, which was shown in flower the other day at the Regent's Park, has waxy flowers of a clear yellow, palish certainly, but I think I may say without a tawny shade. My note of it runs thus:—Flowers yellow, waxy, short bell, with reflexed convex lobes.—DELTA.

[The spelling of *Lastrea* is not uniform, and its derivation is uncertain. It is spelt *Lastræa* by Endlicher, Loudon, and

Lindley. They quote Presl as so spelling it, and if so—for we have not his book by us—he ought to know, for he founded the genus.—EDS.]

### SEA-KALE SPROUTS AS A GREEN VEGETABLE.

“HAVE any readers tried the green flower-heads of Sea-kale just when opening? if not, then do not fail to do so, for if well cooked they are excellent, and are often carelessly thrown away.”—R. F., “Doings of Last Week,” page 126.

A most valuable hint, one amongst many derived from the same source. Indeed, if Mr. Fish had never written anything else but these papers, he would have left a legacy to all young gardeners, worth more to them than any money sum. The morning after reading this I went into the kitchen garden and spied out some of the incipient flower-heads that I had promised decapitation and ignominious expulsion on the first convenient occasion. I immediately got what I thought would be a boiling, took them home and got the lady of the house to boil them up for dinner, reading for her instruction Mr. Fish's instructions. She took the hint, and at dinner-time they appeared looking beautifully green; and on trial, without gravy or any other accompaniment, they were deliciously sweet, with a delicate hint of the Kale flavour. The two censors, pater and materfamilias decided that, as a green vegetable, and a relief from the flavour of Broccoli, Cabbage, and the other members of the Cabbage-works, they were a decided acquisition, and at once voted the thanks of the house to Mr. Fish for his addition to the list of esculents. On inquiry I found that they were put on in boiling water, putting a little salt in the water, and hoiled quickly. They were done to a nicety in half an hour.—JOHN.

### COLEUS VERSCHAFFELTI AS A BEDDER.

THE question, “Is *Coleus Verschaffelti* a bedding plant?” was asked in your columns last week by a correspondent. Now, although all opinions on the subject are theoretical, and at present cannot be answered satisfactorily, yet I have myself great faith in its suiting admirably, and am putting it to the proof this season, by using it in place of *Perilla*, which will have to retire upon the half-pay list, and rest upon its laurels already won, if our new pet does well, and I see no good reason to doubt it whatever.

*Coleus Blumei* I have found thrive well when planted out, and I look upon *C. Verschaffelti* as merely a variety of it with a good deal of the pectinate variety in it. I perfectly agree with your correspondent when he says it does not like shade; but I have found the stronger the heat, the brighter and richer the foliage.

The plant by this time should be as cheap as any *Verbena*, as it propagates so freely. I obtained a plant last November, and commenced increasing it directly, and have now several plants upwards of 3 feet in diameter, others somewhat smaller, and a great quantity fit for bedding or other purposes. I never think of taking more than one joint, and as I pinched my plants to make them bushy, I stuck the points in and had them well rooted in about a week; but then I have the finest root-producing material in the world to do it with—namely, cocoa-nut fibre refuse. I wish more would try it for propagating purposes, they would be utterly astounded at the results obtained.—JUVENIS.

### FRUITERERS' COMPANY.

THE Worshipful Company of Fruiterers is a well-known one to every Lord Mayor. From them he has a present of twelve bushels of Apples of various kinds, and of the finest description, which, packed in clean white baskets, covered with white napkins, are carried to the Mansion House by clean-looking porters, headed by the Company's beadle. This is a custom of nearly two centuries' standing, a specimen of the usages of the City guilds in times of yore. When the Lady Mayoress directs the housekeeper to remove the fruit from the baskets, it is the custom to put in each of the same a bottle of wine for the porters' use, who are besides regaled with a substantial meal, and a privilege to take away the remnants of the same. Soon afterwards, the Lord Mayor entertains the Company to a state or “loving cup” dinner at the Mansion House, at which the Fruiterers take precedence before all other guests of whatever denomination present.

Lord Mayor Cubitt duly honours the custom originated 200 years ago.

James I., in the year 1605, incorporated this fraternity as the Master, Wardens, and commonalty of the mystery of Fruiterers, and their arms, granted soon after, has the tree of knowledge, entwined by a serpent, with man and woman on each side thereof. Their motto is “Deus dat incrementum,” God giveth the increase. The Fruiterers are governed by a Master, two Wardens, a Court of Assistants, and a Livery. The Company have no hall.—(City Press.)

### BROCCOLI MANURED WITH HOUSE SEWAGE.

LAST year I told you the results of slop-pail-culture of Broccoli producing 3½ lbs. on a head, when my neighbours had scarcely any. This season the same application of soap-suds, &c., has enabled me to give away more than two dozen heads of Broccoli, besides having it almost every day on my own table. Many of these were very large, and one of them weighed 9 lbs., and measured nearly 1½ yard round. Comparing this large crop with the trifling weight raised by my neighbours, I am desirous to urge upon cottagers, and especially laundresses, the great importance of using and not wasting the materials capable of adding materially to the quantity of food produced in the country.—THEODORE COMPTON, Winscombe, Somerset.

### THE INTERNATIONAL EXHIBITION.

WHEN we first recorded the opening to the world of this wondrous storehouse of the product of man's ingenuity and skill, and of the rough materials which Nature has given him to work with, we expressed our intention of advertising on future occasions to such of its contents as fall more peculiarly within our province. Not for us is it to describe the forms of beauty which spring from the sculptor's art, nor the bright creations of the painter's brain. The marvellous engines and machines by which the inertia of matter is overcome, and the far-off brought near, alike with glittering gem and costly fabric are all forbidden subjects; and, however much we might be tempted to descant upon them, they must pass unnoticed here.

We shall, therefore, confine ourselves to that which belongs to horticulture, whether tree, or fruit, or flower, the appliances by which these are fostered or encouraged, and the implements employed, and architectural decorations which may be introduced in gardens. It will also be our duty to record in another part of our columns anything which may tend to the advantage of the busy workers of the hive.

Taking the well-arranged official catalogue for our guide, we purpose going through the classes as nearly as possible in the order in which they occur. In connection with this, however, we cannot but remark that in consequence of the various exhibitions being placed in utter disregard of the consecutive order of their numbers, it is frequently a matter of difficulty to find any particular exhibition—for instance, 1036 may be alongside 1139; whilst 1037 may be in some nook or corner 20 yards distant, and 1038 far away in a totally different direction. This, notwithstanding a “sharp look-out,” has involved so much personal exertion, and, what is worse, loss of time on our part, and doubtless it has been the same with many others, that we very much question whether the alphabetical order of the names in the catalogue would not have been better sacrificed to the consecutive numbering of the articles according to their juxtaposition. Having the number of the exhibition, the name of the exhibitor could in that case have been found just as easily as at present; whilst if in search for the number under which any particular name exhibited, we should at most have had to run over three or four columns of print, which would have been much easier than hunting about backwards and forwards. In very large classes surely some compromise between the two systems might have been effected.

Classes 1 and 2 present few objects of horticultural interest, being devoted to mining, metallurgy, and chemical products and processes. We may, however, notice—

510. DUNN, A., Dalston.—In this the effects of his indelible marking-ink pencils are exhibited on wood, zinc, linen, parchment, and paper; but the merit of the invention having often formed the subject of remark in our columns, it must now be well known to our readers.

In the succeeding classes we find—

705. BUTLER & McCULLOCH, *Covent Garden*.—192 sorts of flower-seeds, and 24 of vegetable seeds neatly arranged. Vegetable essences, as Almonds, Garlic, Ginger, Lavender, Peppermint, Sarsaparilla, and Vanilla, together with various herbs, Parsley, Sage, Mint, Basil, Marjoram, Savory, and Thyme, bottled so as to preserve the original green colour.

707. CARTER & Co., *High Holborn*.—418 sorts of flower-seeds, and 63 of vegetables, grasses, and agricultural plants. These are arranged light and dark alternately, and produce a very good effect; whilst the upper portion of the case contains the name of the firm, &c., surrounded by ornamental grasses, and everlasting of various colours.

731. SUTTON & SONS, *Reading*.—A collection of agricultural and ornamental grasses, comprising 100 sorts, arranged according to their genera; also cones, nuts, acorns, &c.; and, occupying the upper portion of the case, dried specimens of ornamental and useful grasses. Among the cones were those of several rare Pinuses and Banksias, as well as the fruits of *Adansonia digitata*, or Monkey Bread; *Anona reticulata*, or Custard Apple; *Achras sapota*, or Sapodilla Plum; *Ægle Marmelos*, or Maredoo; *Entada Purshiana*, a flat blade a yard long; *Moringa pterygosperma*; *Lodica sechellarum*; and the *Sapucaia* nut, or rather the large cup in which the so-called *Sapucaia* nuts of the shops are contained, and which are, properly speaking, the seeds. This large cup belongs to a species of *Lecythis*, and is 7 inches or 8 inches long, about 5 inches in diameter, and is furnished with a kind of lid, which drops off when the cup falls, permitting the seeds to escape. The latter are now well-known articles of consumption, but the cup itself is said to be applied to a singular use in Guiana, that of catching monkeys, which is effected as follows:—The cup is filled with sugar and placed on the ground, and the monkeys insert their paws to get at the sugar; and on being startled, make off with the cup enclosing their paw. They are therefore unable to climb, and are, consequently, easily caught; hence the colonists have called the cups monkey-pots.

In the upper portion of the case, there is a collection of dried grasses; but, unfortunately, many of them are situated so far above the level of the eye, that it is difficult to see their characters. Messrs. Sutton, however, have had to make the most of a limited space; for, we are informed, that a collection of 1000 kinds of agricultural, vegetable, and flower seeds which they had prepared could not be exhibited from want of space; and it has, consequently, been set up at the Crystal Palace, where it occupies 500 square feet. Notwithstanding the above disadvantage, Messrs. Sutton have produced a highly creditable and interesting exhibition.

735. WEBB, R., *Reading*.—A collection of 24 varieties of Filberts, including several of his own raising; also Indian and Imperial Bottle Gourds.

739. WRIGHT & SON, *Great Bentley*.—Seeds and dried specimens of grasses, such as *Agrostis*, *Poa*, *Cynosurus*, &c., and a few Ferns.

782. FORTNUM, MASON, & Co., *Piccadilly*.—A large collection of preserved fruits, &c., both European and tropical, nuts of various kinds, &c. This and several similar exhibitions of preserves and pickles may be advantageously inspected by those who wish to see what is an important branch of domestic economy well done.

Class IV. contains a number of models of flowers in wax, many of which are exquisitely moulded and coloured; among these we may mention Miss Pierson, who sends a charming case of Roses, and another containing *Stephanotis floribunda*, Orchids, Fuchsias, and *Convolvulæes*; Mrs. Willes, who sends 12 cases, and Mrs. Trewolla.

925. LAMBERT, E., *Tunbridge*.—A Kentish bank of flowers in July. This is beautifully modelled; the Forget-me-not is not quite so natural as it might be, but the Foxglove, the *Convolvulæes*, and the Ferns are rendered true to nature.

—AUSTIN, *Dalston*.—A large case of Japan and other Lilies, *Passion-Flowers*, &c., is also deserving of great praise.

929. MAKEPEACE, E., *Merton*, and 946. Mrs. SYMONS, *Notting Hill*, are likewise very creditable exhibitions of the same art.

1033. ADANSON, R., gardener, *Balcarras*.—Three willow baskets for carrying fine fruit and flowers, designed and woven by himself. Very neat, small, cross-handled baskets of a kind which is not uncommon in Fifeshire. For carrying fruit we much doubt whether they would prove so efficient as the common punnet, whilst they are not of a character which would

adapt them for the drawing-room. The workmanship, however, is superior to that of most basket-makers.

1036. ALEX, MATILDA.—Models in wax, showing the leaves, buds, blossoms, and seed-vessels of the Tea, Coffee, Flax, and Cotton plants as in a growing state.

—BARSHAM & Co., *Kingston*.—Show Ferns, *Caladiums*, *Begonias*, &c., growing solely in the cocoa-nut fibre refuse, all of which seem to be flourishing admirably.

1080. HAWE, J., 7, *Adelphi Terrace*.—Leaves and seed-vessels anatomised. A truly beautiful exhibition, the skeletons of the leaves being perfect, having the appearance of the finest lacework.

1133. STEVENS, M., *Pimlico*.—Is another of a similar description, and also worthy of high commendation.

1117. RAYNBIRD, H., *Basingstoke*.—Specimens of timber grown at various gentlemen's seats in Hampshire, amongst which are fine specimens of Oak, Ash, Birch, Lime, Walnut, and Yew. Perhaps none present a better appearance for the turner and cabinetmaker than the wood of the "Acacia," *Robinia pseud-acacia*, which, being hard and close-grained, takes a high polish. It is besides a very durable wood, and might be employed advantageously for many purposes notwithstanding its somewhat brittle character. We may also mention that it decays very slowly in the ground.

2106. DORE, J., *Clerkenwell*.—Garden-roller, engine, and waterer combined.

2110. DRUMMOND, P. R., *Perth*.—Revolving rake for cleaning land of stones, weeds, and haulms, also for raking grass and corn. This is mounted on wheels, and is provided with a semi-circular wire-basket or hepper extending from wheel to wheel, and which, being freely suspended, can be emptied at pleasure. Into this a broad-toothed rake, revolving with the wheels, throws all stones and other matters caught by a fixed rake in front, through the intervals of which the revolving one passes; it promises to be useful for cleaning parks and extensive lawns. The model, however, being broken, the action of this contrivance was seen at considerable disadvantage.

2141. KENNAN & SONS, *Dublin*.—Lawn-mower, root-blaster, apparatus for straining iron-fences, and log-saw.

The lawn-mower, which is of excellent workmanship, can be adjusted to cut the grass at any required height, and is very quiet in its working: Its peculiar feature, however, consists in the grass being caught as it is cut in a kind of box in front, which, by means of a lever at back, can be emptied into a large receiver situated between the handles at back. This arrangement works with great ease, and apparently no grass can be spilled over the knives.

The root-blasting apparatus consists in an augur for boring a hole for the charge, a perforated metallic plug with a strong threaded screw worked on its outside, and a lever handle to screw this into the wood. The plug acts as tamping, and the charge is fired through the perforation by a fuse, in the ordinary way. The whole apparatus is very simple, and numerous testimonials were adduced as to its efficiency.

The wire-strainer consists of a frame, which is placed against the post through which the wire to be tightened passes, and a screw worked by a wheel and having at its extremity a jaw into which the end of the wire is fixed. The wheel being turned, the screw with the jaw is worked away from the post, drawing at the same time the wire to the requisite degree of tightness. The apparatus is simple, efficient, and, being easily worked by a common labourer, would be found very useful for erecting wire fences at little cost.

The log-sawing machine consists of an X-shaped horse like that used by carpenters in which the log can be firmly fixed, and to this is fixed an upright with a jointed arm to which one end of the saw-frame is hung. At the joints there are springs which, on the saw being worked from the opposite extremity, give an alternating motion, and thus only one man is necessary instead of two as in the cross-cut saw. The teeth cut both ways.

2164. PICKSLEY, SIMS, & Co., *Leigh, Lancashire*.—Garden chair, lawn-mower, and agricultural implements.

The garden chair is of cast-iron, 4½ feet long, and of an elegant design called the fern-leaf-and-blackberry pattern. It possesses some advantages over other cast-iron chairs in the peculiar construction of the bottom, which is made of longitudinal bars of Bay wood, which, being a nonconductor, is never so cold to sit upon as iron. In addition, the front of the seat is raised higher than the back and then curved downwards, which gives more rest to the spine and legs than in the flat-bottomed kinds. It is very comfortable to sit in.

The lawn-mower is also of excellent construction; it has four revolving blades, which, being worked by machine-cut cogs, make very little noise; and the roller being divided in two the machine can be turned in small compass. By a simple arrangement the revolving blades can be easily raised or lowered to the cutter; and they can be easily sharpened with a little emery and oil, reversing their action at the same time. We could not but remark the form of the cogs as being particularly good, and from their being rounded at the bottom not liable to break off at that part.

In concluding for this week our notice of a portion of the contents of the International Exhibition, in which we regret to

state that horticulture is not so fully represented as she might be, we cannot refrain from making some remarks. We do not do so in a spirit of fault-finding, than which nothing could be further from our inclination; nor is it our wish to detract in the least from the exertions of the many scientific men who have so liberally given their assistance in carrying out this great national undertaking; but the want of arrangement, which it in many places presents, and its still rough unfinished condition in others, we cannot understand. And this remark is particularly applicable to the annexes, temporary buildings it is true, whose far-from-attractive exterior is in no wise redeemed by their internal aspect.  
(*To be continued.*)

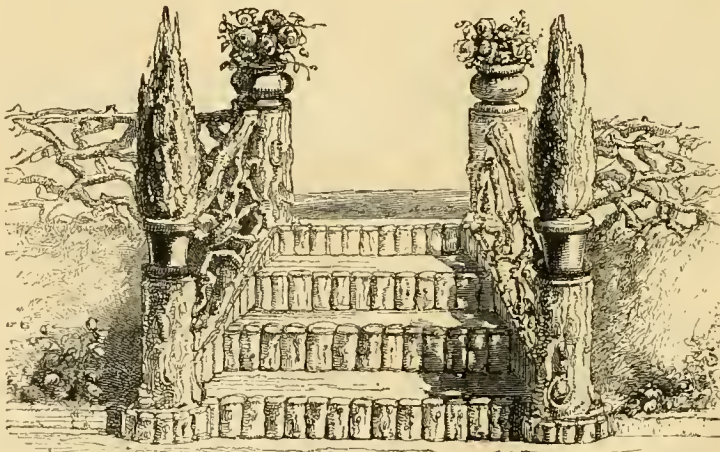
## RUSTIC TERRACES.

BY H. NOEL HUMPHREYS, ESQ.



I HAVE endeavoured to show, in a preceding article, the necessity of blending the hard and symmetrical lines of an architectural elevation with the gentle and irregular outline of natural scenery, by means of a terrace, or some feature of the kind attached to the principal front. Even a rustic cottage requires to be accompanied, at all events on its principal side,

by a moderately broad esplanade or terrace, which, however, does not absolutely require any architectural embellishment of an expensive kind; for, when merely raised a few feet above the surrounding garden, by means of a neatly-turfed embankment, a terrace imparts, even in that simple form, a very pleasing air of propriety to the site of a dwelling:—first, it



suggests at once that a sufficiently high situation has been selected, possessing due advantage in height over the surrounding ground; secondly, that an amply sufficient space has been carefully levelled and prepared for the erection of the building; and, in addition to these evident and agree-

able advantages, art, by its means, is carried beyond the mere form of the house itself, in a manner that causes its vertical and horizontal lines to blend by degrees with the accidental outline of the surrounding vegetation, and undulations of ground.

With but trifling increase of expense, a rustic and somewhat more architectural parapet might be formed, of which a suggestive sketch is given in the top engraving on the opposite page. This parapet, calculated to harmonise with a building in the cottage style, is formed by strong stakes, with the bark left on, to which branches, also unbarked, are attached. They must be arranged with that attention to a certain irregular symmetry commonly known as "rustic work." Three or four steps lead from the terrace to the lower ground, which, to accord with the rustic character of the parapet, should not be stone, but merely gravel, faced at each rise by short stakes with the tops cut off flat, as shown in the bottom sketch on the opposite page.

The turf bank may be terminated at the bottom by a narrow flower-border, not above 12 inches wide, in which compact and trim-growing plants alone should be placed. After this modulation from the straight lines of the building, the curved walks of the garden may commence without further restraint.

Although the design for a terrace-fence, here given is formed

of rustic work of an irregular character—effects equally consistent with the style of architecture of a rustic cottage may be produced by a symmetrical disposition of the same materials—the branches might be so arranged as to form interlacing ellipses, which produce a geometric pattern, the repetition of which, at regular intervals, would be extremely pleasing. Or, if the style of the cottage should be Gothic, the interlacings of the branch-work may be easily made to form a pattern of that character, to which, in fact, the style of the work lends itself with great readiness.

The engraving below is a design for a terrace, embellished in a manner to accord with a building of somewhat more regular architectural pretensions than the rustic cottage for which the former design is suited. It supposes a house of moderately small dimensions, built in the modern suburban-villa style, with which *rugged* forms would not agree, but to which a terrace with a decorative parapet might yet be added without great expense by forming the parapet of wooden trellis-work, the neatness of which would accord well with the style of the building, and still more so, if the house happened to be finished with a verandah of similar

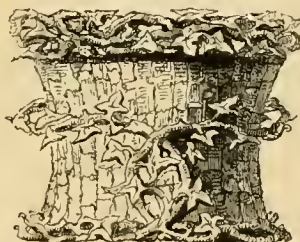


character. When the terrace is of sufficient width to allow of it, without appearing to encroach upon its apparent size, a summer-house, as in the sketch, would form a characteristic and pleasing terminus at each end; but such feature must not be allowed to crowd the residence, as the first quality in a terrace is apparent spaciousness—a character which depends more on treatment than even on real space. This terrace, as in the rustic example, I

have bordered, next the parapet, with turf, cut into recesses to receive vases containing plants, by which means the vases appear to enter into the original plan, and form a necessary part of the composition; whilst, without a framing of that description, such features not only lose great part of their importance, but frequently appear unwelcome spots intruding upon space to which they do not seem to belong.



No. 1.



No. 2.



No. 3.

Any vases or architectural ornaments used to decorate the rustic terrace should be of a corresponding rustic character; the outline, No. 1, represents a stand which is now manufactured, and is suitable to such a situation, though it is more frequently used, without regard to propriety, in places in utter discordance with its style. It has the defect also, though picturesque, of being a mere crude imitation of nature, to which obvious and simple process art should not descend;

but the contrast of the rough bark and the smooth Ivy leaves is very suggestive; and I would propose working it into a symmetrical form, which should, like all works of art, bear the evident impress of *design*. The sketch, No. 2, will sufficiently exemplify my meaning. No. 3 is a vase of more even and regular form, the smooth outline of which is suited to the terrace with the trellis parapet.—(*Gardeners' Magazine of Botany.*)

## CULTURE OF THE PINE APPLE.

*(Continued from page 144.)*

## PROPAGATION.

THERE are three ways by which the Pine Apple may be propagated—viz., by suckers, by crowns, and by seeds. The first produces the greatest number and generally the strongest plants; the second forms nice bushy plants, and sometimes just under the crown there are often produced several smaller plants, which have been called gills. Excepting where the kind is scarce or new, these gills on account of their small size are of little use. Seeds are sometimes produced, and whenever discovered should always be saved, as there is a probability that new and improved kinds may be raised from them, though the Pine Apple is a long-living plant. The old Queen was, probably, the first kind imported, and its progeny raised from suckers and crowns is as healthy and produces as fine, if not finer, fruit than the original plants imported upwards of two hundred years ago.

**By Suckers.**—After the fruit is cut the plants should be brought away out of the house and turned out of the pots; shake off the soil and cut away the roots, then begin to pull off the bottom leaves till the first sucker appears. As soon as it is clear of leaves, take hold of it and give it a smart pull—it will come off without difficulty; lay it aside, pull off the next leaf, which will expose the next sucker; pull it off also, and so proceed till every sucker is stripped from the old plant. Then take a sucker up, pull off some of the bottom short leaves, but, not too many, especially if the sucker is green and soft; and with a sharp knife pare off any ragged parts there may be at the base of the sucker. Finish dressing all the remainder, and then pot them in proportionate-sized pots. Make the compost firm about the base of the suckers, and then plunge them in a warm bed of tan or leaves. Give no water for a month, and then only just enough to moisten the soil, and keep the house or pit rather close. In this stage the plants will bear a rather higher degree of heat till roots are produced; also, keep up a kindly moisture in the air of the house. As soon as evident growth is perceived more water should be given, always in a tepid state—that is, about 80°, and also more air will be of benefit, causing a more sturdy growth and broader leaves. Supposing the suckers to be planted in March, they will require repotting in July into larger pots, and many of them will be fit to remove into the succession-house at that time; and, finally, in the spring following, the best plants will be large enough to put into their pots for fruiting the succeeding summer.

**By Crowns.**—It is customary when a fruit is about to be eaten to twist out the crown; but a better plan is to cut off the top of the fruit an inch or two below the crown, and then with a knife cut away that part of the fruit attached to the crown so as to leave a portion at the bottom. This saves the leaves from being crushed or broken, and preserves the base entire. When the crowns come from the table squeeze any juice out that may be left at the base, and lay them on a shelf in the stove to dry-up and harden the base. When they are quite dry and hard then pare off the bottom nearly up to the leaves, strip off a few of the bottom small leaves, and have some nice, dry, rather fine and warm compost ready. Drain pots of a suitable size and pot the crowns in them, and plunge them in a tan-bed similar to that described above for the suckers. Treat exactly the same as regards top heat, giving no water till roots are emitted, and keeping up a warm genial moisture in the air.

When it happens that there are but a few suckers and crowns on hand at a time, they may be planted among the warm bark till they make roots, and the number accumulates to such an extent that it is worth while to lift them carefully out of the bark. In doing this be very careful not to injure the young roots. They run very freely in the warm bark, and, therefore, require extra care to keep them entire and unbroken in taking-up and potting. Like the roots of all other plants they suffer by being exposed to the air, especially if that air is much colder than the bottom heat they have been growing in: hence suckers and crowns that have been rooted in a bark or leaf bed should not be exposed to cold air, and should be potted in warm soil immediately after being lifted out of the bed where they have struck root. Directly such plants are potted they should have a very gentle watering with tepid soft water, and be plunged as soon as possible in a bark-bed in a heat of at least 85°. If that potting should happen to be done in summer when a bright sun prevails during the day, they would be benefited by a slight

shading from ten in the morning to three in the afternoon, the shading to be continued till fresh roots are formed and a decided fresh growth is perceived in the heart of the plants.

**By SEEDS.**—Very few, even of eminent horticulturists, have attempted to raise the Pine Apple from seed. Even that, in his day, the most successful of raisers of new kinds of fruit—the late Mr. Knight, never to my belief either tried or succeeded in raising new varieties of this king of fruits. Perhaps the reason why gardeners in general do not try this point of Pine culture is because the fruit is consumed in the dining-room, and no care is taken of the seeds should any of these be found. There is no doubt, however, if the gardener were to express a wish to have any seeds saved that his employer or his guests might find in the fruit, that desire would be attended to. I see frequently in the market many Pines imported in a decayed state, and I should suppose such would be more likely to yield seeds than fruit grown in our close hothouses. Let some such be examined; and if seed is found, save and sow it. It is very likely that new kinds would spring therefrom. Having from any source obtained seed, let it be thoroughly dried, and in the spring sow it in shallow pans in a light sandy soil, and set on a warm flue or any place where a good bottom heat can be obtained. A Cucumber or Melon-bed would be very suitable. Great care, however, must be taken that the young seedlings do not damp off: hence, as soon as they appear above the surface, let that surface be covered with fine silver sand, and water, without wetting the young leaves of the seedlings. As soon as three or four leaves are made, pot the plants into small pots, and plunge in a sand-bed on the surface of a bark-bed. When they have filled these pots with roots repot into larger, and so continue to encourage growth until they fruit, which will be in about the fourth year. Well-formed good-flavoured fruits though small should be kept for further trial, but such as are otherwise may be cast away at once.

T. APPELBY.

*(To be continued.)*

**PROPOSED DUBLIN EXHIBITION PALACE AND WINTER GARDEN.**  
—Arrangements are in progress for supplying an Exhibition Palace and Winter Garden under auspices which render success a matter of certainty, and on a scale commensurate with the growing importance and requirements of the Irish metropolis. The provisional directory and executive comprise such a list of noblemen and gentlemen as have not hitherto been associated together for carrying out any commercial undertaking; and the outline of the scheme contained in the prospectus of the new Company bears testimony to the enlarged views and sound judgment of the promoters in devising arrangements for what must become one of the great public institutions of the age. The new Palace and Garden will combine the leading features of the Crystal Palace and grounds at Sydenham with the attractions of the Polytechnic Institution in Regent Street; thus supplying the means of providing instruction and amusement to an extent which no other single institution can equal. The monster concert, the musical promenade, and the popular lecture, will in turn engage attention. In the well-laid-out grounds and magnificent halls of the new Company we look forward to horticultural exhibitions on a scale which could not be equalled under existing arrangements of inadequate accommodation; and the tendency of the mass of the people, being familiarised with the richest treasures of the floral world, must be to promote a taste for the growth of flowers even in the humblest dwelling. Notwithstanding the claims of the people of Dublin to rank high as critics in musical art, the Theatre Royal has for years been the only place where first-class music could be enjoyed unless by the aristocratic few who form our musical societies; and those who have been present at one of the people's concerts in St. George's Hall, Liverpool; in the Town Hall, Birmingham; and even in the newly-erected Ulster Hall, in Belfast, not to particularise further, must look forward with satisfaction to provision being made in Dublin for similar entertainments, on the refining influence of which it is needless to dwell. For the more select audiences, what more agreeable entertainment can be provided than the musical promenade, at which parties can meet their friends and acquaintances, and in friendly converse strengthen attachments and remove estrangements, for which such opportunities are of great value? Again, in a fine-art point of view, one department of the new Palace may be regarded as a sort of National Gallery, in which the commerce of art can be carried on. Nor will the least interesting feature of the new institution

be the magnificent grounds by which the Palace will be surrounded, including capacious conservatories, in which the most attractive objects of the vegetable kingdom will be displayed. The promoters of the new Company have been singularly fortunate in obtaining possession of the Coburg Gardens, almost the only piece of ground within the city boundary suited for such a purpose. The progress of the city towards the south makes this situation peculiarly central and of easy access. The space available for the Palace and Grounds comprises an area of no less than sixteen acres.—(*Dublin Agricultural Review*.)

### NEW BOOKS.

*On the Various Contrivances by which British and Foreign Orchids are Fertilised by Insects, and on the Good Effects of Interbreeding.* By CHARLES DARWIN, M.A., F.R.S., &c. London: Murray.

MANY people objected to Mr. Darwin's theory "on the origin of species," and "blamed him for propounding this doctrine" in the absence of sufficient facts to establish what he believes to be "apparently a universal law of nature, that organic beings require an occasional cross with another individual; or, which is almost the same thing, that no hermaphrodite fertilises itself for a perpetuity of generations." And this volume is written to prove that the learned author had not written what he could not have substantiated if he had had sufficient space in his first volume.

The reader, who takes an interest in this subject, may congratulate himself on the fortunate want of space in the first volume, for had Mr. Darwin attempted then to bring forward his authorities from the bosom of nature, he would probably have confined his matter to his own personal knowledge of how fertilisation is effected among our British Orchids only, a branch of the subject which, although highly interesting as a contribution to practical botany, would be of much less value to the gardener and garden amateur than that which "the force of circumstances" induced Mr. Darwin to place before them in this volume.

Mr. Darwin has included the whole order of Orchids in his marvellous grasp, and with his usual patience and research he has not only shown that all the species, with some few exceptions, through the complexity of their parts of fructification, must be artificially fertilised; but his examinations of these parts have enabled him to account satisfactorily for facts which had hitherto eluded all other botanists.

As an instance, we refer to our extract relative to *Catasetum tridentatum*. Mr. Darwin makes it self-evident that Orchids cannot be fertilised even by their own pollen without artificial assistance; that moths and other insects are the natural agents in the work; that few of the flowers can have their own pollen; and that the natural contrivances for assisting fertilisation, and for preventing self-fertility, so to speak, are of vast variety, and of the most complicated construction. Parts and processes which have been hitherto considered useless, or as stumbling-blocks to the student of botany, have been here explained by our author as necessary appendages for some share in the great aim and end of flowers—the fertility of the seeds.

Here another and a very different student will find abundance of fertilising matter for the mind—find the whole secret of the apparatus by which he can fertilise his Orchids under his own roof and eye, and learn more clearly the botanical construction of the parts, from the woodcuts in the book, than from any other source, or all the sources we knew put together.

As a contribution of the very highest order to the practical attainment of seeding foreign Orchids, we would recommend the work, apart from all speculations about the origin and progress of the clothing of our planet.

"At Torquay I watched a number of these flowers (*Spiranthes autumnalis*) growing together for about half an hour, and saw three humble bees of two kinds visit them. I caught one and examined its proboscis; on the superior lamina, some little way from the tip, two perfect pollinia were attached, and three other boat-formed discs without pollen; so that this bee had removed the pollinia from five flowers, and had probably left the pollen of three of them on the stigmas of other flowers. The next day I watched the same flowers for a quarter of an hour, and caught another humble bee at work; one perfect pollinium and four boat-formed discs adhered to its proboscis, one on the top of the other, showing how exactly the same part had each time touched the rostellum.

"The bees always alighted at the bottom of the spike, and, crawling spirally up it, sucked one flower after the other. I believe humble bees generally act thus when visiting a dense spike of flowers, as it is most convenient for them; in the same manner as a woodpecker always climbs up

a tree in search of insects. This seems a most insignificant observation; but see the result. In the early morning, when the bee starts on her rounds, let us suppose that she alighted on the summit of the spike; she would surely extract the pollinia from the uppermost and last-opened flowers; but when visiting the next succeeding flower, of which the labellum in all probability would not yet have moved from the column (for this is slowly and very gradually effected), the pollen-masses would often be brushed off her proboscis and be wasted. But Nature suffers no such waste. The bee goes first to the lowest flower, and, crawling spirally up the spike, effects nothing on the first spike which she visits till she reaches the upper flowers, then she withdraws the pollinia; she soon flies to another plant, and, alighting on the lowest and oldest flower, into which there will be a wide passage from the greater reflexion of the labellum, the pollinia will strike the protuberant stigma; if the stigma of the lowest flower has already been fully fertilised, little or no pollen will be left on its dried surface; but on the next succeeding flower, of which the stigma is viscid, large sheets of pollen will be left. Then as soon as the bee arrives near the summit of the spike she will again withdraw fresh pollinia, will fly to the lower flowers on another plant, and fertilise them; and thus, as she goes her rounds and adds to her store of honey, she will continually fertilise fresh flowers and perpetuate the race of our autumnal *Spiranthes*, which will yield honey to future generations of bees."

"The position of the antennæ in *Catasetum tridentatum* may be compared with that of a man with his left arm raised and bent so that his hand stands in front of his chest, and with his right arm crossed lower down so that the fingers project just beyond his left side. In *Catasetum callosum* both arms are held lower down, and are extended symmetrically. In *C. saccatum* the left arm is bowed and held in front, as in the *C. tridentatum*, but rather lower down; whilst the right arm hangs down almost paralysed, with the hand turned a little outwards. In every case notice will be given in an admirable manner, when an insect visits the labellum, and the time has at last arrived for the ejection of the pollinium, and for its transportal to the female plant.

"*Catasetum tridentatum* is interesting under another point of view: Botanists were astonished when Sir R. Schomburgk\* stated that he had seen three forms, believed to constitute three distinct genera—namely, *Catasetum tridentatum*, *Monachanthus viridis*, and *Myanthus barbatus*, all growing on the same plant. Lindley remarked that "such cases shake to the foundation all our ideas of the stability of genera and species." Sir R. Schomburgk affirms that he has seen hundreds of plants of the *C. tridentatum* in Essequibo without ever finding one specimen with seeds; but that he was surprised at the gigantic seed-vessels of the *Monachanthus*; and he correctly remarks that "here we have traces of sexual difference in Orchideous flowers."

"From these several facts—namely, the shortness, smoothness, and narrowness of the ovary, the shortness of the ovule-bearing cords, the state of the ovules themselves, the stigmatic surface not being viscid, the empty condition of the utriculi, and from Sir R. Schomburgk never having seen *C. tridentatum* producing seed in its native home, we may confidently look at this species, as well as the other two species of *Catasetum*, as male plants."

### ENTOMOLOGICAL SOCIETY'S MEETING.

The May Meeting of the Entomological Society was well attended, the President, F. Smith, Esq., being in the chair. George Robert Gray, Esq., the distinguished ornithologist of the British Museum, and Rev. Messrs. T. H. Browne and A. Haward were elected members of the Society. The President announced that the first part of the new series of the Society's "Transactions" was ready for distribution, and that it contained a general index to the previous series, a catalogue of which had been found to be a great desideratum. A vacancy in the Council, caused by the resignation of Dr. Knaggs, was announced, and that it was proposed to be filled up by the election of Mr. Stainton at the next meeting.

Professor Westwood exhibited a box containing an extensive series of illustrations of the natural history of various species of British insects which had been formed and recently presented to the University Museum of Oxford by Mr. S. Stone, of Bright-hampton. Amongst them were beautiful specimens of *Acronycta Alui*, one of which had been reared in February last; several species of Beetles belonging to the genera *Malachius*, *Dasytes*, and *Anaspis*, reared from mined twigs, as well as various fossorial Hymenoptera obtained from similar situations; the eggs, pupæ, and imago of *Volucella pelluceus*, reared as parasites in the nest of the common Wasp, as well as specimens of the *Anomalus Vesparum* from the comb of the Wasp, some of which had remained three years before arriving at perfection; likewise several

\* "Transactions of the Linnean Society," vol. xvii., p. 522. Another account by Dr. Lindley has appeared in the "Botanical Register," fol. 1951, of a distinct species of *Myanthus* and *Monachanthus* appearing in the same scape: he alludes also to other cases. Some of the flowers were in an intermediate condition, which is not surprising, seeing that in diocious plants we sometimes have a partial resumption of the characters of both sexes. Mr. Rodgers, of Riverhill, informs me that he imported from Demerara a *Myanthus*, but that when it flowered a second time it was metamorphosed into a *Catasetum*. Dr. Carpenter ("Comparative Physiology," 4th edit., p. 633), alludes to an analogous case which occurred at Bristol.

† The "Vegetable Kingdom," 1853, p. 178.

‡ Brongniart states ("Bull. de la Soc. Bot. de France," tom. ii., 1855, p. 20) that M. Neumann, a skilful fertiliser of Orchids, could never succeed in fertilising *Catasetum*.

galls formed by the midges of the genus *Cecidomyia*, &c. He likewise stated, with reference to the exhibition by Mr. Newman at the last meeting of the Society, of a female *Liparis dispar* which possessed the majority of the male characters, and which had been considered as unique of its kind, that Dr. Klug had published a figure of a nearly identical individual of the same species in a memoir on hermaphrodite insects in the "Proceedings" of the Friends of Natural History in Berlin, and which had been copied in London's "Magazine of Natural History."

Mr. F. Moore exhibited a beautiful cocoon formed of pale green silk from Japan, the perfect insect of which remained unknown.

Mr. J. Lubbock, F.R.S., exhibited the curious larvæ of a species of *Pæcus*, which covers itself with sand and dirt, particles of which were even attached to the eyes by means of curious glandular hairs.

Mr. S. Stevens exhibited a box of insects from Oramp Land, South-western Africa, containing two apparently new species of Goliath Beetles, closely allied to *G. Derbyana* and *Eudicella Smithii*. Also a nest of a species of Trapdoor Spider (*Actinopus*), from Afghanistan.

General Sir John B. Hearsey exhibited a large collection of minute nocturnal Lepidoptera, which he had collected in India with the view of showing the great similarity which existed between many of the species and British insects; some indeed being absolutely identical, as in the case of the beautiful *Deiopeia pulchella*, an account of the apparition of which in immense numbers in his garden was related by the gallant General.

Mr. George R. Waterhouse read a memoir on the genus *Tychnis* belonging to the family of the Weevils (*Cureulionidae*), and describing eleven species found in this country, two of which were now for the first time announced as natives, Mr. Walton having only described nine in his Memoirs on this family.

Mr. J. Lubbock read a memoir, accompanied by numerous anatomical illustrations, on the transformations of an anomalous Dipterous genus *Lonchopteryx*, and the true position of which had hitherto been doubtful. He had been so fortunate as to discover the oval-shaped flattened larvæ under logs of wood during the past winter, and had reared the perfect insect *Lonchopteryx leuta*, on the 11th of March last. The larva is remarkable for dilated lateral appendages, with four long setæ in front of the body, and two behind; the latter protected the large terminal spiracle. These larvæ were transformed to pupæ, within the old larvæ skin of which the form did not undergo any change, the pupæ itself exhibiting no trace of limbs. From these considerations Mr. Lubbock inferred that its position was intermediate between the two great divisions of Diptera.

MR. JAMES ALEXANDER, who was some years since head gardener to the Duke of Leinster, at Carton, from whence he went to manage his Grace's extensive farm known as the Heath Farm, near Athy; and then, on the Marquis of Kildare going to reside there, went to fulfil the important duties of steward and gardener to his lordship at his beautiful residence, Kilkea Castle. Having recently resigned his engagement at Kilkea, and removed to the lands of Nurney Castle, which he has lately taken, he has been presented by the Marquis with a handsome and costly service of silver plate; and also by the Marchioness of Kildare with a beautiful drawing-room timepiece of the richest workmanship. These are well-merited testimonials of the esteem in which Mr. Alexander is held by the noble donors for his long, useful, and faithful services as general superintendent at Kilkea Castle during the last eight years, he having been confidentially employed by the Duke of Leinster, at Carton, for fourteen years preceding. Mr. Alexander's departure from Kilkea is regretted sincerely by the numerous persons with whom he had any intercourse in business, and he carries with him into his new sphere of action the good wishes, respect, and esteem of every individual of a large circle in Kilkea and the adjoining districts who enjoyed the pleasure of his acquaintance.—(*Leinster Express*.)

FOUR-BLADED CLOVER.—The good fortune supposed to accrue to the finder of such rarities as a four-leaved Clover, a double-topped Ash (-leaf) or (and) a green-topped Seave, is expressed in the following couplet, heard at Scarborough:—

"With a four-leav'd Clover, double-topp'd Ash and green-topp'd Seave,  
You may go before the queen's daughter without asking leave."

It may be remarked that Seaves are the Rushes of which rush-lights, or rush candles are made. The sharp-pointed ends of the Seave are almost always, if not invariably, brown or withered.—OZMOND.—(*Notes and Queries*.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

ADVANTAGE should be taken of showery weather to transplant and earth-up all crops that require it, for if done when the soil around them is dry, the roots will not receive that benefit from rain which they otherwise would do. In pricking-out or transplanting particular care should be taken to press the soil close to the roots of the plants, for if left hollow and loose about them drought will soon stop their growth, or probably cause them to perish. Wherever it is convenient to plant with a trowel it is far preferable to planting with a dibble, as with the latter the roots are either left hollow, or are crushed up together and rendered incapable of making free growth. *Asparagus*, the beds would be greatly benefited by liberal waterings with manure water from the stable or Melon-yard. *Broccoli*, prick out the Cape and late Cauliflowers, and keep all seedling crops of this sort well dusted with quicklime, or you will have to repine over the loss of them from slugs. *Broad Beans*, make another sowing of the Longpod, if they are much in request, and take off the tops of those in blossom. *Cardoons*, sow a late full crop; plant out the early crop, if it has been sown in a seed-bed; choose a rich piece of ground for the purpose. It will not be advisable to plant largely of the first crops, as they soon run to seed. *Colewort*, sow the old English sort, and also Jerusalem Kale, both very useful for planting after Potatoes. *Cucumbers*, as they advance in growth under the hand-glasses peg them down; water them in the morning when they require it; but this should only be done when it is likely to be succeeded by a fine day. In pruning away any of the shoots or leaves, cut close to the main stem. This, we are aware, is contrary to the practice of some good growers, nevertheless we believe it in no way injures the plants; in fact, the wound heals quicker than if a piece of the stalk is allowed to remain on until it gradually rots away. *Dwarf Kidney Beans*, sow for succession, and transplant those which have been forwarded, if not already done. *Lettuce*, make a sowing of two or three sorts, by this means the season of one sowing is prolonged. The Paris Cos is a very good summer sort. *Peas*, keep the surface well loosened amongst those just coming up; earth-up and stake others as they become ready. *Sea-kale*, thin out the buds so as not to allow them to crowd each other, and water twice or thrice in the season with a weak solution of salt and water, which will benefit the plants, and dislodge snails and grubs. Two ounces of salt to a gallon of water will be sufficient. *Vegetable Marrows*, plant out this very useful vegetable on a rich piece of ground, where there is plenty of room for it to grow.

### FLOWER GARDEN.

The past week has been all that could be desired for the busy operations connected with this department. *Verbenas* and *Petunias* should now be turned out into their summer quarters if not already done. Peg down all the shoots after the planting of the beds. Strong plants of *Phlox Drummondii* to be planted out, it is valuable for forming large masses. The *Lobelias*, *Nierembergia gracilis* and *Campanula Loreyi* are suitable for edgings to baskets. Plant out Dahlias into the flower-borders, fill up the holes with some good compost, and finish with staking each plant. The *Pæonies*, *Phloxes*, *Delphiniums*, and other tall herbaceous plants to be properly staked. Roll, mow and clip the edgings of grass lawns, and use the daisy-rake at intervals. Do not neglect to stir the ground after heavy battering rains. Thin out annuals, remove all decayed leaves and flower-stems.

### FRUIT GARDEN.

Continue to nail-in the young shoots of all kinds of fruit trees as they become sufficiently advanced, and keep the finger and thumb at work amongst superfluous ones. Give the Strawberry-beds a final stirring, and have some available material at hand for laying about them to prevent the fruit from being splashed with grit during heavy rains. Keep a number of figure-four traps constantly set about the beds to catch mice, as in some places they are very troublesome in Strawberry-plantations. Keep the lateral shoots of Vines stopped at the first joint; the practice of removing them entirely is not to be approved of.

We should always endeavour to assist the operations of Nature as well as judiciously check overluxuriance, and in this respect no tree is more tractable than the Vine.

#### STOVE.

Cultivate with all expedition the various young stock intended for blooming through the autumn and winter. The *Euphorbia jacquiniiflora* is a great favourite when planted three in a pot. The *Gesnera elongata* should not be forgotten, nor the *Begonia manicata* and *incarnata*. Some of the *Justicias*, *Geissomerias*, &c., are worthy of attention for the same purpose. The Orchids require a vast amount of moisture in the atmosphere, and their blocks to be syringed frequently.

#### GREENHOUSE AND CONSERVATORY.

Free ventilation, with plenty of moisture, will now be necessary. Give every encouragement to the growth of the *Azaleas* intended for forcing early, watering them freely, especially if pot-bound, with weak and clear liquid manure; stopping unequal or overluxuriant shoots with the hand, in order to render the plants compact. The *Camellias* which have completed their growth to be cooled down, no artificial heat should therefore be given them. If they are luxuriant in growth, a curtailment of water should be resorted to for a month, giving merely sufficient to keep them from flagging. The present is a good time to sow Chinese Primroses for a winter supply; get them potted-off early, and keep them shifted and growing in a cool frame where they can have plenty of air, and secure protection from heavy rains. Use a light, rich, loamy soil. W. KEANE.

#### DOINGS OF THE LAST WEEK.

READERS must now put up with short notes, as the mind gets a sort of racked what to do, and how to do it. What would many of our good old gardeners think if they again came amongst us, and found that in addition to the usual crops in their houses, they were expected to turn out ever so many thousands of strong bedding plants every year? They would then form an idea of the relief that the absence of the family for a week or two would give in clearing a shelf of Strawberry plants, or a pit of Dwarf Kidney Beans, and also the value of every spare sash of glass however old and crazy for helping on something or other.

We did not prophesy right as to our work, especially bedding. The weather up to the 20th was splendid, but now the glass is falling and threatening wet, and owing to the deluges of the week before we were unable to get the ground in good order as we expected, and we deferred bedding-out in consequence, though, if at all dry above head, we hope to turn out many things before the end of the week.

#### KITCHEN GARDEN.

Sowed succession garden Beans, Peas, Kidney Beans, Parsley, various Herbs, Turnips, Radishes, Spinach between Peas, Leeks, Onions for salads, Lettuces of kinds. Stirred the ground amongst Peas and Beans, staked the former according to their height. Watered Cauliflower with diluted water from the dung-hill, and as dung is scarce depend upon this a good deal for good succulent vegetables. Run the hoe among Carrots, Onions, &c. Find that Parsnips have not done as they ought. Threw a little salt over Asparagus-beds, and would have made more plantations only got out of plants, not having so many as I expected. These plantations are best made when the one-year-old seedlings are 3 inches or 4 inches high; but I would prefer planting when the plants were a foot in height, to planting before the buds began to move. In all stiffish ground the best plan is to plant on the surface, and raise a ridge over the rows with leaf mould and some sandy matter, and mulch with what is readiest, as short grass or muck in summer.

#### FRUIT GARDEN.

Much the same as last week, in looking after insects, dis-budding, stopping, and thinning out the fruit, which we have not done half enough as yet. Prepared beds that had helped on bedding plants, &c., for Melons, by getting some heat below them. Grumbling for want of means will do good to no one. Some people with the dung of a stud of horses to go to, have yet nothing to get on with. Others with the dung of three or four beasts effect wonders. We are none of these wonderful folk; but for hastening on anything with *fermenting material*

we must depend chiefly on tree leaves, and our supply was limited this season. The dung of three or four horses is less than a trifle after getting Mushroom-material out of it. However, about this time we get vastly independent. We pass huge heaps of farmyard manure steaming away, with hardly a semblance of covetousness or envy, and all through the mowing of the lawn. Nothing is better for raising a strong heat, the need is to moderate it and keep it from flaring up and out all at once. Well, about this time we collect together old hay that had been used for protecting plants in winter and spring—this in the first case being chiefly secured from the first mowing of part of the lawn that does not come much in sight of the mansion, and which we allow to stand longer than the rest. To this we add old stubble, and litter that had been used for a similar purpose. To this we add about an equal proportion of short grass, and if the litter is at all wet, a cartload or two of the dry litter that comes from the stable horses. We will suppose that the frame stood above a bed—say from 12 inches to 15 inches deep of dry leaves that have already done good service. The frame is moved, the leaves are whipped out, and a bed made of the litter and grass well mixed, so that the latter shall heat and be moderated by the former. In the last layer a few of the leaves are also added, the bed will now be—say 20 inches in height when fairly trodden, on this is placed about 8 inches of the decayed or rather decaying leaves, so that the heat given off will be sweet before reaching the roots. This is not all, the frames are shallow—some 10 inches in front, and 20 inches behind, so that care must be taken, both that steam shall not rise and also that it shall not enter, if linings should require to be given in the autumn from similar materials. Well, then, after securing this layer of leaves we build a wall of these leaves about 9 inches deep all round for the frame to stand upon, leaving the bed all that more shallow inside. Fill that with soil, raise it 2 inches or 3 inches above the bottom of the frame, beat the soil firmly round the sides, and in three or four days no better place could be found for planting out Melons, and getting one fine crop from them, if the season is at all propitious. To insure high success only one thing more is necessary. Insert some small round drain-tiles by which you can moisten the roots without wetting the surface as the fruit approaches maturity. In autumn and winter you will find that the grass has helped to thoroughly decompose or burn out into good manure what otherwise would have been of little use. We are thus particular because many wish to grow Melons after their bedding plants, and many have inquired how they could bring their mowings to help in this and similar purposes. There is no danger provided a sufficient covering of sweet material is put over the grass and litter. Wherever there is a small lawn, a little bottom heat may thus be procured from spring to autumn. The lastingness of the heat will depend on the mixing and skill.

When not so used, such mowings instead of polluting the atmosphere should be covered with the materials of the rubbish-heap, which will be much enriched in consequence. Beds less than half the thickness mentioned above, with 3 inches of half-rotten leaves, 2 inches of leaf mould, and 2 inches of sandy loam and leaf mould, are just the places for pricking out many things for the flower garden in April, and onwards. Of course, we all might like sweet heated dung, or tan, or flax refuse, or spent hops, as being better for all such purposes; but if these things are unobtainable, as they often are, it will always be a better satisfaction to be able to say, "We made the most of the little means at our disposal," instead of doggedly saying, "It is no use trying, it can't be done."

#### PLEASURE GARDEN.

Our ground being heavy we have not yet worked it to please us for going a-head with planting bedding plants. The rains have delayed us. Most of our plants being in the ground in temporary pits, a few days make little difference, and we find that much depends on the ground being well aired and warmed by turning the heated surface down repeatedly. In other words, from digging in sunbeams. We have more faith in such preparation than in early planting, and protecting in the beds. There is nothing we dislike so much as potching the ground and planting such ground as ours when wet. It would not work kindly for the whole season afterwards, and besides what a sorry figure the men cut at the work! and how the walks and grass and everything else get dirtied and out of place. It is much better to put the steam on in a fine day. We expect to be in the thick of it by the end of the week, if the weather is propitious.—R. F.

## TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**FERNS** (*W. B. Burton-on-Trent*).—Messrs. Groombridge, Paternoster Row, are the publishers of the book you mention.

**HEATING GREENHOUSE** (*Patelin*).—Yes. We think one of Riddell's Patent Cottage Boilers will keep your small greenhouse tolerably warm in winter, if you have a three-inch iron pipe for the hot water to pass all round the interior. Write to Mr. Riddell, tell him what you require, and ask him for information.

**THINNING GRAPES** (*Avarus*).—Cut off one of the bunches from each shoot without any reservation. If one bunch is smaller than its fellow, cut off the smaller. If they are of equal size cut off that one which is furthest from the stem.

**SOIL FOR AMARYLLIS BELLADONNA, AND VALLOTA PURPUREA** (*Malpas*).—Good maiden loam, such as you would mix for Pelargoniums, and one-sixth sand with it, and nothing else, is the soil for the *Amaryllis belladonna*, and for *Vallota purpurea*, and both of them will keep better in a cold pit during the winter than anywhere else. But one who really understood how to cultivate bulbs, would be able to grow the *Vallota* rather better in "a warm dry room," the danger being in too much warmth, too much dryness, and too little air.

**ASPARAGUS FAILING** (*An Old Subscriber*).—We have not heard of a general failure of the crop this year. We recommend you to continue abstaining from cutting, and to give abundance of house sewage or other strong liquid manure twice a week throughout the growing season. If no shoots are produced, then, of course, the plants are dead, and you must plant a fresh next spring. There is nothing stated by you which accounts for such a mortality if the plants are dead.

**SEWING FERNS** (*Polypodium*).—The following directions we extract from "The Cottage Gardener's Dictionary":—"Several of the finest Ferns cannot be increased by division; or, if they can, several years elapse. If right means are followed, they may be raised by seed. This requires a constantly humid warm atmosphere, and little, if any, sunshine. Procure a wide earthen pan, a hand or bell-glass that will go within it, and rest on the bottom, and a shallow wide pot that will stand within the glass and above the rim of the pan 2 inches or 3 inches. Fill this pot half full of potsherds, and upon them a sufficient number of small pieces of turfy peat, mixed with small pieces of sandstone, about the size of peas, to come up to the pot. Then take the frond of any Fern that is full of spores or seeds, and, with the hand, brush them off upon the prepared pot, set it in the pan, place the glass over the pot, and fill the pan nearly with water. Place the whole in the warmest part of the stove, shading it from the sun. The small pieces of turf and stone can be easily separated, and the seedlings on each put into small pots, without any danger of destroying them by the process of potting. In the moist atmosphere of the Orchid-house, several species of Fern will come up spontaneously in the pots, baskets, and upon the blocks. These may be carefully detached as soon as they are large enough, and potted in small pots, placed for a time in a shady situation, and they will soon make nice bushy plants. Ferns require a light open soil. A compost of sandy fibrous peat (we parts, turfy loam one part, and leaf mould one part, with a free admixture of sand will suit them well."

**GAS TAR TO APPLE AND PEAR TREES** (*A. F. T.*).—Painting the stems with gas tar is the cause of the deaths among your Apple trees, and of injury to your Pear trees. It is violently poisonous to them, and the poisonous constituent probably is the kresosote.

**VINES FOR A GREENHOUSE** (*Reuben Saxton*).—You had better confine yourself to four Vines in your 16-foot greenhouse, and for your purpose the Black Hamburg will be the best. We think that from such a small house the profits from sale of the fruit would be very limited.

**MANURING ROSES** (*L. C.*).—Yes, a little guano sprinkled upon the soil over the roots is better than liquid manure in wet weather. We do not think that diluted urine alone is equal to guano; but the sewage combining all the house drainage is nearly or quite as good a fertiliser. If we used urine we should add a pint to a gallon of water.

**PLANTING VINES IN VINERY** (*B. W.*).—The Grapes will ripen very nicely if you secure means of giving plenty of air, and yet shut in the sun heat early in the afternoon, taking care to give plenty of air until the Vines begin to break naturally. We would prefer planting the Vines against the back wall; but if you cover the roof very thickly the soil will get little benefit from the sun's rays.

**SEWING CAMELLIA SEEDS** (*Idem*).—Camellia seeds come up best when sown as soon as they are ripe—in fact, when kept long they are made to germinate with difficulty. We would take them out and soak in water at 130° for five hours and then sow; or water with warm water, and cover the pots with a glass square, and moss over it to keep the heat in. See "Names of Plants" for another answer.

**DICKSONIA ANTARCTICA, &c.** (*St. L. R. M. Tighe*).—The tree Ferns you refer to will flourish in a mixture of peat and loam, and in a temperature of from 50° to 55° in winter, up to 80° and 85°, and 90° with sun heat in summer. To established plants, if you have some imported ones, give plenty of heat, a moist atmosphere, but little or no water until leaves and roots break; then pot or tub, and grow and water freely.

**PROTECTING GREENHOUSE GLASS FROM HAIL** (*Medicus*).—If stout glass be employed, 24 ozs. to the foot, it is rarely injured by hailstones. Canvas blinds on rollers are an effectual protection. The Farmer's Insurance Office, Norfolk Street, London, insure against injury by hailstones.

**PEAR BLOSSOM NOT FRUITFUL** (*J. R. W., New Forest*).—If your border had 2 feet or 20 inches of good soil instead of 4 feet it would have been better for them, and means taken to prevent the roots getting down. The excessive wet, not only at the roots, but the constant drizzle and fog when in bloom injured many trees, as the pollen never was dry enough to perform its functions. We found Apricot blossoms were rotting at the core even before the severe frost of the Sunday morning. The orchard-house will keep the bloom dry. You seem to have plenty of ventilation. The heat for such a house would be 1 foot in front, and the same at the ridge, with two or three openings in the back wall level, or a little above the ground level, and doors open in extra hot weather.

**GLASS CAUSING SCORCHING** (*Fitrum*).—Your tradesmen told you quite right, all glass will burn if the free admission of air is not attended to. The cheapest sheet glass called itra is the most likely to do so; but that and 3rds are chiefly used in large establishments, and there is no complaint about burning. If there should be a spot here and there, it is easy to daub it with putty or paint. For such a house as you describe, useful but not ornamental, good cheap glass at 2d. per foot, ranging from 13 ozs. to 16½ ounces, ought to be sufficient. If you prefer 21-ozs. it will cost from 3d. to 3½d. per foot out to the sizes you want if at all moderate—say 20 inches by 10 inches, or 12 inches or so. If you wish finer glass, as all 3rds, 2nds, or 1st, you must pay accordingly. We think the common sheet, ranging from 2d. to 3d. per foot according to weight is quite good enough for your purpose.

**MARIE LOUISE PEAR UNFRUITFUL** (*P. P.*).—We advise your examining the roots in autumn as you suggest; but from the abundance of bloom and the fruit not standing, we have doubts if the roots of the tree have enough of moisture. Such appearances are often produced from extreme dryness and extreme moisture, but the latter can hardly be the case with such a bed of sand beneath. We presume your climate is not good enough for the *Fitrum*. Nonpareil. All you can do is to keep the roots near the surface so as to encourage the making of short-jointed wood, and mulch or cover the ground with tiles to keep it moist as well as warm. Are you sure that enough of moisture is not given? Such cracking is produced by various causes, such as a high dry temperature, and a deficiency of moisture at the roots; and then again by plenty of moisture at the roots, considerable warmth, and a dry cold atmosphere. In the one case the fruit swells too fast for the root-action, in the other it does not swell fast enough.

**FORCING SEA-KALE** (*Idem*).—You would see much about Sea-kale forcing and growing in "Doings of the last Week." We never grew it in pots; but if you have it in large pots and wish to keep it in them, you had better plunge them half in the ground or more during the summer, leaving an open space below the bottom of the pot to let water escape freely. These watered and mulched in summer would be ripened by November, and the leaves removed; you could then take the pots into any dark place in succession, where there was a heat of from 50° to 55°. We should prefer planting out now and taking up as wanted; but provided the plants are well nourished in summer with manure water, and at times with salt water—say a handful to five gallons, and keeping it off the leaves and crowns, we see nothing to prevent growing and forcing in pots.

**PEACHES ON GLASS-COVERED WALL** (*A Constant Subscriber*).—Yours is one of those puzzling cases that even if we knew more we might not be able to decide. Many of us have been disappointed this season with Peaches not standing as we expected after such an autumn as the last. The early ones had far too little sun, and, though they set, many dropped, which showed the foundation incomplete, as the young fruit when cut were black at heart. The only safety in dull weather is to keep the houses airy and cool, and the roots neither too wet nor too dry. We should almost suppose that the roots had been in the one condition or the other. The only thing you can do now is to lessen extra vigour by severe nipping in summer, and root-pruning if necessary early in autumn. In the late-house we would advise a severe thinning at once, and a careful examination of the soil; if dry below the fruit will be sure to drop.

**INSECTS** (*Tom Pounce*).—Your Cerastium tomentosum has been destroyed by the larvae or grubs of the common daddy-longlegs, now full grown. Wait till the perfect insects appear, and set children to catch every specimen, and then your plants will be safe next year.—W.

**PLANTING PERILLA** (*Ben-a-Mucky*).—It grows as tall as moderately-vigorous plants of Tom Thumb, and it may be planted with good effect in the centre, or on the outside of all the plants in all the books and catalogues, provided always that the plant behind it is not of less stature than the *Perilla*. Nothing but the height need keep *Perilla* on a bed, or part of a bed, or any border, or front of trees, or walls, or where flowers are wanted, although its own flowers are not of any account. The next thing depends on taste and practical skill, and is the training down of *Perilla* to cause it to suit lower kinds of plants. Taste and practical skill can do anything with *Perilla* that way, planted from 10 inches to 1 foot apart.

**FLOWER GARDEN** (*D. A. Glasgow*).—The large bed of Roses being permanent should have the edging of the same description—say *Cerastium* instead of *Labellia*; either way Stocks will do capitally inside the edging. No. 1 should be three diameters in length; it is 5 feet across it should be 15 feet long. But 6 feet is the more usual diameter of circles like No. 2, and beds like No. 1, then 18 feet would be the length of the latter.

**HIMALAYA PUMPKIN SEEDS**.—Some years since we had the pleasure of distributing these seeds. We have lost the stock, and having now an application for some, we shall be obliged by any of our readers supplying us with a few seeds.

**PEACH LEAVES DISEASED** (*R. N. M.*).—They are what gardeners term "blistered." It arises apparently from sudden vicissitudes of heat and cold, and discordancy between the temperatures in which the roots and branches are growing. Such blistering never occurs to Peach trees in a peachery.

**RED LEAD MIXED WITH SEED** (*X. Y. Z.*).—It does not destroy the birds, for the best of reasons—they will not eat the seed, nor will the red powder.

**DESIGNS FOR SMALL COTTAGES** (*Rus in urbe*).—No such answers were given at our office. Our reply to your query brought other applicants, and we have no copies left; but we shall have a supply this week.

**NAMES OF PLANTS** (*W. Lilly*).—*Tritoma media*. (*C. P.*).—1, *Celsia*, and apparently, *subinata*; 2, *Barbarea praeox*; 3, *Carex riparia*. (*B. W.*).—*Phlox subulata*. (*B. B.*).—1, *Bignonia picta*, will do in a greenhouse; 2, *Caelyanthus floridus*; 3, *Muscari cosinum*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

MAY 27th, 28th and 29th. BATH AND WEST OF ENGLAND (City of Wells). *Steward*, S. Pitman, Esq., Manor House, Taunton. Entries close May 1.  
 MAY 25th and 29th. HULL AND EAST RIDING OF YORKSHIRE. *Sec.*, Mr. J. Hooton. Entries close May 14th.  
 JUNE 3rd. ESSEX AGRICULTURAL ASSOCIATION. *Sec.*, R. Emson, Slough House, Haulstead. Entries close May 10th.  
 JUNE 4th and 5th. BEVERLEY AND EAST RIDING. *Sec.*, Mr. Harry Adams  
 JUNE 12th, NORTH HANTS AGRICULTURAL SOCIETY. *Sec.*, Mr. H. Downs. Entries close May 21st.  
 JUNE 26th and 27th. SUFFOLK (Woodbridge). *Sec.*, Mr. J. Loder, jun. Entries close June 5th.  
 JULY 3rd. PAKSCOT. *Sec.*, Mr. James Beesley. Entries close June 21st.  
 JULY 9th, 10th, and 11th. LEWIS AND WEST RIDING. *Secs.*, G. Newton and J. Wade. Entries close June 21st.  
 SEPTEMBER 9th. WORSLEY AND ARMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.  
 DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### CRUELTY TO SITTING HENS.

WOULD you allow me to draw the attention of your poultry readers to an error of management, now quite too prevalent among the breeders of valuable fancy poultry—viz., the permitting hens of great value to sit out two or even more sets of eggs in succession, and so doing under the false impression that she obtains rest by incubation. I have known several friends this present season, who have weakened beyond restoration specimens that would not have been disposed of for any price, however great that might have been offered for them, by permitting them to continue nesting for two months in succession, or even a longer period. It is quite foreign to my ideas to prevent hens (however valuable), sitting at all, for, contrariwise, I believe it most beneficial and restorative. It is prolonging unnaturally the fever always attendant on broodiness, that produces after-ill-consequences, and, most probably, paves the way to a consumption that is altogether incurable.

If what I have just written calls to reflection any poultry friend now committing this mistake in poultry-culture, before the effects are irremediable, it will fulfil the wish of—EDWARD HEWITT, *Sparkbrook, Birmingham.*

### CROSS BETWEEN THE WILD AND DOMESTIC GOOSE.

A CORRESPONDENT of the *Prairie Farmer*, speaking of the hybrid between the wild and domestic Goose, says they frequently "pair like other Geese, and lay quite a number of eggs, yet their eggs will not hatch." He has tried them repeatedly, but the eggs were always rotten at the expiration of four weeks—the period of incubation for both the wild and common Goose. He says the mongrels yield more and better feathers, and can be picked oftener in a year than common Geese; that they are larger than either of the parent stocks; that they are stronger and harder than the common Geese, smaller eaters, and more easily reared. In winter "they sit on the snow and ice, and keep up their wild yells night and day." He gives the testimony of his wife, that the eggs of these mongrel Geese "make better pancakes than any other eggs she has tried."

The editor of the *Boston Cultivator* calls attention to this fact, and says he has heard before that these mongrel Geese sometimes lay, but never heard of an instance of their eggs having hatched. C. N. Bement, in an article written for the *Rural Annual and Horticultural Directory* for 1859, mentions the same fact. Speaking of the American wild Goose, he says:—

"This bird by all foreign writers is called the Canada Goose. Most writers on poultry call it a variety of the common Goose; but it is no more a variety of Goose than the Swan, which it greatly resembles. Cuvier seems to doubt whether it is a Goose at all, and says it cannot properly be separated from the true Swans. We once possessed a wild Gander that had been pinioned by a shot in the wing, which mated with a common domestic Goose, and we bred from them for more than ten years; but their produce was not fruitful, although they laid eggs. The hybrids never showed any disposition to pair or mate with either the wild or domestic Goose. They partake largely of the wild habits, and if their wings are not clipped spring and fall (and more particularly in the spring), they are very apt to fly away and not return."—(*Genesee Farmer.*)

### BEE-KEEPING IN CORNWALL—SIZE OF HIVES, &c.

YESTERDAY (15th May), I had a fine swarm from a hive which stands with two others at a distance from my house. I certainly did not expect a swarm, as the day, though fine, was windy, and such as I thought an old queen would not venture out in.

I lived the swarm in a straw hive with nine frames, similar to those used by "A DEVONSHIRE BEE-KEEPER." It is 13 inches by 11½ inches, and 9 inches in depth. I am much pleased with it, and think it will answer exceedingly well, though constructed on a simple plan. I have no glass in it. In fact the space, three-eighths of an inch, allowed between the top of the frame and the crown-board, gives such facility for inspection that there is no occasion for it to any one of moderate experience in the management of an apiary. I wished to have some three or four straw hives of the above description made for my swarms this season, but fear that one more is all I shall be able to get made—my man having so much other work to get through at this season of the year.

When ordinary hives are furnished with the Woodbury comb-bar, what distance should there be between the under part of the bar and the floor-board? I should imagine that the boxes should be something less than 9 inches in depth, so that the combs may fit without cutting into the Woodbury compound-frame. This is indeed an admirable contrivance.

Is the Woodbury ten-framed hive too large for common black bees? It strikes me that it is not; as "B. & W.'s" hives, 13 by 13 by 9 inches, will contain, unless I miscalculate, just as much as your present ones.

I am having Woodbury comb-bars fitted into my common boxes and square straw hives, so that next spring they may be removed early into my new straw hives with compound-frames.—F. W. P.

[Ordinary bar-hives, to interchange combs with frame-hives by means of the compound bar-frame, should be 8 inches deep inside. This (allowing three-quarters of an inch for bars and the space above them), leaves 7¼ inches below the bars, and will admit of free interchange of comb without any cutting whatever.

The Woodbury ten-framed hive is probably not too large for a strong stock of black bees, with a first-rate queen, in a good locality. It is besides always easy to contract it as much as you please, by a moveable partition on one or both sides fitting into the frame-notches.]

### LIGURIAN BEES—SEASON IN STAFFORDSHIRE.

I NOTICE in your Journal of the 20th inst., that Mr. Langstroth is of opinion that the Italian bee is much more irascible than our own indigenous species. This my own experience fully corroborates, although the contrary has generally been affirmed. In performing operations with our own bees, I have seldom considered it necessary to have any covering on the hands, which they very rarely sting unless actually pinched, provided that the operator abstains from flinching or making sudden or hasty movements; but with the Italians it is far otherwise, as they attack the hands without hesitation, so that it is essential for them to be fully protected.

My Italian stock, obtained last year from "A DEVONSHIRE BEE-KEEPER," has far outstripped my stocks of common bees; and on the 19th May I determined to make an artificial swarm on the principle advocated in your Number of the 13th by your valuable correspondent "B. & W.," and this I satisfactorily accomplished. Nearly half of the Italian bees remained in their old hive; so that, with the accession of black bees belonging to the hive whose site it now occupies, it is nearly as strong as before the operation, and will be in condition to give out a very strong second swarm when the young queens come to maturity. The new hive under the old queen is also well peopled, and will, I doubt not, do well.

The driven bees were extremely angry, and for two hours or more attacked every one within a hundred yards of the hives, and are still rather apt to assault persons who approach close to their hive. I succeeded in catching the queen, which is a very fine, distinctly-coloured Italian, and so heavy that I think she would probably fall and be lost if she attempted to lead off a natural swarm.

As the swarm is put into a different sized hive from the old

one, I was obliged to drive the bees into a box the size of their hive, and then transfer them to the bar-and-frame-hive they now occupy. My black bees are three weeks earlier this season than last.—J. E. B.

P.S.—The mortality this winter has far exceeded that of 1860-61 in this district (Wolverhampton).

INOFFENSIVENESS OF LIGURIAN AND FEROCITY OF GERMAN BEES.

I MUST dissent entirely from the statement made at the recent meeting of American bee-keepers to the effect that the Ligurian is more irritable than the common species, and its sting more painful. On the contrary, I have myself proved to demonstration, that the Ligurian bee is by no means an irascible insect, whilst two competent and impartial witnesses have already testified in the pages of THE JOURNAL OF HORTICULTURE, to the fact that its sting is less poisonous than that of the black bee.

The following story from the German "Bee Journal," certainly appears to bear out what was stated at the meeting regarding the ferocity of the ordinary black bee in Germany:—"One day last year a man named Menzel, somewhat above thirty years of age, a landlord in Tizbic, Bohemia, went among his bees in a drunken condition, when thousands of them attacked him and stung him to death. In order to remove the corpse from the neighbourhood of the hives, the people endeavoured to hinder the flight of the bees by means of hand-syringes, and to keep themselves from their rage they had to fetch the bee-dresses which are used when depriving them of honey. The bees would not even quit the corpse, and water had to be poured over it to drive them away. So irritated were they that poultry and other animals were not safe from their rage; dogs were howling with pain, whilst fowls and geese flew screaming through the air."—A DEVONSHIRE BEE-KEEPER.

DZIERZON'S REVIEW OF AN ENGLISH BOOK ABOUT BEES.\*

NEARLY three years ago there appeared a work on bees from the pen of Mr. James Samuelson, a well-known merchant in the town of Liverpool—a gentleman who, in addition to success in commercial pursuits, combines public spirit and scientific attainments of no mean order—forming the second part of a series in which the marvels of natural history were brought before the public in a popular and attractive form. Mr. Samuelson's little work has recently attained the honour of being translated and republished in Germany with the additional statement on the title-page that it is "for bee-keepers and naturalists." In this new form it has come under the notice of Herr Dzierzon, the eminent German apiarian, who in the German "Bee Journal" says:—"Striking is the apposition on the title-page 'for bee-keepers and naturalists.' According to the index of the book the author seems to have written more for the friends of nature. Had the writer dedicated his book to admirers of bees in general, there would be something less striking in it; but to be able to write for bee-keepers one must himself be a practical bee-keeper, which I cannot believe the author to be. . . . How dangerous it is to write for bee-keepers if the writer be not himself a thoroughly practical apiarian is proved in many pages of this book."

Herr Dzierzon then proceeds to point out the following erroneous statements in Mr. Samuelson's work:—

1st. That the larvæ or grubs are fed at first with honey, then, as the days of the young ones increase in number, with honey mixed with a certain quantity of bee-bread. 2nd. That the bees seize upon a worker larva and transfer it into a royal cell hastily constructed for the purpose. 3rd. That the eyes of bees enable them to seek out the appropriate cell in which to store their treasure; while the reviewer remarks, "it is the sense of feeling which directs them, as they can do all in its usual order amidst absolute darkness." 4th. That if the drones driven out into the cold should attempt to return they are mercilessly slaughtered. 5th. That the matrons of the hive relieve the bees on their return home of the bee-bread. 6th. That the bees which accompany the queen from cell to cell for the purpose of oviposition take care that she lays only one egg in each cell, or in case she should deposit more, as sometimes happens, they remove all but one and place them elsewhere. 7th. As soon as

the usual term of sixteen days has expired, and the guardians of one of the royal cells receive intimation by the movement within that a new monarch is about to make her appearance, the queen mother approaches also with the murderous intent of attacking and slaughtering her child as a rival, and foiled in this design she leaves the hive; while Herr Dzierzon says, "it is known that the old mother leaves the hive with the first swarm when but one of the royal cells is covered and the larvæ begins to metamorphose into a nymph."

This list of errors appears quite formidable enough, but the reviewer has yet another crow to pluck with his author, who whilst giving in his adhesion to the truth of parthenogenesis cites one of Huber's experiments as proving Herr Dzierzon himself mistaken in believing that the queen bee has the power of laying either worker or drone eggs at will. Upon this subject the reviewer, who was himself the first discoverer of parthenogenesis says—"The author would not have fallen into the mistaken notion that the queen had certain periods for laying first one and then the other sort of eggs, and was not able to deviate from this procedure, if he as a clever practical bee-keeper knew what drone-breeding signifies, and when it generally commences in the normal state. It is known that drone-breeding is the first step towards increasing the species—i.e., to swarm, and that it begins and is continued when there is a feeling of prosperity and growing strength in the colony, but that even in a strong hive and in the best time the feeling of prosperity may disappear, and a sense of anxiousness arise if the queen be deprived of her liberty to get unmolested to every cell; and that, therefore, the queen will be far from having the intention to continue preparations for swarming—i.e., to lay drone eggs, but that she will rather drop her eggs is apparent to every one who has penetrated the economy of the bee commonwealth. From this it may be seen that as correct practical management requires theoretical knowledge, so also only the most perfect practical knowledge can preserve one from errors and false inferences." Whilst pointing out Mr. Samuelson's mistakes, his distinguished critic does full justice to his undoubted scientific attainments, and the review is written throughout in a fair and impartial spirit.—A DEVONSHIRE BEE-KEEPER.

"MORE HAY."—An old gentleman who was always bragging how folks used to work in his younger days, one day challenged his two sons to pitch on a load of hay as fast as he could load it. The challenge was accepted, the hay waggon driven round, and the trial commenced. For some time the old man held his own very creditably, calling out, "More hay! more hay!" Thicker and faster it came. The old man was nearly covered; still he kept crying, "More hay! more hay!" At length, struggling to keep on top of the ill-arranged heap, it began first to roll, then to slide, and at last off it went from the waggon, and the old man with it. "What are you down here for?" cried the boys. "I came down after hay!" answered the old man, stoutly.

OUR LETTER BOX.

GAME BANTAMS (*Amateur de Volaille*).—There is no longer any necessity for specifying weights. In the days of Bantam clubs the maximum weights were 17 ozs. for the cock, 14 ozs. for the hen. They are properly described when they are called Game fowls in miniature, and it would be fatal to all hope of success if they resemble the Sebright in anything but diminutive size. These latter among their chief merits have double combs, drooping wings, and hen tails; either of these points would disqualify a Game Bantam. Diminutive size is very necessary to make a perfect bird; but it would be fatal to success if that one point were attained by the sacrifice of those properties of shape, carriage, colour, and hard feather, that are insisted upon in the Game classes.

FLOOR OF HEN-HOUSE (*A Subscriber*).—Nothing can be worse for the floor of a hen-house than either bricks or cement; they retain damp, and bruise the feet of the birds. Nothing is better than the earth covered 2 inches or 3 inches deep with sand. The surface of this can be raked free from excrements every morning.

PARROT EATING ITS FEATHERS (*C. S. — Peaston*).—We can recommend no other treatment than that we inserted in our last Journal in answer to "FANNY FERN."

LONDON MARKETS.—MAY 26.

POULTRY.

There is still comparative dearth; but indications are not wanting that a better supply is "looming in the future."

Large Fowls .....	4 6 to 5 0	Ducklings .....	3 0 to 3 6
Smaller do. ....	3 6 " 4 0	Hares .....	0 0 " 0 0
Chickens .....	2 0 " 2 6	Rabbits .....	1 4 " 1 5
Geese .....	0 0 " 0 0	Wild do. ....	0 8 " 0 9
Goosings .....	6 0 " 6 6	Pigeons .....	0 8 " 0 9

\* *Humble Creatures. Part II., The Honey Bee.* London: Van Voorst.

WEEKLY CALENDAR.

Day of Mnth	Day of Week.	JUNE 3-9, 1862.	WEATHER NEAR LONDON IN 1861.							Sun Rises.	Sun Sets.	Moon Rises and Sets	Moon's Age.	Clock after Sun.	Day of Year.		
			Barometer.	Thermom.	Wind.	Rain in Inches.	m.	h.	m.							h.	
3	Tr	Adenandra fragrans.	29.997-29.968	64-49	N.	.13	49	3	6	48	8	33	11	6	2	12	154
4	W	Anthocercis viscosa.	30.019-30.003	67-45	N.	.01	48	3	7	8	52	11	7	2	2	155	
5	Th	Anthyllis visaganthoides.	29.959-29.907	71-40	W.	.01	48	3	8	8	morn.	7	1	1	51	156	
6	F	Azaleas, many.	29.997-29.951	59-48	N.E.	—	47	3	9	8	12	0	9	1	41	157	
7	S	Aphexelis humilis, &c.	29.917-29.899	65-46	N.E.	—	47	3	10	8	31	0	10	1	39	158	
8	SUN	WHIT SUNDAY.	29.884-29.860	61-40	N.E.	.01	46	3	11	8	52	0	11	1	19	159	
9	M	WHIT MONDAY.	29.727-29.662	60-49	N.E.	.58	46	3	12	8	18	1	12	1	8	160	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 70.2° and 47.1° respectively. The greatest heat, 90°, occurred on the 7th, in 1846; and the lowest cold, 33°, on the 5th in 1856. During the period 137 days were fine, and on 105 rain fell.

THE CAMELLIA AND ITS CULTURE.—No. 6.

VARIETIES.



GUIDED by what we have heard verbally and by letters from several correspondents, there seems to be considerable anxiety to see the multitudinous list of varieties advertised in sale catalogues, cut down by some one whose practical experience can be depended upon, so that

both gardeners and amateurs with limited accommodation could fix upon a dozen, or two dozen, or more varieties, according to their respective requirements, and not be so disappointed in the aggregate, as most of us, at least, occasionally happen to be after proving novelties with high-sounding names, and grand certificates of character. It is no part of our plan to inquire who are to blame for this questionable state of matters, for supposing we were ever so captiously inclined, ever so disappointed for the time being, we would hesitate before expressing an unqualified condemnation on any given person or thing, because the longer we live, and the greater the range of our experience, the more fickle and sportive do some of the examples of the vegetable creation appear to our senses. Some of the varieties of Camellias are not at all fixed in their character, and hence the origin of much disappointment and chagrin; and although much can be done by the hand of the experienced cultivator towards reducing the more wayward of them, not only into a flowering state, but by careful attention to their habits into a tendency to produce flowers of the most desirable form. Albeit! the best prescription and the most careful practice often fail to obtain what, for want of a better name, comes under the category of chance, accident, and such like.

There are now and again some beautiful individual examples of flowers or plants which have a greater tendency to produce blooms that possess in an imperfect degree the organs of fructification; but these examples are somewhat rare. Of course, it is almost unnecessary to mention that all double and perfect flowers are but monsters, botanically speaking, and it is a wonderful and an interesting theme to watch, or, rather more correctly expressed, to note progressive development from the old single red, now and for a length of time, largely used as stocks to the more perfect flowers which adorn our green-houses and conservatories during the inclement portion of the year. Here are stamens surrounding the ovary and its adjuncts like little pedestals, clothed where the anthers containing the pollen ought to be, with petals of irregular form, and thus destitute, in so far as they are

individually concerned, of reproductive power; but so long as the pistil and its adjuncts are perfect there are hopes of fructification by applying pollen from other varieties. From this strain varieties have been produced possessing all the characteristics of first-rate flowers, even although subjected to the canon of the florist; but by far the greater number revert to their normal form, and are thus retrogressive in their tendencies, and, unless for purposes of fructification, are worthless in the eyes of all amateurs and cultivators. Of course, there are exceptions, the very best of which, speaking of those with petaloid stamens, is undoubtedly Chandler's elegans, a grand soft rose, large smooth outer petals, and the petaloid masses in the centre blotched with rose and white; vigorous in habit, and an abundant bloomer. It thus differs from Chandleri, Donckelaari, tricolor, reticulata, and corallina, all of which, in large collections, it is desirable to cultivate both for decorative effect and "breeding" purposes, in having its stamens clothed in the manner above described, and is, therefore, difficult, although possessing a perfect ovary, to get to fructify. All the others are perfect, botanically speaking, and seed, by due attention to small matters, somewhat freely.

The most worthless of all sorts are those entirely destitute of the organs of fructification, and imperfect both in form and disposition of petal. Caryophylloides is one of the best of these, and could not be tolerated in any collection were it not for its variegated and blotched petals. Collettii, Colvillii, Francofurtensis, Marquis of Exeter, Napoléon d'Italie, Persio, Althæaflora, Presse's Eclipse, Punctata, Bruceana, and Carbonaria, which is something like the colour and form of Hollyhock Memnon, are all of this cast, and are good only for purposes of inarching better ones upon. Many others could be named, but these are a few that have obtained some notoriety.

In naming a selection we shall be guided entirely by the fruits of our own experience, which must be somewhat circumscribed. It is not enough, we opine, to pass an opinion upon the merits of individual flowers without knowing something of the general habit of the plants from which they are taken, else the characters ascribed to them, at all events for the benefit of small growers, must be taken only for what they are worth. The reports and awards of the Floral Committee since its organisation are certainly entitled to the utmost consideration, and may be reckoned, in general cases, as a safe guide to the purchaser; at all events, any one may rest assured that anything that has passed their ordeal and obtained a first-class certificate, merited such a dignity at the time, however sportive its inclination might afterwards be.

That Camellias are so there cannot be a doubt, for it is possible to exhibit Mathotiana, for instance, a variety of good substance and surpassing brilliancy, with flowers imbricated to the centre, and petals of good formation; and it is also possible, and, indeed, very probable, that if you go and see it the following season, it may not have a single perfect flower. Grow the plant liberally and you may not have an individual bud upon it, although the

plant may be of considerable size. And mayhap, if there were a few buds they would be nearly as large, and infinitely more ugly than the ugliest crimson *Pæonia Rose* growing in the flower-borders.

In the first place we would submit what we have found to be twenty-four of the best decorative varieties—sorts, in fact, which can be depended upon, with ordinary care, to produce quantities of bloom year after year.

*Alba Plena*, or old White, large, and full of petals.

*Fimbriata*, white, with fringed edges; more handsomely built than the other.

\* *Imbricata*, carmine, beautifully blotched with white; a gem when half expanded.

*Hendersoni*, pale rose, large and well-formed petal; extra large flower.

*Saccoi Nova*, rose, deeper in tinge and larger in petal than the above; extra fine.

\* *Henri Farre*, rosy carmine, extra fine form, and abundant bloomer. This variety is almost without calyx, and therefore remains a shorter time in bloom than most other varieties.

*Lady Hume's Blush*, or *Flaves-cens*, creamy white, of great substance, and a free bloomer.

\* *Wilderi*, rich clear rose, perfect-formed petal and flower; first-class in every respect if well grown.

*Jubilee*, whitish ground, dotted and striped with rosy pink, fine-formed petal; at its best when two-thirds expanded.

*Reine des Fleurs*, vivid orange scarlet, fine imbricated flower, exceedingly striking; free in habit and blooming propensities.

\* *Catherine Longhi*, carmine, occasionally striped with white; very fine flower.

*Teutonia*, white ground with carmine stripes, very sportive in its character, sometimes coming half carmine and half white; fine-formed and cupped flower of good substance.

\* *Valtearedo*, charming rose colour, large fine petal; also a cupped flower of the finest proportions.

*Feastli*, pure white ground colour, with chance cerise stripes; petals not so fine-formed, but a noble flower of great depth and size.

*Bothwelliana*, carmine, petals not of so fine formation, but a noble flower of great depth; free and constant.

*Duchess of Buccleuch*, rosy carmine, flowers very large; habit good, and a very free bloomer.

*Alba Imbricata* (Low's), beautiful shade of white, handsome-formed flower, petals rather pointed; one of the very best for chasteness.

*Miniata*, deep rose, fine-formed flower, of medium size, and an abundant bloomer.

*Princess Bacchiocchi*, brilliant carmine, good-formed petals; constant and distinct.

\* *Duchess of Orleans*, white ground, striped and flaked with carmine; petals of the finest proportions, one of the very best flowers, but rather difficult to manage well from having a delicate constitution.

\* *Sarah Frost*, ruby red, occasionally striped with white down the centre of petal; fine form and habit.

*Candidissima*, fine free-blooming white, quite distinct in habit and character from its compeers.

\* *Archiduchesse Augusta*, dull cerise ground colour, veined and shaded with blue; novel, distinct, and constant.

*Beali*, vivid scarlet, large fine petals, scarcely imbricated to the centre; but indispensable for colour, size, and its late-blooming propensities.

We will now name fourteen of the best we have proved, judged after the standard of the florist. These, mark you, in many instances, produce probably a sprinkling of first-rate blooms, which will stand the test of being individualised; although for decorative qualities they are nowhere (unless it be those of them above mentioned), alongside these beautiful new and old varieties for effect. One does certainly incline to cater for the plants producing flowers with nice rounded petals, even although such of them may be but sparingly bloomed; but tell me what would a collection of *Camellias* be without the old white *Fimbriata*, &c. Where quantities of bloom are in request, we must still fall back upon these and such-like varieties, and no jury of ladies in the country would agree to rob them of their high prestige; nevertheless it may be taken for granted that we are all open to grow, prove, and report upon those that are ushered into the market without any sinister motive; to exalt those that merit it, if need be to the pinnacle of fame, and to be equally judicious in forming opinions upon those that turn out after repeated trials to be worthless. Meantime we give the names of twenty-four that have been some time in the market, which may be depended upon for individual blooms, although some of them may not be constant.

Mrs. Abby Wilder, creamy white, occasionally striped with rose; of first-rate excellence, both as to form and quality.

*Cup of Beauty*, white, striped with pink; also extra fine.

*La Maestosa*, fine cherry colour, blotched with white.

*Mathotiana*, crimson, extra large and of fine form; very distinct.

*Monteroni*, white, slightly striped; very fine form.

*Countess of Ellesmere*, white, slightly striped with carmine; fine.

*De la Reine*, pure white, pink striped; good form and substance.

*Archiduchesse Marie*, rich cerise, with a well-defined band of white down the centre of each petal; free bloomer.

*Giardino Franchetti*, rose, blended with carmine; novel and fine.

*Elizabeth Herbert*, salmon, richly marbled with rose; a great improvement on *Admiral Nelson*.

*Emelia Campioni*, carmine, banded with white down the centre of the petal; large and fine.

*Jenny Lind*, pure white, slightly marked with rose; chaste and fine.

*Rubens*, rich rose, good-sized flower, and of good form and substance. *Story*, rosy carmine, fine smooth petal, and good habit.

These, along with those branded with an asterisk in the first selection, are those I have proved best, looked at in this way.

The next best twenty-four in our collection are the following:—

*Alexina*, a pretty mottled light ground flower, of good-formed petals, showing the stamens in the centre.

*Adrien la Brun*, rose, imbricated to the centre; good.

*Amabilis*, red, blotched with white; small but symmetrical.

*Carswelliana*, ruby, with white stripe; good flower.

*Comte de Paris*, cerise; large flower, but rather fleshy in the petal.

*Countess of Orkney*, light ground, striped with cerise; not equal to what was expected of it.

*Duc de Bretagne*, large, rose colour; free both in habit and as a bloomer.

*Halleyii*, dull crimson; a flower of fair proportions.

*Jacksoni*, good bright crimson; showy and distinct.

*Jeffersoni*, bright scarlet, slightly striped, medium size; good.

*Landrethii*, fine pale rose; free and good.

*Optima*, crimson and white; good habit.

*Queen of Denmark*, dullish crimson; good formed petal, rather inconstant.

*Rubini*, ruby red with white stripe; medium size and good form, fine late bloomer, but shy.

Mrs. Carrick Buchanan, fine-formed white; good-sized petal, one of the best late bloomers of Scotch origin.

*Lady Belhaven*, rich carmine; extra fine substance, scarcely imbricated in the centre. Another of the Woodhall seedlings I believe.

*Thomasini*, after the style of *Henri Farre*, but blotched with white; very good form.

*Varischi*, fine shell petal of shining rose colour, occasionally mottled with white.

*Lowii*, good rose; vigorous habit.

*Mania Theresa*, a fine *Cannion*-like flower; extra fine habit.

*Pisani*, good medium-sized white; occasionally striped.

*Centifolia alba*, pure white; large and showy, a good flower.

*Général Zaccari*, soft rose blotched with white; good late bloomer.

*Cruciata*, rose blotched with white; one of the best earlies.

—JAS. ANDERSON, *Meadow Bank, Uddingstone.*

## THE ROYAL HORTICULTURAL SOCIETY'S AMERICAN PLANT SHOW.—MAY 30TH.

The opening-day of this magnificent Exhibition was heralded by a fall of the barometer, which portended no good to those who looked forward to spending a pleasant afternoon among the "Americans," here harmoniously assembled, to promenade the artistically laid-out grounds, and last, and to the great bulk of the visitors at our horticultural exhibitions not least, listening to the admirable music of the Life Guards' band.

The unfavourable presages of the barometer were not altogether unfulfilled, for the morning was ushered in by showers, whilst in the forenoon there fell a thick close rain; but fortunately, about one o'clock the weather began to clear, and though threatening clouds still floated about, the afternoon was tolerably fine.

Of the Exhibition itself, which has been furnished by Messrs. Waterer & Godfrey, of Knap Hill, we can only speak in terms of the highest praise, both as regards the arrangement and the rich expanse of colour that is spread before the eye. On entering the large covered space where the Show is held, we see here a group of white, there a brilliant mass of crimson, deepening at this point to a blood red or purple, or changing at another to a yellow or orange; while a roseate light seems to pervade the whole scene, which, brilliant as it is, is still not dazzling from the quiet green of the leaves peeping forth in places from amongst the clusters of bloom.

The ground, which has been covered over with a kind of canvas, is hollowed out in the middle so as to afford a better view, and is laid out in beds of various shapes, harmonising with each other—some being circles, others more nearly approaching an oval in character, and gently curving outwards in places, and again inwards so as to take off the rectangular outline of the ground.

The centre figure is composed of two circular beds facing the north entrance, with four others of less size forming a line across the tent, encompassed by four clumps larger than any of the rest. Elsewhere, the area is laid out in circles and small beds of suitable outline. The circles, which are mostly planted with standards, are in many cases raised considerably above the surface of the walk, and turfed over all but a small space round the stem; they have thus a very neat appearance.

Directly opposite the side entrance we met with a fine plant of *Kalmia latifolia*, and on the other side another of still larger size with a very thick stem, and certainly 12 feet high. Near this there was a splendid *Barelaynum*, whose large trusses of crimson scarlet flowers were conspicuous among all the rest from every point of view, and especially from a small stage which has been erected at the west end.

Of the many other fine varieties the following are a few of the best:—Everestianum, rosy lilac, everywhere forming a dense mass of bloom, very fine; Curricanum, very large flowers, late, and very good; Brayanum, rosy scarlet, with lighter centre, glowing colour, and fine foliage; Archimedes, bright rose, very brilliant; Album Elegans, bluish, with green spots; Magnum Bonum, very large and showy, rosy lilac, spotted; Onslowianum, bluish, yellow eye; Nero, dark rosy purple, an excellent late sort; Alarm, very distinct, carmine and white, very late; Bylsianum, white and pink; Cessum, deep rose; Prince Albert, a very distinct dark sort with fine foliage; Vandyck, rosy crimson; Lord John Russell, a beautifully spotted rose; Titian, deep rose, one of the prettiest; Voltaire, vivid reddish-crimson; and Purity, quite new, the best of all the whites, being pure white without any blush. Besides these, which are only a few of the most select, there were atrosanguineum, album grandiflorum, Roseum varieties, especially pictum and grandiflorum in fine bloom, as well as two fine beds of hardy Azaleas covered with yellow and orange bloom.

In boxes, Messrs. Waterer & Godfrey exhibited cut flowers of new hybrid Azaleas, as yet unnamed, with large flowers and fine colours, and having the advantage of flowering with the leaves; also some very fine late-blooming Rhododendrons, with large Magnolia-like foliage. Of those which are named, Mrs. Holford is a very fine and distinct salmon pink; Mrs. Milner, a fine rosy scarlet; and Alexander Dancer, a rosy crimson with very large foliage, is particularly good; and so is Celestinum, white, tinged with pale purple. W. H. Sargent is another kind, which on account of its fine foliage, truss, and colour may be considered one of the best.

The only drawback to this otherwise unexceptionable exhibition is the flimsy nature of the canvass with which it is covered—not in one spun, but in two ridges, meeting in a wooden gutter or trough above the central walk. The canvass just reaches the edge of this trough, which appears leaky besides, and the consequence is that during a shower of rain the water comes in the most just where it is wanted the least—above the heads of those passing along the principal walk, which bears unmistakable signs of a considerable inpouring of water at some no very distant period.

Outside, in the gardens, and facing the International refreshment-room, a long border, gracefully sweeping outwards and again retreating at other parts, and taking for its centre the handsome fountains of Barbezat and Durenne, has been filled with Rhododendrons, which produce an excellent effect, especially when viewed from the Exhibition side. Elsewhere the larger beds, where not already occupied by Geraniums and other plants, have likewise been filled with Rhododendrons.

In addition to the horticultural attractions which were offered to the visitors, we may mention that a concert was given in the conservatory by eminent foreign *artistes*; whilst the band of the First Life Guards under Mr. Waddell, and that of the Royal Artillery, enlivened the visitors with their best strains.

The American Show, we may remark, will continue in perfection for a fortnight, and is a sight which no one ought to miss.

### CRYSTAL PALACE FLOWER AND FRUIT SHOW.—MAY 24TH.

By common consent what everybody says must be true, and everybody says there is no place for a flower show like the Crystal Palace. All I can say is, that after being fifteen years on the circuit, and just as many on the woolpack, I have not seen a place yet one quarter so comfortable to judge, to examine, and to see flowers in their element, so to put it, as the Crystal Palace; all but the first show there, when all the light came on the flowers over the shoulders of the visitors—always a circumstance to be avoided as much as possible.

There was a grand improvement in the stages this time. Opposite the Handel orchestra there was a magnificent pedestal, with a vase to match, placed in the very centre with “furnishing” plants in the vase and round the pedestal, done by the authorities solely for effect; and right and left of this “centre piece,” instead of running stages straightwise, the stages were made “pigeon-breasted,” or half-moon-like, with the round side next the eye. The left-hand “breast” was just large enough to hold the two first-prize collections of stove and greenhouse plants, the finest plants of the kind in all the world; and on the right “breast” were the next two collections of the same class.

Then both sides of the great transept were lined with straight stages full of the same description of plants. The four corners of the transept were reserved for Azaleas—and such Azaleas!

Then, under the Handel orchestra another “furnishing” arrangement of Crystal Palace plants was set down as no effect could excel. Verily, if that wedding is to come off in the autumn in or near London, you must certainly employ Mr. Turner, of Slough, to do the furnishing of the flowers, as he did that of the mook conservatory against the back wall of the arcades at South Kensington, or else get a leaf out of the Crystal Palace book on pigeon-breasted arrangements, grand vases, and off-hand setting to suit, which no one, not even the Misses March themselves, can better.

The north and the south naves were set just as you have seen them ever since Mr. Houghton took the book and the staff in hand, and both extended to the very ends of the crystal and bronze fountains. A better immediate effect is produced, of course, when the flowers are all seen at one view, as at South Kensington; but efforts in succession make variety, and also a more lasting impression of a good or a bad quality; and when you add to all that the comfort of a morning’s ramble among the choicest and most varied plants, in perfect security from all weathers, the reasons are obvious why all give the palm to the Sydenham Shows.

In the first-prize collection of sixteen Orchids, Mr. Milford had a fine specimen of *Dendrobium nobile*, *Cattleya amethystina*, two sorts of *C. Mossie*, and a fine *Lycaste Skinneri*. Mr. Woolley next, and his best were the three *Dendrobies*—*fimbriatum*, *densiflorum*, and *Paxtoni*. Mr. Peed next with fair on the face of his collection, of which *Calanthe veratrifolia* was the oldest plant and *Phaius Wallichii* the best grown.

In the next class of ten plants Mr. Milford was again first fiddle. Here his *Lælia Brysiana* could be examined, and it proved to be only a real good variety of *Lælia purpurata*, and all the rest were in Mr. Milford’s best style.

Mr. Lovell, who was next, had the best specimen of *Cyrtocentrum stellatum* that has yet been shown; it was one mass of upright spikes densely set with cream-coloured flowers all in a bush. Mr. Penny and Mr. Wiggins followed with tens of good kinds and sizeable plants; and Mr. Page had an extra in this class, and well deserved it, if only for his *Cattleya Leopoldii*, a grand, proud, purple-looking species of rare proportions.

In the next class of six plants Mr. Milford was again the winner, and his extra kind in it was *Cyripedium hirsutissimum*. Here he and Mr. Green were meriting it, while Mr. Young was looking on, third best and with the only *Sobralia macrantha* that has been out yet this season; and Mr. Bunney had an extra in the run, his best were the two white *Thalassopsea*, and a very nice *Oncidium pulchellum*.

Tall Cacti followed, and, of course, Mr. Green was first with all red ones; and Mr. Waters next, all red but the one white crenatum—that is, *Epiphyllum crenatum*.

Heaths were next, and they were much the same as those over the water. The largest Fern there came next, *Cyathea medullaris*, from Mr. Lakeman; then a host of huge plants of fine foliage, Ferns and stove et-ceteras, of which the following were additions to the stoves at South Kensington:—*Hoya bella*, *Vincas*, *Allamanda nerifolia*; and these to the greenhouses—*Pteroma elegans*, *Statice Holdfordi*, and *Kennedyia inophylla*, and if you put the two lots together you have what a long experience has proved to be the best month-of-May plants for the stove, for the greenhouse, and also for the heathery. Then, if we take the June and July shows in the same way, we shall get at the root of all the best summer plants to be in the fashion—but not the best, however, for comfortable privacy.

The next names I took as the most likely to be of the greatest use, were the newer Azaleas in the first-prize collection of Mr. Turner, of Slough. Mais, a fine orange; Comte de Hainault, red and well spotted in the throat; Miltoni, Sir H. Havelock, Duc de Brabant, and Perfection, with Grand Crimson, the deepest in colour; while Dr. Livingstone, Model, and Petuniflora were of the same unusual tint of colour. Then some Roses, Cinerarias, and lots of things; and Burley’s excellent strains of shrubby *Caleolarias*. It is the best breed of public *Caleolarias* yet out.

Here, also, began the cut Roses in boxes, and I was cut to the quick by the very first of them. I was inside the barrier going against the stream of people, and a gentleman asked me the name of a yellow Rose in the last box to him and the first to me, and as bad luck would have it, Mr. Lane, the great Rose

monarch, was just up behind and heard me saying it was Cloth of Gold, as far as I could judge, for I could see no name. At that instant I caught the card of Mrs. Stodart in front of the stage, and, of course, I blushed like a maiden at being taken in a third time by that lady, and on this occasion in the presence of his majesty of Roses. Her Roses are made of rice paper, and so are all she had there—as Cloves, Carnations, and Picotees with which the florists have no chance, the artificial flowers being much more after nature than some of their seedlings.

Then followed a bed of Carter's bedding Fuchsia Meteor, and it is only when out of pots and out in the beds that the true tricolor Amaranth-like looks are at their best. The beautiful *Coleus Verschaffelti* for bedding-out against purple Spinsch and *Perilla* this summer, was there also in the form best calculated for bedding—that is, stout, standing, and stunted for want of pot-room, and that is just as the best bedders should be at the middle of May. The next was a pot specimen of *Petunia inimitabilis*, the double variety, 5 feet in diameter, from Mr. Salter, gardener to A. Setzens, Esq.; then a large mass of novelties from Mr. Bull, of King's Road, Chelsea, who has come out and come it this season very strong indeed.

Then the Messrs. Lee, who are the best growers of the best of all the Caladiums, the Queen's favourite—*Caladium agryrites*. Mr. Hally next, with lots of his Geranium seedlings, and one of them, the White Lady, is against the variegated doctors by hand entirely; but another cross seedling Geranium, between Bijou and Mountain of Light, by the Messrs. Downie, Laird & Laing, is enough to check all ideas on the subject, save one, and you must guess it. The cross was here represented by two of the seedlings, with the clearest white variegation yet obtained in Geraniums, and more of it than in most of them, but the batch is what is unswallowable, every one of the seedlings of that cross came equally well marked in variegation, and not a single plain green or horseshoe leaf among them all. Now, Mr. "OLD SHOW-MAN," and Mr. "NICKERBOB," it is just about the right time to bring out your ways of making both ends meet if you can do it, and why, if you cannot, let us have no more words about it; but I shall follow the fortunes of the cross in hand from the Messrs. Downie, Laird & Laing aforesaid.

Then a fine lot of variegated and fine-leaved plants from Mr. Williams, of the Paradise Nursery, and lots of the variegated *Scrophularia nodosa*, which struck me as being one of the very best flower-garden plants we have of that stamp, and now that I have got near to examine it I find it is altogether a different thing from the old *nodosa* of that form; but Mr. Williams has the two kinds, and you can judge, perhaps, better than the Floral Committee, who might have mistaken the one for the other. At all events, I hold to my first opinion of it as recommended for Sir Joseph Paxton's garden last summer.

Mr. Bunney had one of the newest plants there—newest to the shows I mean. It is a *Melastomad* of the same section as *Medinilla*, and called *Phyllagathis rotundifolia*, a very fine-ribbed purple leaf after the way of *Cyanophyllum*; and the Messrs. Jackson and Standish were equally as full of fine things as they were at South Kensington, where you will find their share of the space in my notes.

The fruit-stand was loaded with fine Grapes, Pine Apples, Peaches and Nectarines, and pot Strawberries. All the Black Grapes were along one side of the span-roofed-like stage, and the White Grapes on the other side; and rare fruit, such as *Musa* and several varieties of Citrons from Mr. Young, who succeeded Mr. Scott at Leigh Park; a fine bunch of Grapes in a No. 24-pot from Mr. Standish; and a fine dish of Green Limes from the open wall of J. Luscomb, Esq., of Combe Royal, Devon, who has been noted for his Orange, Lime, and Citrons for many a day.

D. BEATON.

### FLORISTS' FLOWERS.

YES! there can be no question about it; for comfort, independence, and facilities for seeing, there is no place for an exhibition equal to the Crystal Palace. Not that I agree with the observations in last week's *JOURNAL OF HORTICULTURE* about the tents at South Kensington. The Botanic Society has for years held theirs in such structures, and I suppose they are in healthy financial condition, and, taking one year with the other, I dare say a fair proportion of fine days would be obtained. The Royal Horticultural Society has, I fear, in the tent matter been penny wise and pound foolish. More wretched structures were never put up; and the maker could not have

had a better notice to all comers to avoid him for the future. It was certainly an odd sight to see a man running about with a spade to make holes to let the water run off; and umbrellas, macintoshes, and goloshes eagerly appreciated at a flower show. At the Crystal Palace all this was avoided, and for some sorts of flowers the atmosphere seemed well suited; but the Geraniums and Roses, however, felt it, and the blooms of the former could be swept up in handfuls. Yet withal, I believe both exhibitors and the public thoroughly appreciate the comfort of the Great Glass House and all its accessories on such an occasion as this. The arrangements which have held good for the past two years have been altered, and the flowers were distributed according to the views entertained by Sir Joseph Paxton: the passage was kept more clear, and a better opportunity for seeing the flowers given. Coming so soon after the Kensington Show, the plants, which in the main were sent by the same exhibitors, were of course very much those of which I gave some notes last week.

In Azaleas Mr. Turner held the first place. His ten plants were the finest that were, we think, ever exhibited; in fact, as one of the Judges said, so good that it was impossible to say where better could come from. Those which were dissimilar from his group of Wednesday were *Alba Magna*, *Præstantissima*, *Sir C. Napier*, *Gem*, *Magnifica*, *Variegata*, *Gledastænesii*, *Formosa*, and *Stanleyana*, thus showing only two of his former group. He had, moreover, a very interesting set of the newer kinds—viz., *Salmonea albacineta*, striped salmon rose, very like *Due d'Aremberg* figured in the *Floral Magazine* for June; *Comte de Hainault*, very large; *Etoile de Gand*, a beautiful variety, the salmon so disposed on the white as to make a perfect star—in a large plant it will be a grand thing—its habit like *variegata*, from which it evidently comes; *Due de Brabant*, salmon pink; *Mars*, a fiery red, a seedling of Mr. Kinghorn's, very fine; *Perfection*, large bright rose, spotted and veined with dark crimson; *Sir H. Havelock*, bright salmon, a flower of great substance and smoothness; *Milton*, rosy lilac, a fine flower.

Mr. Ivery was second in this class. Some of his flowers the same as Mr. Turner's. He had besides *Flower of the Day*, large white, striped with rose occasionally; *Tricolor*, a striped flower, but inconstant; *Rosea Alba*, rosy pink, white margin; *Leviathan*, a very large white semidouble flower; *Gloire de Belgique*, a white but rough; and *Rubens*, large orange scarlet. Mr. Turner was third. *President De Clove*, something like *Etoile de Gand*; and *Leopold I.*, immense rosy crimson flower, were in the collection.

In *Pelargoniums* there were very much the same plants as at Kensington. Mr. Turner's were *Vestel*, *Festus*, *Prince of Wales* (a fine dark-veined flower), *Sunset*, *Fairest of the Fair*, *Rose Celestial*, *Roseum*, *Beadsman*, *Sir Colin Campbell*, and *Desdemona*. Mr. Dobson second, Messrs. Fraser third, and Mr. Burley, of Limsfield, fourth. Amongst Amateurs Mr. Bailly, of Shardeloes, was first with *Desdemona*, *Sanspareil*, the *Belle*, *Mr. Marnock*, and *Sir C. Campbell*. Mr. Shrimpton second. Mr. Turner's six *Fancies* were perfection. Nothing could be more exquisite than his plants of *Modestum* and *Acme*. He had besides *Claudeana*, *Roi des Fantasies*, *Madame Rongière*, and *Lady Craven*.

Roses in Pots were the same as at Kingston, and the prizes in the same position. Mr. Lane first, and Mr. Wm. Paul second. But I was greatly surprised to find that no better attempt was made to show Roses in small pots; the only collection there being of a very mediocre character indeed.

*Calceolarias* were shown in fine condition by Mr. Burley, of Limsfield. His plants (which he told me had not been shifted since last year), were the perfection of growth, and comprised *Angustifolia Globosa*, *General Havelock*, *Primrose Perfection*, *Empereur*, *Lord Derby*, and *Model*. Mr. Bosnie was second with *Howard*, *Jupiter*, *Morning Dewdrop*, *Canary*, and *Livingstone*.

A very good stand of *Verbenas*, and exceedingly well arranged, was shown by Mr. H. Treen, of Rugby. It contained amongst others *King of Verbenas*, *Mrs. Harrison* (like *Souvenir de l'Exposition*, but better), *Magnificent*, *Firefly*, *Apollo*, *Grand Eastern*, *Anreole* (deep plum), and *Fair Star*.

*Pansies* were small and indifferent.

Several seedling *Pelargoniums* were exhibited by Mr. Turner from Mr. Hoyle's, his own, and Mr. Beck's "stud." The first prize was awarded to *Royal Albert* (Hoyle), an immense rose-coloured flower, with a clear white throat, a free bloomer, and destined to make a fine exhibition plant; *Pelides* (Beck), crimson

with a heavy blotch, and spot on lower petals; Rosy Bloomer (Beck), distinct rosy crimson, with purple shading; Loveliness (Turner), light ground, spotted distinctly on lower petals.

Cinerarias were in no way remarkable. Some collections were indeed so from their excessively bad quality, and ought never to have been sent there.

The same may be said of two collections of Pelargoniums which came from Sydenham, and were really an eyesore amidst the trophies of floral art.

Near them in Tulips Mr. Norman had a nice stand of very clean flowers, but it was too late this season for them.—D., *Deal*.

### PEACH TREES DYING—A WARNING.

TEN years ago last autumn my employer, thinking that the south wall of the garden which was bare of trees might be turned to good account, forthwith began to make preparations. A goodly portion of the old soil was taken away to the depth of 3 feet, and the bottom he had paved with tiles. A drain the whole length of the border was put in about 9 feet from the wall: new soil of a mellow loamy nature was added to fill up, and in this the trees were planted. For four or five years they bore moderately; but at the end of that time a considerable curling of the leaf was noticed, and they began to show evident signs of decay. Each year matters got worse, till they ultimately succumbed to the influence of some secret agency, which, if you are able to enlighten us upon, the information will be gratefully received.

It was at this juncture the place came under my charge, and my first job was to renew this wall with Peach trees. I examined the drain, which was in good running order, and the wall itself was limewashed. Again a great quantity of new soil was added, which was made up with sand, leaf mould, sifted cinder ashes, and good rotten dung. These were well mixed with the old soil, and finally the roots of the trees were placed upon the ground level that they might not so soon get down to the bottom, which is of a stiff, cold, clayey nature. This is their second summer, and already the old symptoms of curling in the leaf are perceptible—indeed, in one instance I fear the tree will not survive the summer.—J. C. CLARKE.

[All along, the trees have been fed too well, and been allowed too deep a border. The summer has not been sufficient to ripen the wood. The frost injured them in winter, and hence the leaf-curling, &c. However, there are many places in which, if Peach trees are encouraged to grow large, they will not live above eight or ten years. You do not say where your place is. In general 20 inches to 24 inches of soil are ample; and even then recourse must be had to means for preventing the roots going down. The cinder ashes, and the leaf mould, and the rotten dung were all mistakes. Try your trees in the pure fresh loam, with a little leaf mould over the roots at planting; and then if not strong enough add leaf mould and rotten dung as mulching. In fact, before you are sure what your climate will do, as well as careful preparation of the soil, be satisfied with small trees with well-ripened wood instead of large luxuriant trees—say 10 feet along a wall instead of 20 feet or 40 feet. We would remove some of the rich soil now, and add fresh pure loam, and replant in October.]

### LASTREA v. LASTRÆA.

I MUST trouble you with some further criticisms in reference to the name *Lastrea*. The spelling is indeed not uniform, but *Lastrea* is not the less right on that account. Presl founded the genus *Lastrea*, as you truly say, and he, therefore, ought to know how he meant to spell the name. Now, it was with a full knowledge of his practice that I was bold enough to say you were wrong in writing *Lastreæ*. Presl always spells it *Lastrea*. Then, as to derivation, where did Presl get it? and what is its origin? The answer to this, probably, explains the partial use of the æ in its composition. Bory de St. Vincent, an old writer on Ferns, once proposed a subgroup of *Polypodium*, which he called *Lastreæ* (using, if my memory serves me, the æ; but I have not the book to refer to). Bory's group had very little in common with Presl's *Lastrea*, most of the plants referred to it being true *Polypodies*—e.g., *Phegopteris*, *Dryopteris*, &c.; and in Bory's sense the name had lapsed altogether. Presl revived it under a modified form, for a genus of which *filix-mas* is the type, and this is the modern *Lastrea*. *Lastrea* being the form

given to it by Presl, is, I must maintain, the right one for our use. The word as used by Bory was given to commemorate M. Delatre, a French botanist, as is stated in Mr. Moore's "Handbook of British Ferns;" and Presl's is no doubt taken from Bory's.—DELTA.

[If Presl took his name from Bory, and Bory spelt it *Lastrea*, then, according to botanical etiquette, this orthography ought to prevail, unless it is in defiance of a law of grammatical construction. Let no one conclude that because it is named in honour of M. Delatre, that this is any reason admitted by botanists for adopting that final *e*. So far are these men of science from admitting such trammels, that they seem to have the same rule for spelling as the boy who spelt pig with two g's, and who, when asked "Why?" replied, "Cause I chooses." Let us take as an illustration BOUGAINVILLEA. Now, as this was named in honour of M. Bougainville, according to "DELTA" (and we think so too), this genus should be *Bougainvillea*, there being no reason, except the pig boy's, why it should not; and to show how that boy's sturdy reason prevails with botanists, we find Commerson, who founded the genus, and Jussieu spell it *Buginvillea*. Very well,—but Endlicher has it *Bugenvillea*; and Lindley, not liking to copy Endlicher closely in this, perhaps, spells it *Buginvillea*. That, however, is only in one of his works; for in another, the pig boy's reason still prevailing, he chooses to spell it, as Brongniart also spells it, *Buginvillea*. Humboldt, Bonpland, and Kunth do not like any of those spellings, so they have it *Buginvillea*. Is it possible for any one to choose any other way? Yes, Blanco has it *Buginvillia*! whilst Donn and De Candolle will hold by *Bougainvillea*!

Since the above was written we have referred to what Bory de St. Vincent says in the "Dictionnaire Classique d'Histoire Naturelle," and we find that even he, also, is a disciple of the pig boy. In vol. vi., page 588 of that work, he spells the name which led to our note, *Lastrea*; but in vol. ix., page 252, two years later, he spells it *Lastreæ*. What does "DELTA" say to that?]

### NEW PLANTS AT THE ROYAL HORTICULTURAL SOCIETY'S SHOW.—MAY 21st.

AFTER getting over the first flush of surprise at seeing such masses of flowers all at one view, and such splendid specimens of plants, the next most conspicuous thing to remark on was the bad spelling of the names, and Dr. Lindley was just as bad as any of the gardeners. The florists may have a feast of it against the Doctor, both in spelling and in botanical description. I allude to his account of Mr. Jackson's beautiful *Clerodendron Thomsonæ*, from the "Botanical Magazine." Then, there is *Hederoma* three times running, down in one column, in a way that no seedsman would put it into his annual list. Then comes Mr. Bull with cartloads of novelties; and one of the very prettiest of them, a new variegated form of the very old *Serissa foetida* was down as *Carissa foetida variegata*!

But enough. Let us rather see what the novelties were like, and take the advertisement list for the guide, and that itself is not free from the most amusing errors by the staff of the Society; but let us see. *Sarmienta repens* from Messrs. Veitch, is the first on the list in Class 22. This is an extremely pretty little trailing plant, very near a *Cranberry plant* in looks, with flowers like those of *Mitraria coccinea*, not quite so large, but of a brighter orange scarlet; it is all but a *Mitraria*, is from Chili, and must be as hardy as a *Myrtle*, and one of the first water for a hanging-basket.

The next is Mr. Jackson's *Clerodendron Thomsonæ*, which will make a most conspicuous stove climber when it gets established, and when not in bloom you would take it for *Clerodendron splendens*. It seems to bloom as freely as *Rhynchospermum jasminoides*. It bears clusters of flowers like *splendens*, and looks as if there were two crops of them; one crop, the lower parts of the bunch white and stiff as ivory, the other deep crimson on the top of the white. The reason is, that all the calices are ivory white, and the five lobes of the calyx connive and meet at the points, and out from these come the crimson flowers, which are more elegant in form than those of *splendens*. The Doctor was wrong in supposing the calyx to be inflated and five-angled, which it is not, only five-lobed, the lobes conniving as I have just said.

*Dendrobium Salaacense*, from Manilla, came from Messrs. Low & Co., of Clapton. When this is up to the right pitch it

will make a most conspicuous specimen for a show. It has long wand-like shoots, as in many varieties near to *D. nobile*, and on these come whorls of small orange scarlet flowers, somewhat bottle-brush fashion, and fifty such shoots 2 feet or 3 feet in length, and all half covered in that way, would make some people stare.

*Lælia Schilleriana* is next, and is now pretty well known to all who take an interest in Orchids. It is marbled in the leaves as the old *Cypripedium venustum*, and the flowers are among the loveliest in its most lovely genus.

*Stenogaster multijlora* comes next; but do you happen to know the meaning of that name? It is a polite way of getting over a most disagreeable idea, in the face of this generation. Forty years back nine-tenths of the mothers of young England were mere *Stenogasters*, were actually drawn together in the middle by tight lacing, and that is exactly the meaning of *Stenogaster*; and all the plants and flowers of all the *Stenogasters* we know of are more for children than grown-up people, because they are such pretty little things. You might call this multiflora a baby's *Gloxinia*.

Then came two specimens, well set, of a new *Calceolaria*, from Chili. Not so very new, if you please, for it is only a more alpine form of *C. plantaginæ*, which we had from a lower station thirty years back.

The next novelties are in Class 23, new or rare tender plants not in flower, and *Sphenogyne latifolia* is first, from the Messrs. Veitch, and well deserves to be. It has a splendid dark purple leaf, is *Melastomad*-like, and not unlike a young *Cyanophylle* magnifique, as they say abroad.

*Cibotium princeps* is next, and is under the misfortune of being among the most beautiful of Ferns, of which there are now ten times more than are needed. Botanists have ruined Ferns, as florists have the *Pelargonium*—that is, outside their own circles.

Then there were the Messrs. Veitch, Lee, Low, Jackson, and Bull, all in for a slice of the honour of having had *Musa vittata* from Kew Gardens; but Van Houtte took the wind out of our sails in having it first figured and named, although it was only the other day that it was sent to Kew by their own collector, from the west coast of Africa. At present it stands next to *Alocasia macrorrhiza* in importance.

*Ficus Cooperi*, from the Exotic Nursery, is next. I never saw it before. It is a New South Wales plant, and the very best-looking Fig I have yet seen for a pot specimen. It would remind you of an Indianrubber plant if the leaves had been so thick and shining; but they are not so, and are more purple in the veins and footstalks.

*Serissa fœtida variegata*, from Mr. Bull, next. This is really the very prettiest variegated plant out of the many hundreds which were there. The old *fœtida* is older than I am; but I never saw this till now, and it took my fancy amazingly.

Then came Class 24, which was left open for all comers with new plants, and first was *Thujaopsis late-virens*, a favourite second name with the Prince Salm Dyck. *Læte* means laying it on thick as skin deep, and this *Thujaopsis* is a good example of that kind of deep green: this genus, and that holding all the beautiful kinds of *Retinospora* from Japan, include plants eminently beautiful, and represent the Cypresses of the western world.

*Ourisia coccinea*, Chili, from the Exotic, next. If this had been a perpetual bloomer it would have made an extremely pretty flower-bed. It is a dwarf Figwort (*Scrophularia*), with soft apinacby leaves, and upright stalks clothed with *Pentstemon*-like blossoms, bright scarlet, and not so big as those of *Pentstemon*.

The next is a species of *Dammara*, from Japan, and if it will turn out hardly will be as valuable as an *Araucaria*. Then *Polystickum concavum*, a fine Fern from Mr. Standish, who had some of his very finest Japan introductions there also. Then *Biota pendula*, a Weeping-Chinese-Abor-Vite-like thing. An *Aucuba*, from Japan, quite different in looks to your *Aucubas*, and as dark green as the leaf of a *Phillyrea*. *Osmanthus*, the variegated Holly-like plants of Mr. Standish, and the *Planera acuminata* for the sides of the green drives in the English plantations, all from the rummaging of Mr. Fortune and young Mr. Veitch in Japan; but not one-half of the plants that were now exhibited could have prizes as they had them last year.

I do not think the Pinuses from Japan are worth much, but most of the other evergreens are most likely to be of the very highest order for planting out, and if they prove hardy they will certainly be most valuable additions. I like the *Retinosporas* best, but you must put the accent on the middle o. *Alocasia*

*metallica* and *macrorrhiza*, and *Caladiums*, and *Coleus*, and *Stenogaster* everybody knows by this time; and the only other name in the next, Class 25, not likely to be much known, is *Erioch-nema marmorata*. This was from the Messrs. Veitch, and is a dwarf broad-leaved *Melastoma*-looking plant, with broad light bands on a brown purple ground leaf and some marbling as well.

The next, Class 26, is of florists' flowers which are out of my beat; but I must mention the Duke of Cambridge's favourite new Pansy, which I see is named *Aurea marginata*. It is of a purple ground colour, with a yellow margin all round each division or petal of the flower, as you see the back petals of many *Pelargonium*s. This is quite a new style of Pansy, and the first of a new race of them with belted petals; and it must be in the florists' style, for they have given it a prize, as you will see in the advertised list of the awards in this class.

The last entry in the Second-class Certificates I must also notice, to correct a wrong entry. It is down in the name of Mr. Harland, gardener to J. Bedwell, Esq., Hatfield, *Begonia mutabilis*. This is altogether wrong. I know Mr. Harland, and he is gardener to Sir Cullen Eardley, Bedwell, and he had five seedling *Begonias* there. The prize must have been given to his *mutabilis* for being the newest pattern of leaf. There was a better seedling called after Lady Eardley, of the Rex blood, and it is the best dark ground and best white marking of that race.

All the rest of the awards, not florists' flowers, speak for themselves; but there were many plants which will bear more telling when we have room to particularise them, or when all the busy shows are over. There were two new *Abies* from California, from the Clapton Nursery, and one of them is named *Lowii*, after an old friend. They and many of the Japan plants must be more fully explained some day.—D. BEATON.

#### PAULOWNIA IMPERIALIS FLOWERS.

I HAVE a *Paulownia imperialis* that has been planted several years, and it is now about 18 feet high. The year before last it made an upright growth of more than 6 feet, and last year nearly the same. Late in last summer it threw out for the first time many blossom-buds resembling small brown knobs in a kind of truss at the extremities of the summer shoots, but none of them had matured before winter, when most of them fell off with the leaves. Some, however, remained; and the leaves now first opening I am surprised to see on several of the old trusses dark blue blossoms of about the size and shape of a rather shrivelled Foxglove. Is this the habit of the tree, or when ought it to blossom, and when blossoming well what is the size of the flower?—A SUBSCRIBER.

[The flowers come so late that they are generally destroyed by frost. You may expect seeds from those showing now. Your flowers are just the common appearance, something like those of a *Catalpa* or *Bignonia*.]

CRYSTAL PALACE.—The great Handel festival orchestra, with its vast and imposing roof, is now acknowledged to be a success far beyond the most sanguine expectations. The performance of the International Exhibition music at the great Flower Show, on the 24th ult., demonstrated in a most satisfactory manner its acoustic capabilities—the faintest tone, such as the high notes of a flute or violin, came out with most remarkable distinctness, while the loud thunders of the gigantic organ were concentrated and thrown forward in such a striking manner, as to render it a matter of certainty that when the great forces to be engaged at the Handel festival are heard, the effect will be the most astounding ever produced, even at the Crystal Palace. But it is not alone in increase of loudness that this orchestra is remarkable, but for the clearness and distinctness with which each series of sound falls upon the ear; while, at the same time the ear is delighted with effects which cannot be produced elsewhere, the eye is equally impressed with the sight of the vast arch stretching across the entire width of the orchestra. The 15,000 visitors assembled at the Flower Show last Saturday, testified, in a most unmistakable manner, the gratification and pleasure they experienced at the extraordinary and unprecedented musical treat afforded them. The great stage and scenery which were erected for *Blondin's* performances at Christmas have been cleared away, and visitors may now form some idea of the value of the more distant places. It is believed by competent judges that the seats furthest removed from the orchestra will now be amongst the

best for hearing. Additional seats are now being erected in the gallery, plans of which will be ready for issue in a few days. As the festival will be held concurrently with the great Agricultural Show at Battersea Park, and during the heyday of the shilling days at the Exhibition, there is no doubt the concourse of visitors at the Crystal Palace on the days of the festival will be immense.

### UTILITY OF SMALL BIRDS.

I, as well as many other gardeners in this locality (Bolton-le-Moors), am puzzled as to how we are to maintain a supply of vegetables whilst what is commonly termed the *black bot* is actually destroying our Peas, Beans, and Cauldlowers; and now I find they have attacked the Strawberries; and they are so numerous that in removing the soil from around the collars of the plants I can find twelve and sometimes eighteen lurking in the soil.

Any information as to the destruction of this unwelcome pest will be thankfully received.—CARBAGE-HEAD.

[Here is another unconscious testimony to the services small birds can render. What our correspondent calls the "black bot" is the larva of the daddy-longlegs, after which Sparrows and other small birds pursue a most slaughtering chase as a food for their young ones, of which we gave an instance last week. No application is known that will kill the "black bot" without also killing the plants it infests; but if a look-out is kept, and every daddy-longlegs is killed as soon as seen, there will be few or none of the "black bot" next year. We repeat our statement of last week, that no allies the gardener and farmer can have for subduing grubs and caterpillars compares in efficiency with the small birds; and again we urge upon our readers the national importance of saving those birds and their nests from the destruction so ignorantly encouraged against them.—Eds. J. of H.]

### YELLOW RHODODENDRON.

TELL "DELTA" that I have him booked on the yellow Rhododendron as another practical instance of the inefficiency even of facts to turn many from the wrong way. The assertion was in answer to a private letter in which three distinct things were required, and one of them only was a "real yellow without a dirty tawny shade;" and without knowing the rest "DELTA" had no sufficient information to say yea or nay, or to guess whether the yellow of *R. Boothii* would suit the correspondent. Besides, *R. Boothii* is as far off from the yellow of our friend as "DELTA" is from my notions of a careful critic.—D. BEATON.

### THE INTERNATIONAL EXHIBITION.

(Continued from page 160.)

CONTINUING our remarks on Class IX. we find—

2077. BARNARD, BISHOP, & BARNARD'S, *Norwich*.—Portable iron chairs, with galvanised wire seat and back. Neat and light.

2084. BOYD, J., *Lewisham*.—Garden roller and self-adjusting scythes with tubular handles, and aquarius. The scythe-handles are very light, and no doubt nearly, if not quite, as strong as if solid; whilst the facility with which the blade can be adjusted at any angle is extremely convenient, especially for those who do not understand the rather difficult art of setting an ordinary scythe. The "aquarius" is a japanned vase of neat appearance and very light, intended to be used either as a flower-vase, water-jug or, with the addition of a nozzle, as a watering-pot or shower-bath.

2105. DENNIS, T. H. P., *Chelmsford*.—Model conservatory. This is a small span-roofed structure, intended to show the mode of construction adopted by the exhibitor, the materials employed being cast-iron and glass. The framework is fitted together without screws and bolts, and the roof is trussed with slender rods of wrought-iron. It is ventilated by the side sashes, the whole of which are attached by jointed arms to a rod which is worked by a lever handle, to which is attached another small handle belonging to a spring catch. This catch or stop falls into a notched wheel on the end of the rod, securing the sashes in the desired position; and in closing it is merely necessary to liberate the notched wheel, by pressing the two handles together.

2113. FERRABEE & Co., *Stroud*.—Lawn mower. In this the

grass-box is emptied by means of a piece of board with an iron handle reaching to the back of the machine. On pushing this handle, the grass is shoved out at a hinged flap in the front of the box.

2119. GRAY, J., *Danvers Street, Chelsea*.—Conservatory tubular boiler, heating pedestal, and patent valve. The conservatory is a neat span-roofed structure of wood, well put together, and suitable for a garden of small size. The glass on each side of the doors, and in some of the fixed sashes at the sides, is stained according to a quiet pattern, and exhibits none of that vulgar glare which is always so objectionable, and particularly in a garden. For giving air the lower sashes are hinged so as to push out; and air can likewise be given in cold weather through gratings at the sides, the supply in this way being capable of regulation at will. The top sashes can also be let down by means of a winch working a chain.

The boiler, which in other respects resembles ordinary tubular boilers, consists of a double row of upright pipes disposed in an oval instead of a circular form. For this arrangement it is claimed that the fire is brought in closer contact with the tubes, and consequently, that a greater heating effect is produced by the same amount of fuel.

The same exhibitor also shows a handsome pedestal for heating balls and conservatories, with a bronzed cast-iron cover; and Beck's patent stop-valves, which are also exhibited in another part of the building.

2122. GREEN, T., *Leeds*.—Mowing machines and garden roller. The former are of various sizes for large and small gardens, and of the same description as noticed last week as being exhibited at the Royal Horticultural Society's Show; the latter is a cast-iron roller in two halves, so as to allow of turning readily.

2125. HAYWOOD, J., jnr., *Phoenix Foundry, Derby*.—Cast-iron vases, &c. These are mounted on pedestals painted to resemble polished granite and marble, and some of them are very handsome. They would be very appropriate for flower gardens, and especially for giving a finish to terraces.

2127. HEREMAN, S., 7, *Pall Mall East*.—We find here one of Sir Joseph Paxton's patent hothouses of the span-roofed kind, which would be very useful either as an orchard or forcing-house. Being easy of removal and exceedingly cheap, houses of this kind supply a want which has long been felt by those who cannot afford the expense of the more highly-finished and more ornamental structures which are usually erected.

2128. HILL & SMITH, *Brierley Hill*.—Park gates, &c. The large entrance gates erected by this firm are handsome, but also very expensive, no less than 500 guineas being asked for them. They open in two halves, and are provided with side gates for foot passengers, and with the exception of the four cast-iron pillars are wholly of wrought metal.

Though not so large nor so elaborate in their workmanship as the Duke of Devonshire's gates at Chiswick, they would form a fine entrance to a nobleman's grounds. Some excellent specimens of park gates and a self-closing stile are also exhibited.

2135. HUNT & PICKERING, *Leicester*.—Garden chairs and tables. The chairs have the back and seat of wood supported on a wrought-iron framework, and are so light that they can be easily moved from place to place.

They are made with or without arms, and are very cheap. The table is also supported on a wooden pillar resting on wrought-iron scroll feet. The top forms an octagon, and consists of bars of wood with intervals between. It is light, and well adapted for a summer-house.

2151. MESENER, T. G., *Loughborough*.—Triangular tubular boiler and hinge valve. The boiler which is set in brickwork consists of a number of large triangular tubes placed horizontally on all sides of the fire, but principally above it, and communicating freely with each other by means of water spaces at each end. The furnace-bars are also hollow, and the water passes through them on its return, before entering the upper tubes.

The hinged valve, which is made of nearly the same capacity as the pipe, is opened and shut, or set at any angle by turning a wheel which acts on a quadrant working the valve.

2154. MORTON, H. J., & Co., *Leeds*.—Models of corrugated iron roofs and buildings, and galvanised wire fencing with winding straining pillar.

2160. ORMSON, H., *Stanley Bridge, Chelsea*.—Conservatory and heating apparatus.

It is impossible to speak too highly of the fine specimen of

conservatory architecture Mr. Ormson exhibits, and which is altogether novel in character as well as light and elegant in design. The ends consist of two half domes, and from the top of these extends the lofty, long, oval, dome-shaped centre supported by ornamental girders and arches springing from the top of elegant cast-iron columns; whilst the portion of roof between the base of the dome and the upright sides is formed on another curve, arching to meet the base of the girders. The structure thus formed affords abundance of light, and ventilation is amply provided for by every alternate sash at bottom being made to open; whilst in the upper portion there are two rows of sashes which can be opened for the escape of heated air. In the inside are displayed plans and sections of various horticultural buildings. The patent jointless tubular boiler, the peculiarity of which consists in its being cast in one piece, and, therefore, presenting no joinings to the fire is also exhibited, as well as a stack of pipes for heating churches.

2169. READ, R., *Regent Circus*.—Garden engines and syringes of various forms, and of excellent workmanship.

2176. ST. PANCRAZ IRONWORK CO.—Conservatory and glass wall. The conservatory is a small octagon, with the upright sashes in mahogany, opening on three of the sides as folding-doors, the remainder being fixed. There is a provision for ventilation at top; but at bottom air can only be given in quantity by opening the doors, which in sunny but cold weather would be attended by draughts.

The glass wall, which is in fact a wall frame, is the invention of Mr. Scott, of Hornsey, and is stated to be capable of being put up or taken down at the rate of 200 or 300-feet run per day, with the aid of a labourer, and the glass stowed away in boxes till again required. It consists of iron standards rather more than a yard apart fixed to a wooden plate, which is secured to charred wooden stakes driven into the ground. To the wooden plate is attached an iron plate with guttering; and from it iron rafters grooved for the reception of glass pass upwards, and slanting inwards towards the top of the wall, near which they pass at an obtuse angle to meet clips or pieces of iron fastened to the wall, and to these the rafters are secured. The glass at top is fastened down by small screws, but that in front is inserted in the grooves, where it is supported by stops cast in the grooves, small pieces of wood and cork being introduced between the glass and iron to make all tight and prevent breakage. Wooden shutters a foot deep are hinged to the iron standards for the admission of air at bottom, whilst the heated air passes out at top through openings in the back wall.

The prices are—for 10-feet sashes 15s. 6d., and for 12-feet ones 18s. 6d. per foot run.

2178. SAMUELSON, B., *Banbury*.—Lawn mower and agricultural implements. The peculiar feature of the lawn mower is the introduction of a brush which prevents the revolving cutters from becoming clogged with wet grass, and the roller being in halve the machine can be readily turned.

2182. SHANKS & SON, 18, *Cannon Street*.—Lawn mowers of various sizes. The excellent construction of these machines being so well known need not be described here, and equally so their efficient working. We may, however, remark, that the mode of emptying the cut grass from the box in front by means of what is called the side delivery, is simple and remarkably expeditious, obviating the necessity of frequent stoppages for that purpose.

2188. STANLEY, J. M. & Co.—Conservatory. This is a small cast-iron house in the form of an octagon, with a dome-shaped roof surmounted by a vane, and suitable for a small garden. In the centre is an octagonal cast-iron stage for the plants.

The facilities for ventilation appear insufficient, especially considering the shape of the structure, which would tend to concentrate the sun's rays towards the centre, where the plants are intended to be.

(To be continued.)

### IMANTOPHYLLUM v. IMATOPHYLLUM.

You have recently spelt this *Imantophyllum*, and it was so spelt on a label at the Show last Wednesday, but it is not the right way. Herbert and Lindley have it *Imatophyllum*.—K.

[We are well pleased to see that attention is roused, as it ought to be, to correct botanical orthography. We venture to think that the two authorities quoted are wrong, and, moreover, that Sprengel is most correct, because he spells it *Himantop-*

*phyllum*. The name is derived from *imas*, a leather thong, and *phyllon*, a leaf. Now there is an aspirate on the *i* in *imas*, and the genitive case is *imantos*, so that, though we disregard the aspirate, "a leaf of leather thong" would be correctly spelt in our nomenclature *Imantophyllum*.—Eds. J. of H.]

### APHIDES AND THEIR DESTRUCTION.

THERE are few things connected with exotic-plant culture that have given rise to more suggestions or experiments than the destruction of the various insects which annoy the cultivator; and, after all, perhaps there is no feature in the management of plants or fruits that has advanced less the last half century; for the same agents in general use fifty years ago—tobacco and sulphur—are unquestionably the best we have yet, although many schemes have been tried, and numberless other articles brought into use during that time, most if not all to be abandoned, and the old remedies resorted to again. Washes, mixtures, compounds, and compositions have been plentiful enough, and in some cases I dare say efficacious; but they have failed to be so in all cases: hence the general adherence to the old-established remedies. Nevertheless, as this may be justly regarded as the age of invention, I hope to hear of something still more efficacious than the articles we have been treated to yet in the way of destroying insect life, and I here invite the assistance of our chemical friends to suggest something better adapted for destroying aphides than what we now possess (with the exception of tobacco); and at the same time the article ought to be innocuous to the plants. And as I purpose to devote the present article to this subject, I may say that what the gardening world wants is a cheap effectual remedy for the green fly that is of easy application, and not in the least hurtful to the plants operated on. It would also have an additional recommendation if it were not so offensive as tobacco when it has to be used in a plant-house adjoining dwelling-rooms; but this qualification need not be insisted on, for it is likely it cannot well be ensured. It is, however, important that the article used effect the purpose at once, and in cases where it has to be applied to a house with plants in full flower, a syringing or wash is impracticable.

Conceiving, therefore, that a solution to be used by the syringe is objectionable for all in-door purposes, although useful and applicable enough outside, it is, evidently, only in the character of a gaseous vapour or smoke that the efficiency of an insect-destroyer can be ensured; if in the latter way, combustion ought to go on without much attendance. A mixture called Neal's pastils has been recommended for this, as they are easily ignited and burn without any attention—in fact, it would be no easy matter for any one to remain where they are consuming, they being much more offensive than tobacco, even to a non-smoker; but the result on green fly is far from satisfactory. The irritating part of the mixture seems to be a Capsicum, or something of the kind, enclosed in folds of paper that have been steeped in some combustible compound, perhaps a strong saltpetre brine. Had I not witnessed its failure on insect life I could scarcely have credited it, as it is so exceedingly irritant to the human lungs. But the failure of Capsicum as a remedy for green fly was proved some years ago, that our chemical friends must turn their attention some other way in furnishing us with a substitute for tobacco.

Many years ago the paper in which tobacco was wrapped-in to come to this country was used with great effect for the destruction of green fly, and I can remember buying it at about one-tenth of the price paid for tobacco; but the demand for it increasing, its price advanced, and wrapper paper from other packages than tobacco got mixed with it, or was supposed to do so, and its reputation declined. Latterly, however, it has been brought into notice again; and, if pure, is an excellent substitute for tobacco. As the price of the latter is the great drawback to its general adoption, what we really want is something cheaper and equally destructive to insect life; and, as before stated, it ought to be easily used, and require little or no attention. That some other plants contain like destructive properties to the tobacco there can be no question, and for the guidance of those who may be disposed to make some experiments, I may here mention a few that may possibly be turned to account:—

*Monkshood*.—The poisonous character of this plant points it out as a fitting one to the experimentalist for insect-destruction. Its fatal effects when partaken of by any one are well known, and

it is possible it might be destructive also in another manner; at all events it is worth trying. Suppose a very strong decoction of it were made, and this decoction made use of to saturate some material that was previously rendered combustible, would the burning of this emit a smoke fatal to insects, or could it be used in some other way? To burn the green plant would be inconvenient if not impracticable, and I fear it will be difficult to make it give off a sort of gaseous vapour in quantity otherwise than by combustion; but our chemical friends must find this out and tell us how.

*Henbane.*—This virulent poison may possibly be used with equal advantage as the last, and as its powers are of a different character, possibly it may be more useful. I have heard of some extraordinary way in which it is used to cure toothache; but the plan had so much of the marvellous about it that I did not pay much attention to it. Certain, however, it is that it possesses extraordinarily poisonous qualities, and being a plant of native growth it might easily be had in sufficient quantity to use in any way that could be pointed out as effectual for the destruction of insects.

*Stramonium.*—This is, perhaps, not so fatal a poison as the two last named; but it may, nevertheless, be sufficiently so on insect life, and it might have its due share of attention in the experimental way. It can be had in any quantity.

*Deadly Nightshade.*—The frequent fatal effects of this are well known, and point the plant out as one likely to furnish a good substitute for tobacco. Perhaps an infusion of this or some other plant might be applied out of doors when the usual mode of smoking could not be resorted to.

*Forglove.*—This plant is, I believe, extensively used by the druggist, but whether it is suitable for the purpose in question or not I cannot say: nevertheless I mention it as likely.

*Poppy.*—This may also be tried, although I have less hope of it than that of some others above mentioned.

*Potato-tops.*—Many years ago I have seen an infusion of these tried with tolerable success, but I have forgotten the manner in which it was done; and I should think some of the plants first named more likely to prove effective.

Besides the above there are many other plants which might be tried. Perhaps some of those noted for their bitter qualities might be useful, as the Linum, Wormwood, Chamomile, and many other herbs; or it is possible some of the preparations of foreign vegetable matters might have the desired effect. It would be better to restrict the experiments to vegetable substances, although minerals might be used if found innocuous; but there is an unwillingness to engage in them, and it would be better to use them with great caution, although their fumes may be more safe than solutions of them; but the smoke from a soda manufactory is alike fatal to insect and vegetable life, and that of copperas, lead, and I believe many other minerals is also dangerous; something less likely to be attended with bad consequences must therefore be resorted to.

In offering the above hastily-thrown-together notes to the readers of THE JOURNAL OF HORTICULTURE, I by no means find fault with tobacco as a good and certain agent in destroying aphides of all kinds, but it is expensive; and as its home cultivation is fettered by excise regulations I should like to see something else substituted for it, equally useful, and at one-third the cost. That this is practicable I hope some of our chemical friends will speedily show us, and I hope that they will do it in the open manner which enhances the boon, and not impoverish themselves and mystify the public by taking out a patent for the invention; for be assured of it not one patent right in ten has paid the inventor when taken out on such subjects as relate to horticulture. The mystery which hangs over them operates against their use, and something else is soon found out equally good and unfettered by the trammels of the patent law, and the thanks of a grateful gardening world are better than the vexatious losses so often experienced by those securing their inventions by patent.

J. ROBSON.

**CHLORIDE OF LIME AS AN INSECT-KILLER.**—In scattering chloride of lime on a plank in a stable, all kinds of flies, but more especially biting flies, were quickly got rid of. Sprinkling beds of vegetables with even a weak solution of this salt effectually preserves them from the attacks of caterpillars, butterflies, morderls, slugs, &c. It has the same effect when sprinkled on the foliage of fruit trees. A paste of one part of powdered chloride of lime and one-half part of some fatty matter, placed in a narrow band

round the trunk of the tree, prevents insects from creeping up it. It has even been noticed that rats and mice quit places in which a certain quantity of chloride of lime has been spread. This salt, dried and finely powdered, can, no doubt, be employed for the same purposes as flowers of sulphur, and be spread by the same means.—(*Dingler's Polytechnisches Journal.*)

## DOWNTON CASTLE,

THE SEAT OF THE FIRST PRESIDENT OF THE HORTICULTURAL SOCIETY, THOMAS ANDREW KNIGHT, ESQ.

WHILE looking over the grand show at South Kensington in the Royal Horticultural Society's Garden, and the evidence of skill brought to public view, I consider we have much to thank Mr. Knight for, as well as the Horticultural Society—*i.e.*, for the first interest and support he gave it. It may interest others to know also that the present worthy proprietor, Andrew Rouse Boughton Knight, Esq., takes much interest in keeping up this fine old place in accordance with the times we live in: therefore, just now I offer a description that has just been sent me through Mr. John Gribbin, who is now executing plans of embroidery and other works under Mr. Nesfield for Mr. Knight.

Downton Castle is situated in the north-eastern corner of Herefordshire, six miles west from Ludlow, the nearest town to the Castle. The park is approached by a fine Gothic lodge, close to a bridge which crosses a very deep ravine with a rushing stream, the banks being clothed with fine Oak trees, and luxuriant evergreens. Among the rocks many Ferns are quite fine and seemingly at home. After crossing the bridge you enter a fine carriage drive, and at once are struck with the effect of the timber which skirts the drive, particularly a majestic Oak, for symmetry and size but rarely to be met with. Approaching nearer to the dressed part of the grounds you pass belts of Rhododendrons, and Berberis aquifolium planted in large masses, they being well backed up with Portugal Laurels, nice large plants; behind them are clumps of Spruce Fir, with the fine Oak and Beech trees to fill up the background. Spaces are left where fine plants of Deodar and Wellingtonia are planted, with many of the best species of Pinus.

When fairly in sight of the Castle the approach is in a straight line. The north wing of the Castle is the principal entrance. On each side are planted Golden Yews and Juniperis alpina and pendula, alternately placed; each of these is attended by three Irish Yews placed in an angle at 6 feet from the centre plant.

The Castle is a noble pile of architecture in the style of Edward III., with eight towers, three of them entirely new, recently built by the present spirited proprietor, who has put the whole Castle in thorough repair, many masons and others having been employed for the last four years.

On the south front is built a new terrace wall 150 yards in length, with bastions, turrets, loopholes, &c., to correspond with the Castle. The width of the terrace at each end is 90 feet, and at the centre 66 feet. The length of the south front of the Castle is 83 yards. Here Mr. Nesfield commences his operations with a walk 15 feet wide running the whole length of the terrace, a smaller walk leading to the principal entrance to the Castle at right angles with it. Next to the Castle Mr. Nesfield is introducing raised beds with moulded stone edging about a foot higher than the grass. In a line with these are Irish Yews, Yucca gloriosa, and beds of Rhododendron myrtifolium. Between the walk and parapet wall are match beds of Irish Yews, standard Portugal Laurels, &c. In the centre bastion a handsome sundial is to be introduced.

At the east end of the terrace walk is a high tower. At the west end is a very fine Cedar of Lebanon. In the west front is a large basin for a fountain ultimately to be erected, with two sunk panels with stone edging for flowers. Beyond this basin on a raised slope is one of Mr. Nesfield's choicest patterns of embroidery. The principal feature in this figure are two griffins, the bodies forming a volute divided by different-coloured spars and flower-beds.

From this point is a fine view of the new church lately built entirely at Mr. Knight's expense, about half a mile distant, seen through an avenue. Outside the walk that encloses this principal panel of embroidery is a dwarf Yew-hedge, with Golden Yew placed at the angles, and at each side of the openings, steps, walks, &c., forming pyramids, which are much higher than the hedge, the golden tint contrasting well with the dark green of the common Yew.

"Under the upper south terrace is a lower one sloping rapidly down to the valley beneath, some 300 feet below the Castle. This second terrace is also bounded by a parapet wall with turrets placed at regular distances, but taking a curving outline to suit the ground. The ground beneath on this lower terrace has clumps of Portugal Laurel, common Yew, and Thorns, some very large, with immense clumps of Rhododendrons, 17 yards through and 12 feet high, well feathered to the grass, forming most beautiful objects. Close to them is a fine standard Portugal Laurel with an eight-foot stem, and forming a head 15 feet in diameter.

"Through the valley beneath flows the river Teme, forming a most pleasing object from the Castle and terraces. The valley seen from the terrace is about thirty-six acres, appearing as level as a bowling-green. We cross the river here by a bridge of three arches. Immediately beyond the river rises a range of hills parallel with the terrace, extending more than seven miles, east and west, clothed with fine timber, at intervals dotted with handsome Thorns. The summits of the hills being topped with clumps of Scotch Fir, vistas have recently been cut through the densest parts, which open to view beautiful green pasturage. Turning from these hills to the north side of the Castle we view the new church, where much Oak timber has been cut down, giving a good opportunity to leave open views, and single specimens of the finest trees, groups, and numerous vistas from the Castle. Mr. Knight himself superintended this part of the work, aided by his steward and Mr. Landen, the active and intelligent gardener.

"The avenue from the Castle to the church is to be planted on each side with Wellingtonias, and in time to come will be a fine sight.

"A new conservatory is intended to be erected at the east end of the terrace, near the kitchen garden, where the late Mr. Andrew Knight carried on his various experiments in horticulture. Many of the wall trees grafted by his own hands, with various kinds on the same stem, are still, after thirty years, in a fine healthy state; but only one of the old houses where he grew Pines remains.

"The kitchen garden consists of four acres. The walls are well covered with well-trained fruit trees. The quality of vegetables grown shows the ground to be of the best quality. There are five houses—three vineries and two Peach-houses, their contents doing the gardener much credit. Outside the garden is a fine range of pits, a house for Cucumbers, another for Dwarf Kidney Beans and Strawberries. The whole is heated by hot water."—J. N., 30, *Eastbourne Terrace*.

## INJURY FROM LIQUID MANURE UNDILUTED —MELONS IN AN ORCHARD-HOUSE.

I HAVE been much disappointed with my orchard-house this year. The man who works for me, in my absence in April watered all the trees with undiluted liquid manure from the cow-house: consequently, all the fruit and most of the leaves have fallen; also, three dozen Strawberry plants looking well, all killed. Will the trees recover for bearing next year?

In the meantime I have turned them out of the house, and have a space 60 feet by 8 feet quite vacant. Can I grow Melons, Cucumbers, Capsicums, &c., in this ground? and if so, will you give me a hint how to proceed with the two first, and the kinds that would suit the situation? My house is lean-to against a south-east wall.—KATE.

[We are very sorry to hear your tale. Every one of the fruit trees which were spoiled with the strong liquid manure this spring will be just as barren of fruit next year as they are at the present moment. All you can expect of them this summer is to recover themselves partially, not to prepare anything for next year, and it is a question if the effects of that acrid application will be got rid of altogether for the next five years. The plants would recover, however, much sooner if they were turned out of the pots into a warm, light, porous soil, mulched, and left there until next February. You can grow extraordinary crops of Melons in the orchard-house. Such is Sir Joseph Paxton's system in a long span-roofed house he uses all the winter for Kidney Beans and Strawberries. There is a path 3 feet wide down the middle of the house. The borders right and left may be 5 feet wide and 9 inches higher than the path. The whole surface of these borders is covered with an inch deep of coal

ashes, the natural soil below is a strong stony clay. A circular hole 3 feet wide and 10 inches deep is made in these borders, one under each light, in a row down the centre of each border; one-half of the coarse natural soil, and one-half good compost, go to fill the holes till they are a little higher than the coal-ash surface, and three good Melon plants of the true old Egyptian Netted Green-flesh Melon—the only Melon worth eating of all the imported kinds—are planted in each pit, or hillock rather, and a fine, moist, mild, airy temperature is kept up till the fruit is full grown, and then turned gradually and more gradually to the dry climate of a desert to give the proper flavour.

We have seen all this and tasted the Melons, and we shall never taste the like again, unless you succeed as well and give us an invitation for a feast of Melons of from 1½ lb. to 2 lbs.; but we must make terms before tasting a Melon of English growth if it be over 2 lbs. Our lives are too valuable to risk with common Melons.]

## GAS IN HOT-WATER PIPES.

IF I am in error in regard to the gas generated in "JUNIOR'S" hot-water pipes, perhaps it is owing to my accepting too strictly his definition of the colour of the gas when he says it burnt with a pale blue flame. Had he said a bright blue flame, I might have suspected the presence of carbonic oxide gas; or if he had said a blue flame it might have led me to suspect sulphureted hydrogen.

It is true, as Mr. Whitehead says in page 117, that moulders use charcoal dust in moulding, and I suspected that at the time as the cause, along with some of the sand, &c., which they use as a core, being kept in the pipes and causing a stoppage. I was aware, too, that if there was carbon there, and it became red hot, it would pass off as a gas; but how it would get its one atom of oxygen to form carbonic oxide I do not know, unless the decomposition of water takes place. At the same time I know that if a stream of carbonic acid gas is made to pass through a red hot iron tube or gun-barrel, carbonic oxide is given off, the iron having taken one atom of the oxygen from the carbonic acid gas. But I do not understand the chemical change which takes place "when the vapour of water passes over carbon at a red heat" and forms carbonic oxide, as Mr. Whitehead says it does, unless the water is decomposed at the same time. Perhaps he will be kind enough to explain the change?

If the gas is caused then by the charcoal left in the pipes becoming red hot, it will blaze as soon as the charcoal or carbon is consumed. Now, I understood from "JUNIOR'S" letter of inquiry that it was of frequent occurrence, which made me think it was by the decomposition of water, especially as "JUNIOR" said it had a pale blue flame.

Mr. Whitehead asks if it is not more likely to be hydro-sulphuric acid gas, which also burns with a blue flame, not a pale blue flame. If he means sulphureted hydrogen, and it is that that is found in the Harrowgate and other waters, I certainly would never have expected it to be there to trouble "JUNIOR," because the small quantity which these waters contain of that gas, supposing it was all to be liberated at once, would not burn as "JUNIOR" describes; and again, if he lives near Harrowgate, he could not help noticing the strong smell which would arise from his hot-water pipes similar to that from these waters.

The quotation from Gmelin's "Chemistry" proves nothing, neither does it throw any light on the subject whatever, as there can be no organic compound containing sulphur in the pipes to putrefy, unless Mr. Whitehead means the ropeyarn which the pipes are likely to be jointed with, and that is indeed very unlikely.

The quotation again says, "If the existence of hydrogen salts of metallic oxide be admitted, it must likewise be supposed that hydrosulphuric acid is generated, when a monosulphide of an alkali metal is dissolved in water, and when iron filings are mixed with sulphur and water." What hydrogen salt does he mean which is likely to be found in the water? I can account for the metallic oxide. And what monosulphide of an alkali metal when dissolved in water produces sulphureted hydrogen? Hand-books are generally understood to be written in a plain manner; but if that is a specimen of the whole book I must be thankful it never came into my hands. The last part of the quotation is

easily understood—where the water absorbs the gas equal to its own volume. But then at the first heating of the water, it would pass off, and the smell would be almost unbearable, so that I would suppose “JUNIOR” not to be near Harrogate or its waters.

But I am still anxious to know really what gas it is which is

generated in “JUNIOR’s” pipes, and it is a simple matter to test both the sulphureted hydrogen and the hydrogen; and the carbonic oxide is well known by its bright blue flame. None of them are difficult to make, and, therefore, can easily be compared; and I would be very glad to point out to “JUNIOR” how to test them should he feel disposed.—J. A. SHEARER, *Fester*.

THREE HARDY EVERGREENS.

*SYMPLOCOS JAPONICA* (Japan Symplocos).—*Nat. Ord.*, *Styracaceæ*, § *Symplococæ*. *Linn.*, *Polyadelphia Polyandria*. *Syn.*, *S. lucida*; *Furuggi* of the Chinese.—An evergreen shrub, or bush, growing naturally 20 feet in height, and much used by the Japanese for decorating the shrines of their idols. Its hardiness is now proved, and it certainly forms a very lively-looking shrub. The leaves are obovate, cuspidate, light green and shining, with something of the aspect of a Bay; it has small pale yellow flowers in clusters from the axils of the leaves. Thunberg took it for a Myrtle, Fortune for a Holly. From Japan, southern provinces. Introduced by Mr. Fortune in 1850. Mr. Standish, of Bagshot.

*QUERCUS SCLEROPHYLLA* (Hard-leaved Oak).—*Nat. Ord.*, *Corylaceæ*. *Linn.*, *Monœcia Polyandria*.—A very fine evergreen tree, with smooth branches, bearing leathery-stalked leaves, 4 inches to 6 inches long, and about half as much in width, coarsely toothed, shining and bright green above, glaucous, with fine down beneath. The acorns grow in compact spikes 3 inches or 4 inches long, and are small, roundish, downy, almost enclosed within the very deep tomentose, sealy cups. From the north of China. Introduced by Mr. Fortune in 1850. Mr. Standish, of Bagshot, who informs us, that after standing several years, it will be cut by frost, but not killed.

*ILEX CORNUTA* (Horned Holly).—*Nat. Ord.*, *Aquifoliaceæ*. *Linn.*, *Tetrandia Tetragynia*.—A fine hardy evergreen shrub, with oblong coriaceous deep green leaves, obtuse at the base,



1. *Symplocos japonica*.

2. *Quercus sclerophylla*.

3. *Ilex cornuta*.

truncate at the apex, almost always furnished with three strong spines at the end, which in old plants sometimes turn up their ends, and assume the appearance of strong horns. The berries are large, in sessile axillary umbels. From the north of China.

Introduced by Mr. Fortune in 1849. Flowers in spring. Mr. Standish, of Bagshot, says that it stood perfectly until the winter of 1860-61, when it was cut down to the ground, but is now growing again.

### THE BIRMINGHAM ROSE SHOW.

THE prize list of a Rose show can scarcely be expected to afford much opportunity for criticism; but we may notice that an attempt will be made to ascertain if a system of classification can be usefully introduced, so far as regards cupped and expanded varieties. At present we believe nothing of this kind has been done; but there is no reason why the experiment should not be tried. The more perfect the mode of classification with regard to any exhibition, the more valuable will that exhibition become, as affording better means of comparison, illustrating the progress which has been made, and showing what remains to be accomplished. The managers of our agricultural societies are well aware of this; and one of the first objects of the founders of the Bingley Hall Shows was to introduce an improved classification of stock—an example which was soon followed by the Smithfield Club, and which was declared by one of our leading agricultural authorities to be an invaluable reformation. Hybrid Perpetuals, Teas, and Noisettes—cupped and expanded flowers—will never, probably, range themselves as distinctly as Herefords, Short Horns, and Devons, but at the same time it is well not to overlook a principle which has done so much good in other directions.

Another feature in the list is also worthy of notice—namely, that there is no restriction as to the numbers under which nurserymen or amateurs may exhibit in their respective classes; a nurseryman, for instance, may enter under one or all the numbers in the "A" and "C" divisions. Any limit to a particular number—as that exhibitors of ninety-six varieties should not show forty-eight, and so on—might, we think, have been considered objectionable at a show open to all comers; and, in fact, a sort of indirect attempt at handicapping which neither class of growers would require.

It is explained "that by the term 'truss' is meant one shoot cut from the wood of the current year's growth, and having a single or greater number of blooms and buds, as the case may be. Any addition to the truss as cut from the tree will disqualify."

The Committee are also anxious to be favoured with miscellaneous specimen plants in pots, and cut Roses, flowering shrubs, and herbaceous plants, made up in large bouquets to be placed in vases for the decoration of the hall. No prizes will be awarded for these; but it is added that the names of the growers will be attached if desired.

With regard to the exhibition of horticultural implements and garden ornaments, it is intended that it shall, as far as possible, include whatever is required in gardening operations, as the requisite tools used in manual labour; garden cutlery; wirework of all descriptions; ornamental flower-pots; edgings of different materials; figures and vases, whether of metal, glass, porcelain, or other material, for the open garden, greenhouse, terraces, halls, or the decoration of rooms; and ornaments to be used in combination with flowers for dinner-tables; in fact, everything in which flowers are displayed for any purpose. Bee-hives, it is added, will also be admissible. This list is sufficiently comprehensive; and there can be no doubt that ample means exist for making this department one of very great interest to all lovers of a garden. Already, we understand, promises of contributions have been made both from this town and neighbourhood, and also from a distance; and we hope that many of the beautiful productions of the Staffordshire Potteries, Worcester, Coalbrookdale, and other places, will aid in making up the collection. This is the first attempt to establish an exhibition of this kind in Birmingham—occupying, perhaps, the best position of any town in the provinces for the purpose—and we trust that manufacturers generally will give their cordial assistance to the promoters. It will afford an admirable opportunity for displaying the products of skill and industry in connection with gardening operations, and garden and other ornaments, and is certainly deserving of that hearty aid which shall not only make the first experiment a complete success, but give to Birmingham another annual exhibition which cannot fail to increase in value and importance from year to year. With regard to the ordinary garden tools, we shall be glad to see these sent in large numbers; every one must acknowledge how great a boon, both to the working gardener and amateur, has been, for instance, the introduction of the improved forks and spades; carefully manufactured and fitted, with the much lighter weight properly distributed, work can be better done with infinitely less fatigue.

A very fair and liberal arrangement has been made with regard to the issue of admission cards, subscribers of 10s. receiving five of these; of £1, ten; and of larger amounts in the same proportion; the charge for admission until six o'clock on the first

day having been fixed at 2s. 6d. The Honorary Secretaries, Mr. Hallam and Mr. Badger, are now prepared to forward or deliver these tickets in return for subscriptions.

We are enabled to add, that many of the leading growers of Roses, amateurs and nurserymen alike, speak most favourably of their prospects for the present season. The general opinion is that the time for holding the Show has been judiciously fixed, and that there will be a large and brilliant collection of flowers.

### CULTURE OF OPHIOGLOSSUM VULGATUM.

THIS Fern is with me the most difficult to cultivate of any hardy Fern that has come under my care, not excepting *Botrychium lunaria*. Its cultivation is put down in books as a very easy matter; but I would ask those who say so, Have any plants been raised from spores some distance from where the plants grow naturally? I have found the spores vegetate freely where the plant grows wild; but I have failed to propagate or raise plants from the same spore-cases, though under the same hygrometrical condition, and at the same temperature, with soil in the same condition, as far as my eyes and touch could judge. I tried the spores in the identical soil the parent luxuriated in, placing a pot in the open ground, plunged another in a cool greenhouse fernery, and a third in a stove fernery; but all without resulting in the spores vegetating. Those pots were covered with bell-glasses, and fed with water from a saucer in the usual way for raising Ferns from spores. Here a thought struck me, "they wanted a free circulation of air, and not the close confined atmosphere of a bell-glass;" but it turned out upon trial to be a complete failure.

Foiled at every point to get the spores to vegetate, my attention was next directed to the cultivation of the plant itself. Mr. Moore says "there is no difficulty in the matter," and others assert it grows freely in stiff loamy soil, with the constant presence of water to prevent drought; but after many futile attempts I found my plants merely existed for three years but did not thrive, and then died in a galloping consumption. However, looking at the roots I found they were not dead, but in such a state of inactivity as to render the formation of fronds impossible. The crown was gone to all appearance, but the eye, aided by a microscope, discovered a very feeble central crown and a bud that required a high magnifying power to detect its presence. Plants in stiff loamy soil were potted, some placed in a cold frame, others in a greenhouse, and some in a stove; but those efforts, perhaps unnatural, were of no avail, the plants became weaker every year, and finally ceased to grow. On examination the roots were not dead—nevertheless very weak; or, what would be more definite, blind at the crown. Well, those plants were bundled out, and after lying dormant for a couple of years they grew.

That *Ophioglossum vulgatum* has the power of remaining dormant for a considerable time without annual leaf or frond formation is a fact more than once confirmed to my knowledge. I have had plants that have remained dormant for three years, and then have grown when the treatment was changed. In 1858 we had a plant of *Botrychium virginicum* from a nurseryman in the south, which did well that year. In 1859 and 1860 it remained dormant, and in 1861 it put forth its fronds and fructified beautifully; but it seems its luxuriance in 1861 was only the final struggle for life, for the root decayed, and there was an end of the plant. Nature produced annually a fine clump of *Ophioglossum* on an old *Asparagus*-bed, where the fronds appeared about the same time as the *Asparagus* shoots. The first time it was observed was in 1853. Searching the lawn and the fields adjoining no trace of the *Ophioglossum* was to be found, neither in 1858, 1859, nor 1860.

Now, in 1860 we dressed the lawn with rotten cowdung and soil in equal proportions, covering it about half an inch thick: of course that dressing was to alter the colour of the verdure, and to promote a thicker and better turf. In that respect it was a complete success, more grass came off at the first mowing in 1860 than was collected in 1859, though 1860 was a remarkably cold and wet spring; and so luxuriantly did the grass grow that the mowing machine instead of superseding the scythe had to follow after it. Moreover, a run over with the machine was enough every ten days to keep the lawn in order prior to 1860; but in 1860 and 1861 a clip every four or five days was necessary; yet it was not so high as it was thick set, and after ten days' growth presented a staple that defied the machine. Lawn mixtures had been sown upon that lawn without result, except

some £5 loss in throwing grass seeds upon soil that could not support the commonest grasses, and those of a country remarkable for its number of species. With the dressing of cowdung and soil was a fine sward, without the lawn mixture at all, and White Clover, &c. Mention is made of the lawn as we intend to say something about it again, and not to show how to improve a bad turf.

In 1860 I scoured the country round here, but could find no such thing as *Ophioglossum vulgatum*; still my old friends in the Asparagus-bed were stronger than ever, some fronds rising 7 inches and 8 inches above the soil. Their fructification was more developed than I had seen before, and a dressing of salt materially invigorated them.

On the 13th of May, 1861, the lawn was full of the *Ophioglossum*, four or more standing on a couple of square inches. How had it got there? Had it come with the soil in 1860, or were the roots already there in a dormant condition waiting for a proper medium wherein to grow? That it was not there prior to 1860 there cannot be a doubt, as the lawn was scanned minutely for Daisies by one who has a keen eye, and some experience as a botanist.

This year the plants made their appearance on the 10th of May, but in a very weak state, and not half so plentifully as in the year before, the fronds being little more than 2 inches in height; and very few indeed are producing fertile fronds, nothing but a sterile frond appearing on each plant.

Having been so unfortunate at cultivating *Ophioglossums*, I hailed its appearance on the lawn as another starting-point for a new trial, because I could not bear to be defeated by such a common subject. Several plants were potted and divided equally, one for an out-door, another for a greenhouse fernery, and a third for a stove or intermediate-house; for very few Ferns indeed require a high temperature. All were kept well supplied with water, even when dormant, and watered with a lavish hand when growing, which brought about something very singular. Heat is said to be the cause of plants commencing to grow, but of my *Ophioglossums*—those in the open ground appeared on the 10th of May, those in a greenhouse on the 21st; whilst those in the stove have not yet shown themselves, and on examination I find they are only just starting from the crown, which will make them at least a month behind those in the open ground. Perhaps I may add all the plants are weaker than they were when removed, and all are barren-fronded.

Accidentally my pets in the Asparagus-bed were doomed to destruction, as the real occupant of the bed was in such a condition from the wet season of 1860 that its destruction was determined on: this gave me an opportunity of examining the *Ophioglossums* where I found them; 10 inches below the surface were the roots, with shoots 3 inches long, and that on the 10th of March. I left them there, and shall look for their reappearance with no little interest.

Taking a handful of the soil where those *Ophioglossums* luxuriated and squeezing it, water ran through the fingers, and the handful of soil was as sodden as a half-melted snowball. Here was the solution of the difficulty. Immediately an inch of rain fell upon one of the pots in the stove fernery, and the same every day for three weeks, when a remarkably strong plant of *Ophioglossum vulgatum* shot forth, distancing by two months its congeners, which have hitherto been living upon themselves: this explains the mystery about the other plants becoming so soon exhausted. Drought this plant cannot endure; but that it will grow freely in heat I have no doubt, like *Asplenium marinum*, which has taken possession of a stone wall in a stove fernery here, and grows far better there than in a cool house clove by.

I am informed that there is at Kew an *Ophioglossum* from Madeira, that has been cultivated so well there as to warrant a division of the original into fifty plants or more. That is just what I want to be able to do with *Ophioglossum vulgatum*, and any one that has done it and will let out the secret will much oblige me.—GEORGE ABBEY, *Bradford*.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

CONTINUE to thin the crops that require it while they are small, and in all cases where practicable loosen the soil about them; and if dry give them a good watering. It will greatly benefit them after disturbing their roots, and the soil being loose

the effects will be so much the greater. *Basil* and *Marjoram* that were sown in beds to be thinned-out to about 6 inches plant from plant. *Broad Beans*, make another sowing towards the end of the week, and top the most forward crop if not done. *Cabbage*, now is a good time to sow a little seed for autumn produce; any of the small sorts should be preferred for this sowing. *Cauliflowers*, plant-out some from the first sowing in the open ground; a small quantity planted from two or three sowings will keep up a succession better than the small stunted plants of very early sowings. *Cucumbers*, peg-down the plants on ridges as they advance in growth, and when the hand-glasses will no longer contain them set them on three bricks placed edgewise, or on crotch sticks. When they require water give it to them milkwarm early in the day. *Onions*, after thinning loosen the soil between the rows, and if the weather is dry give them a thorough watering. The thinnings of the bed to be planted out to be watered every evening, if the weather is dry, until they take fresh root-hold: this to be particularly attended to, as the roots when planted should be very near the surface. *Peas*, sow Knight's Dwarf Marrow as it is a good sort, and is longer in coming into bearing than many others. *Radishes*, make another sowing of the various sorts. *Savoys*, plant-out some of the early-sown, the dwarf sort to be planted at 1½ foot apart in the row, the rows to be 2 feet apart; the larger sorts to be 2 feet plant from plant, and the rows 2½ feet apart. *Tomatoes*, as they are usually placed under a south wall where they sometimes receive but little benefit from a passing shower, they should be occasionally watered and kept mulched with short litter. Stop and nail-in the shoots as they advance in growth.

### FLOWER GARDEN.

The newly-bedded-out plants will require looking over, as with the best management failures will sometimes occur. Such failures to be made good, and the pegging-down, tying, and staking of everything requiring it to be attended to without delay. Sow hardy annuals to succeed the earliest. Those which are up to be thinned-out, so that not more than from three to four of some plants, and say six to eight of others be allowed to remain in a patch. Gather the seed of *Auriculas* as soon as the seed-vessels appear brown, and before they open. Continue to propagate *Chrysanthemums* by taking off the tops and striking them under a hand-glass in the common border, and cut back those intended for specimens into a proper shape. Those intended for cut blooms must not have any of the tops removed, however unsightly they may grow. The leaves of *Crocuses* to be tied-up; as soon as the foliage turns yellow they may be taken up. Take off the side shoots of *Pansies*, and strike them in the common border under a hand-glass.

### FRUIT GARDEN.

Continue to pay attention to fruit trees; nail-in the strong shoots of those against walls. Vines on walls require much attention to bring the fruit to perfection; indeed, if proper attention is not paid them in stopping, regulating, and nailing-in the shoots, they are not worth retaining.

### STOVE.

All rambling shoots of ordinary stove plants to be frequently stopped. Shift *Clerodendrons*, *Erythrinae*, *Gloriosas*, &c., and give liberal supplies of weak liquid manure. The *Dendrobiums*, *Erides*, *Saccolabiums*, *Vandas*, *Phalenopees*, *Sarcanthus*, *Sobralia*, &c., will require abundant and frequent waterings and syringings. The baskets of *Stanhopeas*, *Gongoras*, &c., to be thoroughly soaked where full of roots.

### GREENHOUSE AND CONSERVATORY.

The principal part of the greenhouse plants may now be safely transferred to an out-of-door situation. Select, if possible, a shady situation, open to the east, and protected from high winds; the plants to stand on a bottom carefully prepared to exclude worms from getting into the pots. When the greenhouse or conservatory is thus partially emptied, a portion of the more hardy stove plants may be introduced. Climbers will require attention to keep the young shoots within proper bounds. Although the young wood may partially be allowed to ramble in its natural habit of growth, still it will require some attention to prevent confusion. *Kennedya*s may be slightly cut back after blooming to produce a new growth; water to be given liberally to the plants in the open borders of the conservatory. The *Balsams* and other annual plants grown for filling-up vacancies in the conservatory or greenhouse to be encouraged by frequent shifts, to be kept in bottom heat and near the glass; the few early-formed flower-buds that appear to be picked off, as it is advisable that

the plants should attain a considerable size before being allowed to bloom. Common and fancy Pelargoniums for late blooming thrive best in cold pits, where they can be protected from heavy rains. Pot Fuchsias into their blooming pots if not done already. An abundance of air to be given to Japan Lilies. Keep a portion in the shade of a north wall for a succession of bloom.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

WRITING this at the end of the month, there has been little done except work of routine, as watering Cauliflowers throwing up their heads with manure water, throwing as much salt among Asparagus-rows as would just slightly whiten the ground, making a last sowing of garden Beans except a few in a sheltered place to come in late, pricking-off Cauliflower plants, sowing them and Lettuces in succession. The latter we mostly transplant from scarcity of room; but when we have got enough of space we by far prefer sowing thinly in rows, and then thinning-out a foot apart as the best plan for obtaining large succulent Lettuces. The Paris Cos is a fine crisp summer Lettuce; and now those who would as soon take poison as Lettuces in winter may enjoy them to the full in hot weather. Sowed also London Coleworts, and a few more Broccoli and other vegetable seeds, and made arrangements for planting out Vegetable Marrows and Gherkin Cucumbers.

### PLANTING.

In planting with the dibber, the roots cannot be squeezed too hard, provided they are not hurt, and one stroke of the dibber after the hole is made, and the plant put in, held obliquely, taking some soil with it, and brought firm up to the roots, is worth a score of fiddle-faddle strokes. We want some of the old gardeners back again to teach the minutiae. Go round and try the plants after planting, and ten to one you find the half of them hung. The slightest exertion with two fingers will bring them to you, and, perhaps, they have had some half a dozen of strokes of the dibber, or even more, and the affair bungled after all. Nothing but repeated waterings will cause such plants to grow. Let the straight line represent the hole made by the dibber, in which the roots are suspended, the dotted line the one oblique stroke of the dibber in planting, bring the dibber vertical at once, and the roots are held as in a vice, and one stroke more with the point of the dibber fills up all of the hole that is necessary.

Three moves of the dibber are thus sufficient for planting in general, and are more effectual than a dozen, and after all leaving the plants suspended (hung), without earth close to the roots. The only thing to be guarded against is not to crush tender roots, which will rarely be the case if the dibber takes from one-quarter inch to one-half inch of soil between the roots and its hard substance. I revert to the subject because not so long ago a gardener could not conceive what was the matter with a small fresh-planted quarter of Cauliflowers. Every plant was hung with plenty of air round the roots. In planting with a trowel the roots should also be firmed, but not so much. If the plants have balls of earth the trowel or the spade must be used.

When on this economical move, I may also mention another by which much valuable time is often lost. I mean the manufacture of small sticks for tying, now often wanted by the thousand. Those bought and made of deal are brought to a point by being planed all round. How often now do we see men whittling small twigs not much larger than straws up to the girth of their fingers in the same manner. If they had been bodkins for their wives and sweethearts they could not shave and whittle and scrape them more nicely. Now, it is essential that there should be a sharp point so that roots be injured as little as possible. But for all such purposes, two strokes of the knife, the first slice taking off half the point of the stick, and the next taking more than half of what is left sideways, leaves a point as good as twenty whittlings. If at all large, a small cut may be necessary on the other side, but in this case two strong and one gentle stroke ought to be sufficient.

### FRUIT GARDEN.

Thinned Peaches, stopped, tied to stud-nails, watered, giving a good soaking of manure water but not all at once, going 18 inches from the tree first, then in three days or so 2 feet further, and in four days as much more. If at all dry a sudden drenching a over is apt to make the fruit drop. Watered

Strawberries with manure water as it could be got, after stirring up the baked surface soil. Threw a little soot and ashes on some Gooseberry bushes that showed a few caterpillars, throwing it on with the hand below the bushes when they were damp. Have as yet seen no more. Perceive caterpillars getting on Cherry trees, which we have commenced picking and squeezing, and observe some black fly appearing on Morello Cherries, which we will dip in tobacco water as soon as possible; but the work and bother of getting out myriads of bedding plants, fill the hands full when they ought to be at liberty for general purposes. Removed a good many Strawberry-pots into cold pits out of houses partly shaded, convinced that by having more air and light they will be firmer and higher flavoured at table. Set a thing in its place and keep it there until done with, will only do for quite-out-of-the-way places where the gardener can wear his kid gloves and enjoy himself as a gentleman. There is nothing wrong, quite the reverse, in the ambition that fosters self-respect, and respect for others whether above or below us; but it would be well for many young gardeners to remember that they are servants, to dress like their fathers before them, and not to imitate their employers in affected gentility, or covering their faces with long hair so as to resemble an officer just come home from a Canadian winter.

### BEDDING.

Plants in pots received their general routine; but the most of the week has been taken up chiefly with bedding. The mania for this style is only rising, if I may judge from the communications that reach me—comparing notes, soliciting advice, &c.—from parties chiefly that have some claim to set aside the excellent rule of our conductors not to write privately to any of us coadjutors. If the rule was much violated, of course answers would be out of the question; and readers should recollect that in sending at once to the office they may have the benefit of the full consideration of many heads instead of one. Well, we have got about half through with our bedding, and the only thing I feel a little timid about will be the Calceolarias. Though the cuttings were planted in October, the plants got too big and rather drawn for want of room to thin them; but I dare say they will do pretty well. We generally change the planting of every part every year, and that saves using or having recourse to fresh soil to any extent. Last season we were rather artistic in our arrangements, some borders being a good deal in the style of the pattern given lately by Mr. Thomson, of Archerfield, whose arrangement of conservatories at Dyrham Park I had the privilege of recording. This season we are going back more to the old plainer styles, just for a change. These matters may not be of much importance to planters in general, who will individually prefer their own styles and systems. Two things we consider of more importance than mere early planting, or even very large plants, except for early blooming, and this we like to have and to cover the beds as soon as possible. As many are delaying their full work until the beginning of June, these two matters will not be yet too late. The first has been already referred to—the frequent turning of the ground so as to dig down the heated surface. Let this be done frequently, and the plants go at once into a sort of hotbed. The second is to give each plant a little fresh compost, which also shall be rich, light, and warm. The lightness is more necessary in our heavy soil. For that we generally depend on scrapings from the highway, clearings from the potting-bench, leaf mould riddled, mushroom-dung riddled; and as that might neither be light enough, nor dry enough, nor warm enough, we add a considerable portion of charred rubbish burned, and half-burned earth in a hot state. We generally commence this heap a fortnight or so before planting-time. All the prunings are kept in a heap. Kale-stalks, Brussels Sprouts, &c., are added; all the turf parings from fresh raising the beds, and walks, and other refuse. Earth is added, and fired, and looked after so that it may not blaze. When pretty well burned we take out a number of barrowloads for mixing as wanted, and in this mixture, with half a handful or so to a plant, the roots run very freely in general. A cartload will do for a great many plants. When the plants are small we spread a little over the bed before planting, and scrape it to the roots with a trowel. When the plants are large a little is thrown round the roots as we go along. This practice is gradually lightening the ground. The only disadvantage is that the road scrapings and drift give a good many little weeds; but as the beds would need stirring at any rate, we put up with this disadvantage for the counterbalancing advantage. We ourselves place much reliance for success on these two measures.—R. F.

TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**FLORISTS' FLOWERS (S. S. S.).**—The Carnation and Picotee were Nos. 4 and 5 in the Series. No. 1 is the Cineraria, and is our No. 45 New Series. Other flowers will follow, but we cannot specify the order in which they will appear.

**MYOSOTIS AZORICA (B. H.).**—Your seedlings of this spring will flower this summer. Whether or not they will live over the winter depends on where they are growing.

**VIOLETS (C. H.).**—Mr. Beaton says that he is very sorry he did not know whom to thank for the trouble of sending the Violets. He received two little cuttings all but dead, and both died before they could be rooted. The blue one was a common sort; the light one he never saw before.

**COCOA-NUT FIBRE REFUSE (A. B. S. H.).**—The sample sent is the right kind.

**TODACCO (A Young Beginner).**—In our No. 48, New Series, you will find directions for drying the plants, and in No. 293, of our First Series, a full account of the American mode of cultivating it. The blossoms without fruit on your Vegetable Marrows are the male blossoms. Bees and other insects will effect all the needful fertilisation.

**ITALIAN TUBEROSE CULTURE (Micran).**—A cartload of book learning has been written on this plant, and the whole put together is of no use whatever, for the plant will not pay to be grown in this country. The "roots" grown in England would not be worth 1s. the thousand, but grown in Italy they fetch 4s. a-dozen. It is, therefore, needless to waste more paper and patience on English-grown Tuberoses. The very same treatment as for pot Hyacinths or Narcissus will do for imported bulbs of the Tuberosae, all but the time of planting. From the 1st to the end of April is the right time to pot and start with. Like all bulbs that are partially or otherwise forced, the pot should be full of roots before extra heat is given. Tuberoses do very well under the stage of a greenhouse or in any dry warm room till the pots are full of roots. Then some extra heat, but not much, will cause them to bloom sooner; but with the same soil and treatment as a pot Geranium the Tuberoses will flower in the autumn, and by forcing slightly will bloom as early as the beginning of July.

**MANGLES' VARIEGATED GERANIUM (Amateur and Novice, Preston).**—Yes, the four leaves are four different sports, but ere the summer is over they will come to the usual two forms of the species, for that is now the only real wild species of Geranium that is bedded. The plain horse-shoe leaf is from the original wild species from the Cape. Mangles' plant was a variegated sport from that wilding, which turn or sport became all but barren, although the parent is the most inveterate seeder in the whole family. That sport is, in its turn, a sport also, the wilding endeavouring to regain its original form and character. Now, if you take a cutting of the green sport from Mangles' Variegated, and get a stock of plants from a bed then on strong clay land, that bed will bear in brilliancy a bed of Punch; but on light land or poor soil it does not succeed. As to the flowers they will be about double the size, and twice the stoutness of those of Mangles' Variegated, and will represent, at Preston, the true style of the Nosegay action, of which ladies who know all about flowers are so fond. All that we have seen proved twenty years back in the garden of the late Sir Abraham Hume, at Wormleybury; near the Rose Nurseries of the Messrs. Paul, of Cheshunt and Waltham. The Hon. Capt. Cust held that garden then. The soil was "brick earth," and the bed of the mother of Mangles' was, at the end of August, the very gayest bed of Geranium of any sort or kind we have ever seen. Your back-wall greenhouse climber, of which you send a leaf, is a Lophospermum, but which depends on the colours of the flower. It will do no good in a pot unless you can plant it in a border. Send it back to your friend, but out of doors is best for it, but like a Geranium it will not bear frost.

**LAYERED BRANCH OF A VINE (—).**—You may separate from the parent in autumn, if upon examination you find that the layered portion has formed a good amount of roots.

**DAMP ON INSIDE OF FERN-GLASS (—).**—It is caused by the air in the room being cooler than the air inside the bell-glass. Covering the glass with flannel will prevent the damp condensing at night on the glass. During the day you must either keep the Ferns in a warmer room, or wipe the damp from off the inside of the glass.

**ROOF OF ORCHARD-HOUSE (Ignoramus).**—You have got more slope than a common garden frame, and the water does not pour into them as in yours it seems to do. In glazing an orchard-house, we put the highest part of the squares in the centre, alike for strength and to throw the water to the sides; but we have no drip to speak of. Your laps are much the same as ours. We do not see why the panes do not touch at the sides—there must be something wrong there in the glazing. We do not see any remedy unless regulating or putting the laps. You might try putting the laps for 3 inches or 4 inches on each side at first.

**VINE LEAVES BLACK-SPOTTED (Banffshire).**—See that your drainage is all right. Do not use much sulphur in the house, and add some quicklime to the surface of the border before rain. We should judge that the house had been kept rather close, and that there was too much moisture and organised matter in the soil.

**SEEDLING POTATO (S. A. Daintree).**—Your seedling Potatoes "Daintree's Earliest," of last year's crop are large and handsome. We have cooked the sample received, and we must acknowledge they are very fine indeed, both in regard of flouriness and flavour.

**PEACHES NOT SETTING (Idem).**—The dull weather would be against the Peaches setting. Did you give abundance of air? We knew a house where air was neglected on a bright day, and every blossom fell. Of course the decay at the centre of the shoots is so far unsatisfactory (if it is decay); but if the trees are healthy, and making new wood outside, we do not think we would change the trees. Trees will bear well enough though the heart is all gone, if fresh growth continues outside.

**ORCHIDS (W. M.).**—There are not twelve Orchids, nor twelve stove plants of any kind except Cacti, that can be grown in a Melon-house. Melons, when ripening, require to be kept quite dry. The "Orchid Manual" by T. Appleby, can be had free by post for thirty-two penny postage stamps from our office.

**PEAR TREE UNFRUITFUL (A. W.).**—As you have root-pruned the tree, give a little rich mulching, and nip the points of the shoots. We expect next year you will have bloom-buds; but root-pruning tells most favourably on young trees, and on trees very luxuriant.

**MUSHROOMS UNDER A GREENHOUSE STAGE (T. R. W.).**—Mushrooms will grow there as well as in the cellar, or in a corner of the stable, or wood shed; but whether you can grow them there, you must be the best judge. All we can say is, we would not advise any one to attempt such a thing. If there is good earth under the stand, plant climbers in it; if not, drain it and make a capital border for climbers.

**STRIKING HEATH CUTTINGS (A Subscriber).**—This is a very good time to strike Heath cuttings, but they are struck all the year round. We would not advise you to try them, even now, except by way of experiment and amusement; for we fear that you will not rear one plant out of fifty from the first 500 Heath cuttings you make. But look over "Heath cuttings" in former Numbers, and think over the matter in your own mind; and if you require more help here it is, and most welcome. Nothing is more amusing than making cuttings and getting seedlings up, if one lost ninety-nine out of a hundred of them.

**BOX-EDGING (R. F. S.).**—We removed as much Box-edging in October, November, December, January, and February as would reach from one end of a parish to the farthest-off end of the next to it; and we are satisfied that not one blade of your Box was killed by the transplanting, but with the salt alone. But the salt had an easier prey from the recent plating. Salt will kill trees just as readily as tree Box, and it will kill dwarf Box much faster and sooner than any other edging of like substance. We would never allow, upon any consideration whatever, the use of salt, or of liquid manure to any but to the best practical hands.

**PAINTING A FERN-HOUSE (H. B.).**—Very likely the smell of paint would injure the young growth of the Ferns so early as this in the season; but if you were to put off the painting to the middle or end of August, and then opened all the doors and ventilators, and left them so at night for three weeks, it would not only be very likely to save the Ferns from the smell of paint, but do them more good in less time than ever they received in double the time since they were planted out.

**GERANIUM WALTHAM PET.**—At the Royal Horticultural Society's recent exhibition at Kensington, this Geranium, raised by Mr. W. Paul, had a First-class Certificate awarded to it, and not a Second-class Certificate as stated in our report; and as the difference between the two amounts to the difference between a first-rate and a second-rate plant—a matter commercially of great importance, we readily correct this error.

**SANDERS ON THE VINE (Grapes).**—The new edition is now published, price 8s.

**JOINTLESS TUBULAR BOILER.**—Mr. Ormson writes to inform us that his is the only one "commended" at the Horticultural Society's Garden show of implements. The omission on our part was unintentional.

**LIQUID MANURE (J. C. Hafod).**—Soapsuds, &c., from the house, may mix with the drainage from the cow-house, and will be one of the best of liquid manures. Do not use it too strong.

**NAMES OF PLANTS (J. D., Forfarshire).**—1, *Veronica hederifolia*; 2, *A. Myosotis*, indeterminate; 3, *Veronica arvensis*; 4, *Arenaria serpyllifolia*; 5, *Cyanostis perfoliata*. (*H. B. S.*)—*Niphobolus lingua*. (*W. Baynes*).—*Clanthus puniceus*. (*A. Robertson*).—The specimens were not numbered. How can we refer to them? Send fresh specimens and numbered. (*B. B. II*).—We paid 6d. for the carriage of your box. Upon receipt of six postage stamps we will publish the names.

POULTRY, BEE, and HOUSEHOLD CHRONICLE.

POULTRY SHOWS.

- JUNE 3rd. ESSEX AGRICULTURAL ASSOCIATION. Sec., R. Emson, Slough House, Halstead. Entries close May 10th.
- JUNE 4th and 5th. BEVERLY AND EAST RIDING. Sec., Mr. Harry Adams.
- JUNE 12th, NORTH HANTS AGRICULTURAL SOCIETY. Sec., Mr. B. DOWNS. Entries close May 21st.
- JUNE 26th and 27th. SUFFOLK (Woodbridge). Sec., Mr. J. Loder, jun. Entries close June 5th.
- JULY 3rd. PRAESCOT. Sec., Mr. James Beesley. Entries close June 21st.
- JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. Secs., G. Newton and J. Wade. Entries close June 21st.
- SEPTEMBER 9th. WORSLEY AND ARMLEY (near Leeds). Sec., Mr. Robertson Hoyle, Armley, near Leeds.
- DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.

HULL POULTRY SHOW.

The first Exhibition of poultry in connection with the Floral and Horticultural Society at Hull, was held on Wednesday and Thursday last, May 28th and 29th, and as far as the entries for poultry and Pigeons are concerned, was a most successful one.

The number of pens entered amounted to 253, many of them from some of the most noted exhibitors in the north; and as a certain consequence in many of the classes for poultry, and more especially among Pigeons, the competition was very close indeed. Mr. Turner, of Sheffield, supplied the pens, and the birds showed to great advantage in them. They are far preferable to willow coops, not only in this respect, but also on account of the great economy of space, as they do not take up much more than half the room coops would occupy.

The Show of both poultry and Pigeons was pronounced by competent judges to be the best ever held in the town of Hull; and it is only due to those who had the management of the poultry department to say, that every pen of both poultry and Pigeons was carefully repacked and sent to the railway station before ten o'clock the same night.

The following is the list of awards of the Judges:—

**DORKINGS.**—First, Second, Third, and Fourth, H. W. B. Berwick, Helmsley. Highly Commended, H. Himsforth, Lupset Hall, near Wakefield.  
**SPANISH.**—First, E. Brown, Sheffield. Second, R. Teebay, Fulwood, near Preston. Third, J. Shorthose, Newcastle-on-Tyne. Highly Commended, J. Dixon, Bradford; T. B. Stead, Leeds.  
**COCHIN-CHINA.**—First, E. Smith, Manchester. Second, J. Shorthose, Newcastle-on-Tyne. Third, T. C. Trotter, Sutton. Highly Commended, H. W. B. Berwick, Helmsley; E. Smith, Manchester; H. Yardley, Market Hall, Birmingham.

**GAME** (Black-breasted and other Reds).—First and Second, H. Adams, Beverley. Third, G. R. Tate, Driffield. Highly Commended, W. Boyes, Beverley; H. M. Julian, Beverley; J. Hodgkinson, Hull; H. Beldon, Bradford.

**GAME** (any other variety).—First and Second, H. Adams, Beverley. Third, G. W. Langdale, Beverley.

**HAMBURGS** (Golden or Silver Pencilled).—First, H. Beldon, Bradford. Second and Third, J. Dixon, Bradford. Highly Commended, S. Shaw, Stainland, Halifax.

**HAMBURGS** (Golden or Silver Spangled).—First and Second, J. Dixon, Bradford. Third, H. Beldon, Bradford. Highly Commended, H. W. B. Berwick, Helmsley; S. Shaw, Stainland, Halifax.

**POLISH** (any variety).—First, Second, and Third, J. Dixon, North Park, Bradford.

**ANY OTHER DISTINCT OR CROSS BREED.**—First, S. Shaw, Stainland, Halifax (Black Hamburgs). Second, G. R. Tate, Driffield (Malaya). Third, R. Teebay, Fulwood, near Preston (Brahma Pootra). Highly Commended, J. Dixon, Bradford; T. B. Stead, Leeds (Brahma Pootra).

**CHICKENS OF 1862.**—First, H. Beldon, Bradford (Hamburgs). Second, R. D'Ewes, Knarborough (Cochin-China). Third, J. Dixon, Bradford.

**BANTAMS** (Gold or Silver Laced).—First, E. Hutton, Pudsey, near Leeds. Second, E. Yearley, Wiscwood, Sheffield. Third, S. Shaw, Halifax.

**BANTAMS** (Black or White).—First, Master G. H. Crosland, Wakefield. Second, J. Dixon, Bradford. Third, J. Crosland, jnr., Wakefield. Highly Commended, E. Hutton, Pudsey, near Leeds; J. Gawao, Beverley.

**BANTAMS** (Game).—First, C. W. Brierley, Rochdale. Second, H. Taylor, Chesterfield. Third, J. Shorthose, Newcastle-on-Tyne. Highly Commended, T. G. Glenton, Hull; R. Voakes, Driffield; G. R. Tate, Driffield; E. Holdsworth, Leeds. (A very good class.)

#### SWEEPSTAKES.

**GAME COCKS.**—First, G. R. Tate, Driffield. Second, H. Adams, Beverley. DORRING COCKS.—Prize, Rev. J. G. A. Baker, Biggleswade, Beds.

**SPANISH COCKS.**—First, R. Teebay, Fulwood, near Preston. Second, Rev. E. Smith, Northamptonshire. Third, T. P. Wood, jun., Chesterfield. Highly Commended, W. Houseman, Tadeaster; E. Brown, Sheffield; Rev. E. Smith.

**COCHIN-CHINA COCKS.**—First, R. D'Ewes, Knarborough. Second, E. Smith, Manchester.

**HAMBURGH COCKS.**—Prize, H. A. Hudson, Ousecliffe, York.

**GAME BANTAM COCKS.**—First, J. Crosland, jun., Wakefield. Second, R. M. Stark, Hull. Highly Commended, T. Ripon, Beverley; G. R. Tate, Driffield.

**BANTAM COCKS** (any other variety).—Prize, E. Hutton, Pudsey, near Leeds.

**DUCKS** (Aylesbury).—First, H. Beldon, Bradford. Second, G. R. Tate, Driffield.

**DUCKS** (Ronen).—First, G. R. Tate, Driffield. Second, J. Dixon, Bradford. Third, S. Shaw, Halifax. (The class Highly Commended.)

**DUCKS** (Black East Indian).—First and Second, J. R. Jessop, Hull.

**DUCKS** (any other variety).—First, S. Shaw, Halifax (a very beautiful pen of Carolinas). Second, Miss White, Beverley.

**GESE** (any variety).—First, G. R. Tate, Driffield. Second, J. Dixon, Bradford. Third, J. R. Jessop, Hull.

**TURKEYS** (any variety).—First, J. Dixon, Bradford. Second, G. R. Tate, Driffield. Third, Lady F. Haawe, Womersley Park, near Pontefract.

**GUINEA FOWL** (any variety).—First, H. Merkin, Driffield. Second, H. Beldon, Bradford. Third, H. & G. Newton, Garforth, Yorkshire. Highly Commended, G. R. Tate, Driffield; R. Voakes, Driffield; J. Dixon, Bradford. (A very good class.)

**PIGEONS.**—*Carriers.*—First, W. Cannan, Bradford. Second, S. Shaw, Halifax. Third, G. Robson, Hull. Highly Commended, W. Cannan; A. L. Silvester, Birmingham; J. Firth, Dewsbury. *Almond Tumblers.*—First, W. Cannan. Second, S. Shaw. Third, H. Yardley, Birmingham. Highly Commended, A. L. Silvester. *Tumblers* (any other variety).—First and Second, W. Cannan. Third, R. & J. Bell, Beverley. Highly Commended, J. W. Edge, Birmingham; S. Shaw. *Pouters.*—First, S. Robson, Burton-Salmen. Second, H. Beldon, Bradford. Third, J. Crosland, jun., Wakefield. Highly Commended, S. Shaw. *Jacobins.*—First, S. Shaw. Second, F. Else, London. Third, T. Ellington, Beverley. Highly Commended, W. Cannan. *Fantails.*—First, T. Ripon, Beverley. Second, W. Cannan. Third, H. Key, Beverley. Highly Commended, J. R. Jessop, Hull; T. Ellington; S. Shaw. *Trumpeters.*—First, S. Shaw. Second, H. Key. Third, H. Yardley. Highly Commended, A. L. Silvester; J. R. Jessop; E. Smith, Birmingham. *Bairs.*—First, S. Shaw. Second,

E. Smith. Third, W. Cannan. Highly Commended, A. L. Silvester. *Turbits.*—First, Master G. H. Crosland, Wakefield. Second, S. Shaw. Third, W. Cannan. Highly Commended, W. Catterson, Hull; F. G. Glenton, Hull. *Owls.*—First and Second, W. Cannan. Third, H. Key. Highly Commended, F. Else. *Any other Variety.*—First, H. Beldon. Second, W. Lingard, Hull. Third, H. Yardley. Highly Commended, S. Shaw; G. H. Crosland.

**RACONTS.**—*Best Pair for Longest Ears.*—First, T. Rousby, Hull. Second, G. Jones, Birmingham. *Best Pair for All Properties.*—Prize, T. Rousby.

The Judges were, J. H. Smith, Esq., of Skelton Grange, York; and Samuel Bird, Esq., of Shipley.

## BATH AND WEST OF ENGLAND POULTRY EXHIBITION.

MAY 27TH, 28TH, AND 29TH.

ONE of the most successful poultry shows ever yet held by this Society was the one just concluded at Wells, Somerset. Considering the time of year as being that in which most of the best specimens are breeding, together with the well-known fact that May is undoubtedly too early to hope for a very extensive show of chickens of the current year, the collecting together of three hundred pens of first-rate poultry must be esteemed most satisfactory. The numerous plate prizes unquestionably produce no small portion of this competition, and a perusal of the printed catalogue shows that the exhibitors are widely spread throughout most parts of the kingdom. The arrangements in the showyard admit of no improvements so far as scrupulous care and attention to the wants of the poultry are considered; but there is one regulation we hope to see modified on future occasions, as we feel confident it will secure the good opinions of all parties interested. It is this—by a regulation issued with the prize list it is enforced, that "all the specimens intended for exhibition must be in the showyard before 12 o'clock on the morning of Monday, the 26th of May; otherwise they will not be admitted, &c." As a large number of the fowls belonging to the more distant competitors were not forthcoming at that time, the permission was extended to the same time the day following. Perhaps in the present case it was a wise policy to do so; but as a permanent regulation it is open to much grave objection, being scarcely a fair treatment to those owners, who, in spite of much personal discomfort and exertion, contrived to get their pens on the ground in accordance to rule.

A very simple alteration would accommodate nearly every one, and leave disputation out of the question—viz., to receive poultry to some given hour on the Tuesday, and afterwards rigidly adhere to the time specified. It would without doubt much improve the amount of entries generally; and likewise of necessity add no small income to the revenue of the Society.

Within our own personal knowledge not an inconsiderable number of exhibitors refused "to enter at all, because 12 o'clock on Monday, as the latest date for arrival at Wells, absolutely necessitated the fowls being packed and sent off on the Sabbath, or at the best suggested an alternative of forwarding them on the Saturday, to be possibly delayed and neglected on the rails for some forty-eight hours, or even a longer period." As the future interests of the Society will enforce an alteration on this point, we will simply add, that to run the risk of sending valued fowls to be delayed throughout Sunday is hardly to be expected; whilst the no less objectionable plan of packing and forwarding them on the Sabbath will be as universally admitted.

The showyard was this year admirably chosen, the views being of the most rural and extended character, whilst an inspection of the venerable cathedral and some other public buildings afforded no little satisfaction to visitors.

In *Spanish* fowls Mr. Rodbard, Mr. Fowler, and Mr. Martin were the successful ones. It does not by any means follow, however, that they were the only individuals who exhibited good pens, for the class throughout was far better than ordinary.

In *Dorkings* all colours were admissible. In this class the palm was carried off by a very well-shown pen of "Greys" belonging to Mr. Wakefield, of Malvern Wells; the pens of Lady Julia Cornwallis taking second and third position, but evidently betraying want of condition from frequent exhibition. There were a few capital White Dorkings shown in this class.

Mrs. Pookes easily secured both first and second prizes (with Buffs), in the *Cochin* class. Mr. Chase taking the third prize with a pen of excellent White ones.

In the *Game* classes Mr. Fletcher, of Manchester, was the most successful exhibitor, although Mr. Archer, of Malvern,

Mr. Harry Adams, of Beverley, and some others pressed that gentleman very closely.

Mr. Charles Ballance stood ahead in Malays. His pen has wonderfully improved since the recent show at Taunton.

The *Hamburgs* were first-rate, Mr. Josiah Chum showing the best Golden-spangled; Lady Julia Cornwallis the best Silver-spangled; and Mr. Martin sweeping away the prizes altogether for both Golden and Silver-pencilled ones.

Messrs. Ray, Pettat, and Edwards, divided the prizes for Poland, the classes being small but the birds excellent.

The "Sweepstakes for Coeks" brought but little competition, saving the Single Game Coek class, which was keenly contested.

In the class, a "sweep" for Game *Bantams*, H. D. Bayley, Esq., sent a bird a perfect credit to any breeder. His Bantam's success in any competition would have been equally certain, as in the present one, where he stood without opponent of any kind; but of his pecuniary winnings on this occasion the less is said the better. By rule the prize being the return simply of his own entry-money after deducting expenses.

*Ducks, Geese, and Turkeys* mustered in numbers, and were really excellent, as were also the Peafowls and the Variety class generally.

The *Pigeons* were, without doubt, a most excellent and interesting collection; the Carriers, Powters, Runts, Jacobins, Fan-tails, Owls, and Trumpeters being the most praiseworthy. It is very rarely we have visited a collection of these interesting varieties shown so well throughout.

The most careful arrangements were provided for the prompt return of the poultry exhibited.

**SPANISH.**—First, J. R. Rodbard, Wrington, near Bristol. Second, J. K. Fowler, Aylesbury, Bucks. Third, J. Martin, Claines, Worcester. Highly Commended, R. Teehay, Fulwood, near Preston. Commended, R. Wright, London.

**DORKING (Coloured or White).**—First, C. H. Wakefield, Malvern Wells, Worcestershire. Second and Third, Lady J. Cornwallis, Linton Park. Highly Commended, Mrs. H. Fookes, Whitechurch, Dorset; W. Bronley, Birmingham; E. H. Garrard, Broadway, Worcestershire; Major A. S. Altham, Stoke St. Mary, Somerset.

**COCHIN-CHINA (Coloured or White).**—First and Second, Mrs. H. Fookes, Whitechurch, Dorset. Third, R. Chase, Birmingham. Highly Commended, Mrs. B. J. Ford, Countess Weir, Exeter; J. K. Fowler, Aylesbury. Commended, H. Tomlinson, Birmingham; C. Felton, Erdington, Birmingham.

**GAME (Whites and Piles, Blacks and Brassy-winged).**—First, J. Fletcher, Stoneclough, near Manchester. Second, J. B. Weeks, Bromyard, Worcester. Third, Rev. G. S. Crawys, Tiverton, Devon. Highly Commended, W. Dawson, Selly Oak, near Birmingham.

**GAME (Black-breasted and other Reds).**—First, J. Fletcher, Stoneclough, near Manchester. Second, H. Adams, Beverley. Third, S. Matthews, Stowmarket, Suffolk. Highly Commended, S. Dupe, Bath; R. Cozens, Shepton Mallet, Somerset; Rev. G. S. Crawys, Tiverton. Commended, T. Burgess, jun., Whitechurch, Salop; Rev. G. S. Crawys.

**GAME (Duck-wings and other Greys and Blues).**—First, S. Dupe, Bath. Second, J. Fletcher, Stoneclough, near Manchester. Third, W. Dawson, Birmingham. Highly Commended, G. W. Langdale, Beverley.

**MALY (Coloured or White).**—First, C. Ballance, Taunton. Second, J. Rimes, The Grove, Hackney. Third, W. Mansfield, jun., Dorset.

**HAMBURG (Golden or Silver-Pencilled).**—First, Second, and Third, J. Martin, Claines, Worcester. Commended, E. M. Dansey, Gloucestershire.

**HAMBURG (Golden or Silver Spangled).**—First, J. L. Chane, Coalbrookdale, Shropshire. Second, Lady J. Cornwallis, Staplehurst, Kent. Third, N. Marlor, Manchester. Highly Commended, I. Davies, Harborne, near Birmingham; W. Joshua, Cirencester; T. L. Brown, Somerset.

**POLANDS (Black with White Crests).**—First, G. Ray, Lyndhurst, Hants. Second, T. P. Edwards, Lyndhurst, Hants.

**POLANDS (Golden and Silver Spangled).**—First and Second, Mrs. Pettat, Basingstoke, Hampshire.

**ANY VARIETY NOT COMPRISED IN THE FOREMENTIONED CLASSES.**—First, P. P. Cother, Salisbury, Wilts (Pheasant Malays). Second, Miss S. H. Northcote, Upton Pyne, near Exeter (White Spanish). Third, W. Mansfield, jun., Dorchester (Rumpless). Highly Commended, C. H. Wakefield, Malvern Wells, Worcestershire (Crève Cœurs); R. Teehay, Fulwood, near Preston (Brahmas).

**SPANISH CHICKENS (Black or White).**—First and Second, J. R. Rodbard, Wrington.

**DORKING CHICKENS (any variety).**—First, C. H. Wakefield, Malvern Wells, Worcestershire. Second, Miss J. Milward, Newton St. Lo, Bath. Highly Commended, J. K. Tombs, Langford, Gloucestershire.

**GAME CHICKENS (any variety).**—First, J. Fletcher, Stoneclough, Manchester. Second, W. D. Braginton, Bideford. Highly Commended, S. Dupe, Bath; H. Adney, Lympstone, Devon. Commended, H. Adney.

**COCHIN-CHINA CHICKENS (any variety).**—First, G. Locke, Newport, Isle of Wight. Second, Mrs. Fookes, Whitechurch, Dorset. Commended, J. K. Fowler, Aylesbury.

#### SWEEPSTAKES.

**GAME.**—First, E. Archer, Malvern. Second, J. Fletcher, Stoneclough, near Manchester. Third, J. Camm, Farnsfield, Notts.

**SPANISH.**—First, J. R. Rodbard, Wrington, Somerset. Second, H. Lane, Bristol.

**DORKING.**—First, Lady J. Cornwallis, Staplehurst, Kent. Second, J. G. A. Baker, Biggleswade, Beds.

**COCHIN-CHINA.**—First, P. Cartwright, Oswestry. Second, C. Felton, Erdington, near Birmingham.

**GAME BANTAM.**—PRIZE, T. H. D. Bayley, Biggleswade, Beds.

**BANTAMS (Gold Laced).**—First, T. H. D. Bayley, Biggleswade, Beds.

Second, Rev. G. S. Crawys, Tiverton. Commended, Rev. G. F. Hodson, Somerset.

**BANTAMS (Silver Laced).**—Silver Cup and First Prize, T. H. D. Bayley, Biggleswade, Beds. Second, Rev. G. S. Crawys, Tiverton.

**BANTAMS (White and Black).**—First, T. H. D. Bayley, Biggleswade, Beds. Second, Rev. G. F. Hodson, Somerset. Highly Commended, E. Hutton, Pudsey, Leeds; Rev. G. S. Crawys, Tiverton.

**BANTAMS (any other variety).**—First, J. Camm, Farnsfield, N.tingham. Second, W. A. Deane, Blackford, Devon. Highly Commended, T. H. D. Bayley, Biggleswade, Beds; J. Camm.

**DUCKS (White Aylesbury).**—First, J. K. Fowler, Aylesbury. Second, G. Hanks, Malnesbury, Wilts. Commended, J. K. Fowler; G. G. Barrett, Tiverton.

**DUCKS (Black East Indian).**—First, G. R. Edgell, Brandford Speke, near Exeter. Second, Major Altham, Stoke St. Mary, Somerset.

**DUCKS (Rouen).**—First, Mrs. J. N. Grenville, Glastonbury, Somerset. Second, J. K. Fowler, Aylesbury.

**DUCKS (any other variety).**—Prize, T. H. D. Bayley, Biggleswade, Beds (Call).

**GEESE.**—First, W. Mansfield, jun., Dorchester. Second, J. K. Fowler, Aylesbury. Highly Commended, Mrs. Fookes, Whitechurch, Dorset.

**TURKEYS.**—First, Mrs. Fookes, Whitechurch, Dorset. Second, R. Brand, Great Shelford, Cambridgeshire. Highly Commended, Miss J. Milward, Newton St. Lo, Bath; Mrs. J. N. Grenville, Glastonbury, Somerset.

**PEAFOWLS.**—First, C. Ballance, Taunton. Second, H. Adney, Lympstone, Devon.

**GUINEA FOWLS.**—First, Miss S. H. Northcote, Upton Pyne, Exeter. Second, W. D. Braginton, Devon.

**CARRIERS.**—First, Major Hassard, Hilsa, near Portsmouth. Second, A. L. Sylvester, Birmingham. Highly Commended, A. L. Sylvester; A. S. Altham, Stoke St. Mary, Somerset. Commended, Major Hassard.

**TUMBLERS (Almond).**—First, withheld. Second, A. L. Sylvester, Birmingham.

**TUMBLERS (Any other Variety).**—First, S. Summerhayes, Taunton. Second, F. Else, Westbourne Grove, London.

**POWTERS.**—First, E. Pigeon, Lympstone, Devon. Second, A. S. Altham, Stoke St. Mary, Somerset.

**RUNTS.**—First, F. Key, Beverley. Second, E. Pigeon, Lympstone, Devon.

**JACOBS.**—First, A. S. Altham, Stoke St. Mary, Somerset. Second, S. Summerhayes, Taunton.

**FANTAILS.**—First, A. S. Altham, Stoke St. Mary, Somerset. Second, F. Else, London.

**OWLS.**—First, A. S. Altham, Stoke St. Mary, Somerset. Second, W. H. Beadon, Somerset.

**TRUMPETERS.**—First, F. Else, London. Second, S. Summerhayes, Taunton.

**BARNS.**—First, A. S. Altham, Stoke St. Mary, Somerset. Second, no competition.

**TURNTS.**—First, F. Else, Westbourne Grove, London. Second, A. S. Altham, Stoke St. Mary, Somerset. Highly Commended, E. Pigeon, Lympstone, Devon; J. Adzey, Collympton; S. Summerhayes, Taunton.

**YONS.**—First, unnamed. Second, N. Key, Beverley, Yorkshire.

**DRAGONS.**—First, E. Pigeon, Lympstone, Devon. Second, S. Summerhayes, Taunton. Highly Commended, A. L. Sylvester, Birmingham; J. F. Brand, Newton Abbott, Devon; S. Summerhayes.

**ARCHANGELS.**—First, S. Summerhayes, Taunton. Second, A. L. Sylvester, Birmingham.

**ANY OTHER NEW OR DISTINCT VARIETY.**—First, W. H. Beadon, Cheddon Fitzpaire, near Taunton. Second, S. Summerhayes, Taunton.

The Judges were George Andrews, Esq., of Dorehester, and Edward Hewitt, Esq., of Sparkbrook, Birmingham, both of whom expressed themselves highly pleased with the Exhibition generally.

#### RAISING YOUNG PIGEONS BY HAND.

HAVING a young pair of Almond Tumblers just three weeks old, which I am desirous of rearing by hand from the present time to enable the old ones to have the use of the nest again, there being no other occupied, I shall be much obliged by your telling me whether I might safely venture to feed them by hand on soaked peas or other food. The old ones, which I have recently purchased of Lady Winchester, still feed them well, but cannot go to nest again, as they would very soon do until they are removed; and the season is getting late.—ALFRED HEATH.

[As far as regards the young Almonds it would be much safer to shift them under a pair of common Pigeons, having young not quite so old, as feeders, than to attempt to feed them by hand. And as regards the old ones they would do much better if allowed to feed the young as long as they can than if caused to lay prematurely by removing the offspring. By forcing them, or as the fanciers term it by pumping them, the birds are weakened, and the eggs much more likely to be thin-shelled and sterile.]

#### CANARY HENS SITTING WITHOUT LAYING.

CAN any of your readers inform me if they have had hen Canaries which, after building, have sat without laying a single egg? I have a White-spangled Lizzard which at the beginning of the season made her nest, and for a week sat without laying. I put some eggs under her which she kept for eight days, and would have hatched had I allowed her. After giving her a week's rest she had fresh materials for building; but again she is upon an empty but beautifully-built nest. She paired with a

Lizzard of the same kind. She is well, and eats her seed, and egg, and bread, and green food. Strange to say, I have a green hen which has acted in the same way, but brought up three young birds.—E.C.

[The hen, if old, is no doubt barren. Try her with another cock bird, and if she be a young and valuable bird keep her till next breeding season, and then pair her with another. It occurs occasionally that a young bird will not lay the first season, although she may build and sit on the nest: this is owing sometimes to being placed with a cock bird that is sickly or old and cares nothing about her. In such case the hen (although she be not barren), if it be the first season of her being placed in with a male, will not lay. We know one or two instances in which a hen bird has laid only one egg, and others none at all, the first season, and built and sat on their nests; and during the forthcoming season on being paired with another cock have laid several eggs. In one case the hen became the mother of thirteen birds and reared them all. Try a little hemp and maw seed in with the other food.]

THE HOUDAN FOWL.



If those who read this have ever read "Robert Macaire," we ask them whether the individual figured at the head of the page does not remind them of that worthy. His upright carriage, his impudence mingled with humour, his easy assurance, and the appearance of comfort that lurks around the mouth as it emerges, in one from the ample cravat, and in the other from the beard.

Far be it from us, however, to attribute to the Houdan the vices that have made Robert Macaire famous; and, therefore, as the highest authority on the subject, we will allow M. Jacque to speak.

"PROPORTIONS AND GENERAL CHARACTERISTICS.

"Body rather round, compact, of ordinary proportions, short-legged, and standing firmly on strong feet; pectorals, thighs, legs, and wings well developed; large head; half topknot; whiskers, beard, triple comb, transversal; five toes on each foot;



spotted or splashed plumage, black, white, or yellow white in the adult—in chickens, black and white only.

"An adult will weigh from 6 lbs. to 7 lbs.; flesh abundant; bones light, about an eighth of the whole weight.

"A chicken of this breed is put up to fatten at four months, and killed at four and a half months. If we take away from the weight of the carcase, the liver, gizzard, the flesh of the head, of the neck, and of the feet, indeed, all that constitute the giblets, which find a ready sale, being considered delicacies by some people, there will remain from 2½ lbs. to 3 lbs. of solid compact meat. In this breed the bones of the chicken may be calculated as being hardly an eighth part of the body, while in butcher's meat they weigh a quarter.

"Comb.—Triple, transversal, composed of two elongated and rectangular flattened spirals, opening right and left like the leaves of a book, notched on the sides, and thick and fleshy. A third spiral springs up in the middle of the preceding ones, taking the form of an irregular strawberry, and the size of an elongated nut. Another small spiral detached from the others, and the size of a lentil, should appear above the beak between the two nostrils.

"The Wattles should be united to the comb by fleshy parts which form the face, surround the corners of the beak with apparent notches, and the eye with a naked lid.

"The Ear-lobes short and hidden by whiskers.

"The half Topknot thrown backward, and on the sides a few pointed feathers turning at the points, but sticking up in the air.

"Face.—Naked, surrounded with whiskers formed of short-pointed and up-turning feathers.

"Beard.—Begins under the beak between the wattles, joins the whiskers, and hangs down the neck; wider at bottom than at top.

"Beak.—Strong and rather hooked, black at its insertion, and yellowish at its extremity, depressed towards the beard, and dropping considerably at the corners.

"Physiognomy of the Head.—Differing from many other species by several remarkable features; the head and neck form rather an open angle, so that the drooping beak is seen above it, and takes the appearance of a nose.

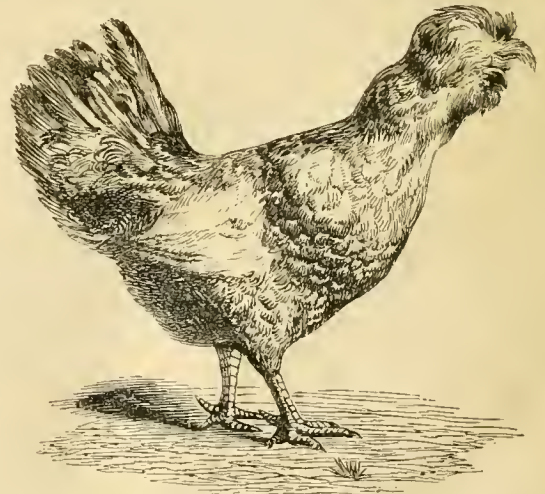
"Comb.—The square and flattened comb seems to be a fleshy forehead, the cheeks (in England, face) are surrounded with curling feathers which look like whiskers, the drooping corners of the beak resemble a mouth, and a cravat of feathers joined to the wattles simulates a beard; the topknot is like a rough head of hair, and the entire face at once suggests the idea of that of a man.

"Colour of Legs.—In adults, a leaden grey; in chickens, bluish and whitish grey, with rose-coloured spots.

"Plumage.—It should invariably be composed of black, white, and straw-colour; those fowls that have any mixture of red should be got rid of.

"The plumage of the Houdan is of the variety called splashed or curl-papered. It is irregularly composed of feathers, sometimes black, sometimes white, sometimes black tipped with white, and sometimes white tipped with black.

"THE HEN.



"Body.—Well set, appearing almost as large as that of the

cock, firmly planted on strong legs; breast, thighs, legs, and wings well developed; large head; demi or whole topknot; whiskers and beard very distinct; rudimentary comb and wattles; five claws on each foot; feathers of the abdomen very fluffy, ample, and pendant; other feathers of ordinary length; splashed plumage, black and white with violet and greenish shades.



*“Physiognomy of the Head.*—When the topknot is very developed, the hen is unable to see in front or on either side; she can see only on the ground, because the feathers cover not only the lid but the eye itself; this gives the bird a nervous motion at every noise it hears. It is only by close observation her eyes can be discovered at all.”

#### SKINS OF SILVER GREY RABBITS.

I READ in your paper at the end of February last a very interesting account of the Silver Grey Rabbits, and my attention has been since drawn to the subject by a friend of mine showing me a muff made of the skins of that Rabbit, which he breeds in a confined state. A more handsome and elegant article I have seldom seen. My object in writing this letter is to ask whether any of your readers can inform me why these skins are not made up in England as well as in Russia and China? They are surely much more beautiful than the dyed coarse-looking furs in common use.—INQUIRER.

[We shall be glad of some information in answer to this inquiry; for it does seem extraordinary that nearly all are exported to China and Russia.—EDS. J. OF H.]

#### ARTIFICIAL SWARMING.

I HAVE one good stock of bees, but it is in a cottage-hive. It has flown drones a few days and is very full of bees. Is it possible to make an artificial swarm from it, or would you let it come in the regular way, and if you would make an artificial swarm how could it be managed?—J. W.

[We cannot undertake to determine the point whether you had better trust to Nature for a swarm, or try artificial means. Should you decide upon making the experiment, the best way will be to operate in the middle of a fine day, when the queen and bees of your strong stock should be driven into an empty hive in the manner directed in pages 45 and 46 of “Bee-keeping for the Many.” This must occupy the place of the old stock and will form a very strong swarm. The hive itself should take the place of another good stock, which must be removed to a new position. The returning bees will enter it and raise a young queen from the brood left by their predecessors.]

#### LIGURIAN BEES.

HAVING seen in THE JOURNAL OF HORTICULTURE that Mr. Woodbury was the person to apply to about the Ligurian bees, I took the liberty of doing so, requesting him to inform me if he could warrant the safe carriage of a hive this distance—upwards of 400 miles by rail. He seemed to have not the least doubt as to their safety, and he was kind enough to dispatch one to me on the 8th ult. at seven o'clock, A.M. It reached here the following day at five o'clock, P.M., having been thirty-four hours

on the way; and no doubt it was examined with much interest. I could not help admiring the ingenious way it was made up for the journey, being in one of his own bar-hives. However, when I took off the shutter behind, and looked in through the glass, I saw that the bars had been moved out of their places—the one lying up against the other. My other bees being very busy, I did nothing to the Ligurians, but took off the under perforated zinc shutter, and bound them on the board, which allowed them to get out, when they seemed to enjoy themselves. I covered the hive up for the night to keep them warm. The following day being wet and cold, I could not touch them till eleven o'clock: at that time it had got clearer. Having shut down all my other hives that the Ligurians might not get into them while I was putting the bars into their places, and having taken off the upper board, the whole damage was seen. However, I soon got the bars all into their places, and none of the combs had fallen out of the bars, Mr. Woodbury having had them securely fixed. I then screwed down the top board, and placed the hive in its place, and they soon began to clear away the crumbs of the combs—a good sign that all was right. On the following day they were carrying as well as any of my own black ones, and are doing so still. They seem nothing the worse for the journey. With the exception of carrying out a few young bees, which seemed to be imperfect in some way, they have now ceased doing so.

From the careful way Mr. Woodbury had them secured they must have got very rough usage somewhere, as it seemed impossible the bars could get out of place; but I have no doubt Mr. Woodbury will be able to remedy this in future.

I was astonished at their quietness, they never attempted to sting me; I might have done anything I chose with them. My own black ones would not have allowed me to do as much to them without letting me feel their stings.

I have given the above account of the second colony of Ligurians in the East Lothian, that it may induce other apiarists to get a trial of the Ligurians; they seem active, energetic colonists.—ALEX. SHEARER, *Yester*.

P.S.—On the 24th I took off the cover of the box to see how they were getting on, and I was surprised to find the hive had doubled in weight. They had filled two bars with combs, and other two nearly half, and the others are full of young brood. It is now by far the best hive I have, and I thought I had some good ones; its progress is most extraordinary, far beyond what I could have expected.

#### BEES DESERTING THEIR HIVES.

WHAT can be the reason of my bees leaving their hives? I feel almost ready to abandon them altogether. I have been so repeatedly disappointed by them in this way only. For years past I have attributed their abandoning their homes, so well provided with everything required, to the age of the queen. I have never lost a stock from starvation or any other cause but (to me) this mysterious one. I always make up the full required weight early after the first or second week in August from loaf sugar and water only, boiled into as near as possible the consistency of honey; and they seem to do well till the spring, but afterwards dwindle until there are none left. I have sometimes found the queen a poor little dried thing with a few bees; sometimes I have not found her at all. Once I found her dead, still hanging under the board; but in each case the hive was left with honey, pollen, and much of the syrup which I had given some months previously, and I believe from some cause or other slightly changed. I have been in the habit of hiving my swarms into these hives. I will describe a case.

Last summer I had one stock which swarmed, then afterwards gave a second swarm. In the autumn I fed all three well until they reached the weight mentioned by Mr. Taylor and others. I had no trouble, for they very readily appropriated the syrup. I think they bred well, and from each I hoped to have increased my stock. In the first warm weather after Christmas they worked, but as the spring advanced they seemed to decline. I turned up first the east or second swarm, I should say there were not a dozen bees in it; next, the old stock (which too, be it remembered, had young queens in it last autumn), but this had shared nearly the same fate, and seems to grow worse daily; and lastly, the first swarm (which had the old queen in it). This did not seem quite so bad, and may possibly have a little recovered, as I now and then see a bee go in laden with pollen.

Now, I know mine is not a solitary case, for although kept in a town they have sometimes done well. I have known just the same thing happen to bees placed in the best possible situation for honey collecting. When I was in Oxfordshire some years back, the same complaint was made to me of bees kept at the seat of Lord Churchill, in Cornbury Park. I have had bees by rail out of Oxfordshire, and out of Kent, which have done well for some time and then abandoned their hives as I have deserted, I have dwelt at large on this subject because I know so very many people are interested in it, and I hope you will allow sufficient space to have it well discussed. I can only guess at the cause myself.—E. FAIRBROTHER.

[We must know more of the circumstances before we offer an opinion. Have the bees been located in wooden or straw hives? What are their dimensions, &c.? How are they protected from the weather and from extremes of temperature? Do they appear to have suffered from internal moisture? Are you much annoyed by smoke or ill smells? Full information on all points must be afforded in order to enable us to suggest a remedy.]

REARING CALVES ON MILK AND LINSEED MEAL.

No doubt but the best and most proper food for the calf is its own dam's milk; for it is a true food, in which the components of nutrition are so nicely balanced by the all-wise and beneficent Creator as to set at nought all human compositions; but it is of so much value for human consumption that it becomes necessary to economise it and make imitations of it, though at a very humble distance; and thus it is that science comes to our aid. Professor Johnston says, in his "Lectures on Agricultural Chemistry," "that while the calf is young, during the first two or three weeks, its bones and muscles chiefly grow. It requires the materials of these, therefore, more than fat; and hence half the milk it gets at first may be skimmed, and a little beanmeal may be mixed with it to add more of the casein or curd, out of which the muscles are formed. The costive effects of the beanmeal are to be guarded against by occasional medicine, if required. In the next stage more fat is necessary, and in the third week, at latest, full milk should be given, and more milk than the mother supplies, if the calf requires it; or, instead of the cream, a less costly kind of fat may be used. Oil-cake finely crushed, or linseed meal, or even linseed oil, may supply at a cheap rate the fat which, in the form of cream, sells for much money; and instead of additional milk, beanmeal in large quantity may be tried, and if cautiously and skilfully used, the best effects on the size of the calf and the firmness of the veal may be anticipated."

This scientific note from Professor Johnston has engaged the attention of many stock-masters in Ireland, and amongst the rest, Mr. C. Beamish, of Cork, who adopted it and brought it to a regular system on an extensive scale. His formula for compounding the mucilage is as follows:—Thirty quarts of boiling water are poured on three quarts of linseed meal and four quarts of beanmeal. It is then covered up close; and in twenty-four hours added to thirty-one quarts of boiling water, then put on the fire, pouring it in slowly, and stirring it constantly to prevent lumps, with a perforated wooden paddle, so as to produce perfect incorporation. After boiling thirty minutes, the prepared mucilage or gruel is put by for use, and should be given blood or luke-warm to the calves, mixing it in small quantities at first with the milk, say one-fourth mucilage with three-fourths milk, progressively increasing it, so that by the end of a fortnight it will be in equal parts; by the end of the third week, one and a half mucilage to one part milk; by the end of the fourth week the mucilage may be given in double the quantity of milk, and skim milk substituted for new milk; and by the end of the sixth week, the mucilage will be gradually increased in the proportion of two and a half to one of milk, and from that on till the tenth week the milk may be gradually reduced, so that by that time they may be fed wholly on mucilage till they are fifteen or sixteen weeks old, when they may be weaned.

During all this time, if too early in the season to put out the calves, they should be comfortably housed, well ventilated, and kept perfectly sweet and clean; a little sweet hay tied in bundles and suspended, so that they may play with it and learn to nibble and eat it; and a little pounded chalk, mixed with salt, given in troughs to lick at pleasure, which prevents acidity in the stomach, and the undue formation of cud; small lumps of linseed

cake should also be given in other troughs, which they will soon learn to suck, if a little pains are taken to put a bit in their mouths after they have taken their meals of milk and mucilage. When housed it will be advisable to have a separate pen for each calf of sufficient size to walk about, so that they do not get into the habit of sucking each other and swallowing the hair, which, uniting with the curd by the regurgitating process going on in the stomach, forms round balls which are indigestible, and is the fertile cause of the death of many promising animals. The following scale of quantity of milk or milk and mucilage combined for each calf may be useful, but should be altered according to circumstances:—For the first week the calf may get from three to four quarts daily; for the second week, four to five quarts; the third and fourth weeks, five to seven quarts; fifth and sixth weeks, eight to ten quarts; six to eight weeks, ten to twelve quarts per day, and so on, increasing the quantity about one quart per week per calf till weaning time.

Some parties do not give so much liquid food per day, but make it up by giving them finely-cut roots, dry oatmeal &c.; but the animals are much too young for such food, though they may get the mined roots so as to train them into their use. Hay tea is an admirable thing also to mix with the mucilage and milk, as it contains a large amount of nutriment in a soluble form.

In the summer time the calves may be left out on the grass, both day and night, in a fortnight after they are calved, and fed as already described they should be in the house; but a warm sheltered paddock should be provided for them, and in wet weather they should have access to a covered shed.—(Irish Farmer's Gazette.)

ELDERBERRY CATSUP.—On every pint of ripe elderberries stripped from the stalks pour a pint of boiling vinegar, and let it stand in a cool oven all night. Strain without pressing, and boil the liquor five minutes with half a teaspoonful of salt. To every quart put half a pound of anchovies, half an ounce of mace, half an ounce of whole pepper, half an ounce of ginger, twelve cloves, and four eschallots. Bottle when cold with the spices.

OUR LETTER BOX.

KEEPING POULTRY PROFITABLY (Intending Farmer).—You do not require good land for keeping poultry. It should be a light soil, and that is not the best, generally speaking, for farming purposes. As we told you before, the neighbourhood of a large common would be the best place. Such a one as Woking. We have not the least doubt that poultry may be made profitable, and to play an important part in such a place as you describe, but we still think it should be an adjunct only, and that it would be unwise to take a place for it alone.

SPANGLED HAMBURGH EGGS ANGLE (Inquirer).—We cannot give an opinion upon the question whether any unfair treatment had been adopted, not having seen the eggs. There is no book devoted to the treatment of Ducks.

PRECOCIOUS PULLETS.—I subjoin an account of some unusually precocious chickens for insertion in your Journal if you think it remarkable enough to give it a place. In November last one of my Dorking hens stole a nest behind some wood in our poultry-yard and about a week before Christmas brought out a brood of eight fine chickens. Six of these have survived the cold and incursions of cats; and on Easter-day one of them began to lay. Two others soon after followed her example, and are regularly giving us eggs about every other day. They are very small—about the size of the speckled Hamburg eggs; but the fowls are not more than half grown, and are now only five months old.—BLACKHEATH.

CANARIES (P. Shackleton).—We do not know who are the chief dealers in these birds at Norwich and London, much less the others "anywhere in the United Kingdom." Refer to the county directories.

BLACK CURRANT WINE.—Cesto will be much obliged by an approved recipe for making this wine.

LONDON MARKETS.—JUNE 2.

POULTRY.

There is but one month of May in the year, and in Leadenhall Market it is alone—no other is like it. It is generally the busiest month of the twelve—that in which the largest prices are made; and it is the indicator on the dial-plate. It points out the direction that will be taken afterwards. There has been less trade in the month just passed than in any other known to the present generation. The supply has been unusually small; and although it will now increase daily there is no prospect of any glut. Average prices may therefore be looked for.

Large Fowls .....	5 0 to 5 6	Ducklings.....	3 0 to 3 6
Smaller do.....	3 6 ,, 4 0	Hares.....	0 0 ,, 0 0
Chickens .....	2 0 ,, 2 6	Rabbits .....	1 4 ,, 1 5
Geese .....	0 0 ,, 0 0	Wild do. ....	0 8 ,, 0 9
Geolings .....	5 0 ,, 5 6	Pigeons.....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of M'th	Day of Week.	JUNE 10—16, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.	Sun Sets.	Moon Rises and Sets	Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.							
10	Tu	WHIT TUESDAY.	29.938—29.757	deg. deg.		—	m. h.	m. h.	m. h.		m. s.	161	
11	W	EMBER WEEK. ST. BARNABAS.	30.062—30.026	68—48	N.E.	—	45 of 3	13 af 8	53 1	13	0 56	162	
12	Th	Beaufortia latifolia.	30.127—30.096	70—47	N.E.	.01	45 3	14 8	37 2	14	0 44	163	
13	F	Banksia ericifolia.	30.127—30.096	78—42	N.E.	.58	45 3	14 8	rises	0	0 32	163	
14	S	Bossia heterophylla.	30.172—30.034	81—54	W.	.15	44 3	15 8	36 a 9	16	0 20	164	
15	SUN	TRINITY SUNDAY.	30.044—30.062	82—41	E.	—	44 3	15 8	10 10	17	0 7	165	
16	M	Cilianthus puniceus.	29.001—29.941	85—51	E.	—	44 3	16 8	37 10	18	0 65	166	
			30.010—30.002	80—52	E.	—	44 3	17 8	58 10	19	0 18	167	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 71.9° and 48.7° respectively. The greatest heat, 97°, occurred on the 16th, in 1858; and the lowest cold, 80°, on the 15th in 1850. During the period 141 days were fine, and on 104 rain fell.

BEDDING PLANTS AND GARDENING LESSONS FROM THE DERBY DAY.



HERE are two ways in our practice, as a nation of gardeners, which, if it will not be out of order, might be of some use to us, if they were put up in comparison with the practice of some of those who prepare for the events of the Derby day at Epsom downs. The first of these practices makes an experimental garden of nine-tenths of the best private gardens in the three kingdoms—makes a private trial of new bedding plants annu-

ally, to see if they are what they have been represented, ere they are put out into the flower garden, which is more or less a public garden, as compared with the "back premises"—otherwise, the reserve garden. The stud-book shows the winners for the last many years—shows, also, which was next and next, and which was not worth its keep; the man who knows what is in that book, carries his own book with him in his hat, and without much ado he can tell what stage, or what degree a new plant will attain before it is out of the experimental ground; and although he is judge and jury in the case, in the first instance he knows very well his decision will have no weight beyond his garden gate, unless it is pretty near the mark, and the public at large gain or lose exactly as he may be of the thick or thin-skinned judges. Still the proof is not yet a race all round, and a summer right through, in the face of all the world, must decide the issue.

This season the poor man's best edging plant, the *Cerastium tomentosum*, which needs no glass nor gardeners, is to be run against by *Cerastium Biebersteinii*, from the Russian strain of Carter & Co., Bieberstein himself being one of the highest mettle, in botanical round-abouts, which Russia has yet reared, and, of course, glass is foreign to its nature. As far as table talk, and fable talk go, the two are on a par for the poor man's garden in every respect, save the great superiority in blood and breeding of *Biebersteinii*, which qualities have been heralded and backed up by "NICKERBOR" only; and if all he has stated be true, the Russian *Biebersteinii* ought to, and will, carry the day.

Having the whole private history of *Biebersteinii* in my book, however, with the above limitation, I should not hesitate to venture a fortune on the first competition of the season between these two plants, and if you have a mind to follow suit the new one will not cost you more than the old one did at its first coming out, nor yet nearly so much.

The best pure white-leaved plant now in use for flower

No. 63.—VOL. III., NEW SERIES.

gardens is unquestionably the old *Gnaphalium margaritaceum*, the *Antennaria margaritacea* of newer naming. There is not one plant known to us which is more easily "made up" for use than this one, or more cheaply, or looks better when done well as I have seen it last year both here in our clergyman's garden and in Hampton Court Gardens, where it was first brought out by Mr. Donald, to whom we all owe so much for its use in bedding. It is a master plant for the front of Punch or of old Tom Thumbs, or for the backs of either of them in a young state without tying or training. It is also, by training, a most telling edging plant to many kinds of beds. The way to grow it is in the volumes of the last two years; but now comes a rival to it, the *Scrophularia* something, which was brought out in Ireland in the garden of the Archbishop of Armagh. It strikes me, however, that all Ireland, and England also so far, are off the right scent with this plant. Mr. Donald, of the Hampton Court Gardens, is, perhaps, the very best British botanist among all our gardeners. He knows the name of every plant, and weed, and moss which grows in the British islands, and I believe he has dried specimens of every one of them in his herbarium. I have seen his *Scrophularia nodosa variegata* dead, dying, and in health, last autumn. I have seen, also, the same kind of plant exhibited by Mr. Williams, of the Paradise Nursery, at the May Show of the Royal Horticultural Society, and I have examined the Irish plant under that name which Mr. Williams is now selling, and I am quite satisfied the two are as different in their habits and natures as any two plants can be in the same generic family. Which of them is *nodosa* I am not in a position to say, but they are not both *nodosa* certainly. Well, this *nodosa*, or not *nodosa*, is to serve *Gnaphalium margaritaceum* by all accounts as *Caractacus* served *Marquis* on the Derby-day.

The Variegated Mint is booked to run in the same race, and *Stachys lanata* has been recently booked to run with them. But I protest against such arrangements as the putting of variegated plants, no matter how white they may be, against white plants with no variegation in them. The two *Cerastiums* are fair enough in for it, and so would *Gnaphalium* against *Stachys*; and when you come to think of it, you will see there is no real rivalry from the Irish *Scrophularia*, but against the Variegated Mint.

Well, the Variegated Mint used to be 3 feet high in the Experimental Garden, and last year it was only 3 inches high in the new garden of the Royal Horticultural Society; all that was from the difference in management, and the degrees of the difference would run up at three-inch steps from 3 inches to 33 inches. Therefore, those who can and did grow the Mint, may use that *Scrophularia* for any of the rows of a nine-rowed ribbon-border. On this account, the race between the two will be more closely scanned than any of the others which are to come off this season; and all I can say to guide the course and the judges, is, that in my judgment, the entry of *nodosa* in the stud-book has been as contrary to the rules of cross-breeders, as the attempts to set up natural white-

No. 715.—VOL. XXVIII., OLD SERIES.

leaved plants against whiteness from variegation, whether it be from sport, as they say, or from breeding, is contrary to the good plain common sense of ordinary people who are not easily led by crotchets.

But although *Stachys lanata*, and the much whiter pearly *Antennaria* ought to be free for ever from the rivalry of variegated plants, they must stand the brunt of battles, and run the race with all comers of the natural cast of their own looks. And we shall witness another race of white and all-white plants this season, as well as of the two *Cerastiums*. There has not been much ado about the one which is to challenge *Stachys* and *Co*. The first I heard of it was from seeing it in the plant supplement of the Messrs. Carter, where it is recommended for six, or seven, or more ways of ribboning and bedding arrangements; and seeing also that *Stachys lanata* was in the same list, and not having ever heard of such a name as *Gnaphalium lanatum*, the plant in question, I sent for a sample of it at once, and they sent me half a dozen of it, and it is as white all over as the pearly *Antennaria*, and seemingly quite as easy to manage. This, therefore, is the new racer against the woolly and the pearly *Antennaria* and the swan-down *Stachys*; and three better matched, to all appearance, have not hitherto been booked in one season.

Whether *Gnaphalium lanatum* is rightly entered on the register admits of some doubt; but as a good horse can never be of a bad colour, on the same principle a good bedding plant can never lose much by the naming.

The last run of the season is to be between the purple plants for contrast. *Coleus Verschaffeltii* is to be tested against the *Perilla* and the purple *Orach* plant; and if it stands to the opinion some people form of it, there will be no, or very little, difference in the trouble and expense of keeping up a stock of it from cuttings than has been hitherto experienced in procuring a supply of the other two from seeds.

Speaking of seeds, one of the best flower-gardeners in the country holds to the opinion that the purple *Orach* should be sown on a certain day early in May, or at least within a week of a certain day. But my experience of it for the last three seasons is very different. On the 1st of June my seedling *Orachs*, from seeds self-sown the previous autumn, have been exactly as good and no better than seeds sown by hand in February, or March, or April. I have some now exactly in that condition, after thinking I had got rid of it in one border where it seeded in 1860. The border was fresh dug, and up it came like a weed after the seeds had been in it for two years, certainly. All the difference I find is, that when the seeds come from a greater depth than an inch or so, the seedlings are not so easily transplanted as when they are got out of a row of shallow sowing, and from several turns I have seen with it, I should say the best plan for it and for ordinary people who are not high up in gardening, would be to sow it in rows or rings at the end of April where it was to grow, and not transplant it at all, only to sow thin and after a while to thin out the seedlings. The great point in managing it is to keep it constantly stopped in order to have fresh leaves, and to cut away the old leaves as often as it is stopped. All of this takes up a great deal of time; but, then, people who pride themselves in doing what others cannot afford to attempt, will not give up a thing for the mere expense of having it in first-rate style.

The *Perilla* does not require, and needs no such trouble, care, or expense; so that, properly putting it, the race will have to be run between the *Perilla* and *M. Verschaffelt's Coleus*. Although the Crystal Palace people do not keep more cats than will catch mice in the garden way, they are the most spirited of all our public bodies to allow of this kind of racing being tested; and it was a great loss to the friends of purple *Orach* that no good seeds of it, or any seeds of it at all, could be had there last year, in order to show the great body of the people how to grow it properly.

I saw a new move there of planting on the Rose Mount, the day of the flower show, which will please the ladies amazingly if I am not very much mistaken. It was only like the bursting of the bud, however, and flower-show-days are not the best days for everything, nor for catching at an idea just then starting into form, and I may have misunderstood the thing. The men were then all off after the great waterworks, and I could see no one to explain the new move to me; but you shall soon hear all about it, if I must go on purpose to book the plan.

The second part of our practice, which bears a comparison with the doings for the Derby day, is the race for seedling bed-

ders; and in this thing there is one most important feature, which, at a venture, I shall risk the opinion that not one out of one thousand has ever yet given it a thought. Have you ever had an idea that you yourself have been one of a very large company with limited liability, for ever so long before parliament thought of such a thing? You, or some member of your family, to my knowledge has been in that company ever since I have been a breeder; but how long the company may have been at work before my day I never could make out. The company dealt with the breeders of bedding plants ever since the requirements of the bedding system demanded a change of subject. And, as at the Derby, it has often happened that the best subject at last was the one about which the least was said at the time it was ushered into the world, or when registered in the stud-book of the fancy, if you like that way of it better; whilst the "favourite" went on to oblivion after the fuss and the first start. But the company being on the limited principle there was no more loss beyond what each of them ventured on that run, and perhaps not that; and perhaps, also, the back wall or the pillars of the conservatory, or some part of some man's premises had been enriched at the risk which failed for the beds. But without that company there could be no breeders, no matter what the demand might be. Suppose all the world wanted evergreen climbing yellow Moss Perpetuals, or Hybrid Perpetual Roses, and would buy no more Roses till that strain was in the market, think you how many breeders of Roses would be at crossing just now, and then think how much better than all the world the said company have been, to bear individually their limited risks in order to keep the crosses on the move, and to enable them to improve step by step as the strains would admit of. Depend upon it the company will never come to a crash, and you may be equally certain the Derby day, the very day on which this is written, will gladden and disappoint the hearts and the wishes of each section of that company in its turn to the end of the chapter.

And now, if only to keep up appearances, I am ready to back my own favourite of the season at any odds you please to name. Fifty or five hundred to one that Baron Ricasoli will win at our Derby in the strain of Baron Hugel. D. BEATON.

#### CULTURE OF MYOSOTIDIUM NOBILE.

SOME weeks since we received a note of inquiries relative to some points in the culture of this new "Forget-me-not." We sent the note to its most successful cultivator; but totally disregarding the name, he not only forgot the note but lost it! Upon reminding him of his delinquency he sent us the following, and says that it answers the contents of the note. We print it, therefore, and hope we shall stand forgiven by our correspondent.

"*Myosotidium* should be potted in a very rich porous soil, kept in a gentle heat from the middle of September until it flowers, about the end of February, when it should be kept at not less than 45° at night and in a moist air throughout its growth. As it delights in a moist atmosphere, so does it not like sunshine: therefore it should be kept in a cool shady place after it has done flowering."

#### FLORISTS' FLOWERS,

THEIR DISTINGUISHING CHARACTERISTICS, CULTIVATION, AND VARIETIES.—NO. 7.

#### THE TULIP.

(Continued from page 141.)

I WAS led into somewhat more than usual length in descending upon the properties of the Tulip, and I was therefore unable to enter upon the two latter portions of my subject; and this not from a peculiar predilection for the flower, for there are many florists' flowers which I infinitely prefer to it, but because of the many battles which have been and are being fought over it. The most recent one is not yet finished; and whether the "Hardy" standard, or the "Glenny" standard, or the "Horner" standard should be taken, is, it would appear, a moot question.

The cultivation of the Tulip has been so regularly laid down, and the precise manner and form in which the beds should be planted has been so often given, that I cannot hope to add anything new for the information of the veteran grower; it can

be only of service to those who are novices, and who would desire to know how a few may be grown. Unlike the Auricula, it has not been made the unhappy patient to swallow all sorts of odious messes, in the way of savoury compounds, to increase its growth or add beauty to its colouring. To this, indeed, its own determined obstinacy has not a little contributed. It seems to say, "You may if you like. Try it. Oh, yes! add sheep manure, or guano, or anything else that strikes your sagacity; but see if I don't run if you do." And so one and all of its cultivators say, "Humour this obstinate fellow, and give him good sound loam, and let him do what he can or likes."

A Tulip-bed, we are told (and he would be indeed a venturesome man who would attempt to impugn the universal verdict), should be exactly 4 feet wide, and as long as may suit the convenience or the pocket of the grower. Mr. Groom's bed used, I think, to consist of 220 rows; and one I saw last year at Sevenoaks was of the same length. The bed should be raised a foot or more above the level of the garden, and enclosed either with slate or boards; in fact, a box is formed on the surface of the ground, and the mould is filled in. The aspect selected should, if possible, be open, exposed to the sun, but sheltered as much as possible from violent winds. In my own little garden, where Boreas, and Euroclydon, and all the "rude winds that blow," seem to hold their tryst, I have been forced to be heterodox, and grow my thirty or forty rows without elevating the bed—at least I did so last year. This year I altered my practice, but the bloom has not been so good, and I intend to try next season to do as I did before. The bulbs are arranged in seven rows running the entire length of the bed, and the distance of the rows one from the other should be 6 inches, so that a bed of 20 feet in length will contain 280 bulbs. And as the flower-stems run up to various heights, the different sorts are arranged as to the position they should occupy in the bed. The tallest ones are placed in the centre, and are called fourth-row bulbs, leaving three on each side—first, second, and third rows; the dwarfier varieties being placed next to the edge, and the height running up to the centre: thus a uniformity is gained, which very materially adds to the beauty of their appearance. The bed should be regularly marked out at the distances named; holes for the bulbs made with a blunt dibber and filled in with white sand, the bulb placed in this and then covered up. The point of the bulb ought then to be about 2 inches below the surface. The names of the flowers are regularly entered in a book according to their rows, so that a reference to them is easy enough.

Although the Tulip is very hardy—good Mr. Headley says as hardy as a Swedish Turnip—yet it will not flourish any more than a Turnip in all weathers. Excessive wet or excessive drought are alike injurious to it. The latter there is not much likelihood of in so "pluvius" a climate as ours; but the past season has generally been a bad one for Tulips, owing to the exceeding wetness of the winter months. There should be provided some iron hoops to place over the bed, on which mats may be thrown during very heavy rains; but this ought not to be left on one moment longer than necessary, as Tulips are impatient of confinement. As the flower-stems advance they should be tied to thin stakes, and whenever they show colour the awning should be put up. This where the collection is large is a tremendous affair—a sort of Aldershot hut; for it has to be strongly built, remains a fixture, and is covered in both at top and sides with canvass. In itself it forms a most material item in the expense of growing Tulips, and is moreover a sad eyesore to a small garden; in fact, a Tulip garden would be the very thing for one who desired neatness in his arrangements and could afford the room. Those who are more moderate in their pretensions will be contented with using such a covering as will protect these flowers, and be of a more temporary character.

There is not a greater mistake made than the one which we oftentimes hear, that the bulk of the Tulips grown come from Holland. That has long since ceased to be the case; and the last thirty years have weeded out the old Dutch flowers to an alarming extent, and introduced those of English raisers. Take any well-known grower's catalogue, and the very few foreign names will at once show that "we have changed all that." We are told on the excellent authority of Mr. Slater, that of a catalogue published in 1829 by Mr. Thomas Butler (who was so eminent a grower that he thought it well to demand 1s. admittance to see his Tulip-bed in bloom), which contained 236 varieties, only thirty-three are now grown; and since then the

seedlings raised by Clark, Holmes, Strong, Laurence, Groom, Headley, and others have quite revolutionised the catalogue. I lately had the opportunity of seeing Mr. Turner's extensive and valuable collection, and took some notes of a few that then seemed to me the best; and as I have written mainly for young florists or beginners, I will add now the names of those in their several classes with which any one may begin a small bed, being inexpensive and of vigorous constitution:—

BIZARRES.

- |                              |   |
|------------------------------|---|
| Albion (Clark's)             | Lord Raglan (somewhat coarse, and breeder colour) |
| Bizarre (Bradley)            | of late years going back to the Cato              |
| Cato                         | Marshal Soult (Groom)                             |
| Crusader (Groom)             | Mr. F. Perkins (Groom)                            |
| Duke of Devonshire (Dickson) | Omar Pacha (Groom)                                |
| Duke of Sutherland (Dickson) | Pilot (Gibbons)                                   |
| Dr. Horner (Groom)           | Polyphemus (Laurence)                             |
| Fabius (Laurence)            | Royal Sovereign                                   |
| Garrick (Laurence)           | Vivid (Sanders)                                   |
| Ibrahim Pacha                |   |

BYBLEMENTS.

- |                           |  |
|---------------------------|--|
| Alexander Magnus          | Grace Darling  |
| Addison                   | Lord Denman (Abbott)   |
| Bleemast                  | Maid of Orleans (Gibbons)  |
| Chellaston Beauty         | Queen of Violets (Gibbons)   |
| David                     | Triomphe de Lisle  |
| Earl of Haddington        | Victoria Regina (apt to show a little green in the petals; when pure, very fine) |
| General Bamoselde (Akers) |  |
| George Glenny             |  |

ROSES.

- |                          |                           |
|--------------------------|---------------------------|
| Aglais (Laurence)        | Lady Stanley              |
| Baron Gesdoff            | Madame Vestris (Laurence) |
| Countess of Wilton       | Naomi (Headley)           |
| Camise de Croix          | Odine                     |
| Claudiana                | Ponceau Très Blanc        |
| Duchess of Kent (Strong) | Triomphe Royale           |
| La Belle Nannette        |                           |

—D., Deal.

ENDIVE CULTURE.

THE precise period when this vegetable was first introduced into cultivation in this country is not exactly known; but it ranks higher in point of antiquity than many vegetables now extensively used. Most likely the Flemings to whom we owe many lessons in gardening were the first to supply us with this useful article, and it is reasonable to suppose that they themselves received it from a district still more eastward. If our researches in the way of finding out its original abode were industriously carried out, we very likely might trace it to the sunny regions of Italy and Greece, and possibly to Egypt also; but it is not necessary to do this. Suffice it to say that it formed one of the items of a bill of fare in the reign of Queen Elizabeth; and an old writer of that period, Gerarde, gives as good a description of its management as can well be given at the present day.

Gerarde advises the seed to be sown in July, and before winter sets in to take up the plants and let them lie in the sun or dry wind for two hours, and after tying-up the leaves with a string to plant in the ground again, bottom upwards. Now, antiquated as this practice may be, it is certainly not without its merits, and in soils that are free from worms it may be adopted with perfect propriety now. Those who have the means of obtaining dry peat frequently preserve Endive in this manner, and I have seen it thus treated in a cool shed; sand instead of peat being the substance it was buried in, roots upwards. Sand, however, is objectionable, as it is liable to get inside, and is not easily removed, even by washing; but this subject will be treated of further on.

It is only fair to give the old cultivators every credit for the information they have given us, and we need not go further into its history or origin, beyond remarking that its ancient popularity no doubt was enhanced by its being esteemed one of the best antidotes to scurvy. This, when the plant was first introduced, was a more formidable disease than now, and from coming into use in winter when salt meat formed a much greater proportion of the general food than it does at present, Endive no doubt, as well as other plants of its class, speedily became a favourite. At all events we may infer that its property of checking a disease so much dreaded at that time, led to the plant being welcomed to the gardens of all who had the means of cultivating it.

Lettuce, and the means of wintering it in favourable situations in England having become better known, and popular taste preferring it to Endive, the latter certainly does not now hold such

a high position at table as it once did. It may be said that the present century has witnessed a diminution in the popularity of Endive; still it is extensively grown; but it is more for the tables of the affluent than as an accessory to the general store of the community at large. We will now proceed to treat of its cultivation as practised at the present day.

**SOIL AND SITUATION.**—Like many other garden vegetables, Endive likes a rich generous soil and an open situation. Shade is objectionable, and the drip of trees is very bad. In the routine of crops it ought not to follow Lettuce, neither ought it to succeed any of the Cabbage tribe if that can be avoided. If it has to succeed a crop of anything of the Cabbage kind let the ground have a good manuring, and possibly a good result will follow. The same treatment may be observed if Peas, Carrots, or other crops have previously occupied the ground.

The object being to obtain a quick growth, manuring is more especially necessary for crops that are intended for use in the autumn only. Those to stand the winter may be planted on a less rich soil, as the conditions necessary to obtain a fresh crisp growth are not those to enable the plant to withstand the hard weather of a severe winter. More shelter in the latter case is also required—in fact, a south border or some such favoured place should be selected, and the open deep-tilled squares or quarters of the kitchen garden for the autumn crops. Both of these crops are of course for use in what may properly be called winter, only the one comes into use before the other, and the supply is kept up by intervening plantations coming in as wanted.

**TIME OF SOWING.**—Every ten days from the 20th of June to the 1st of August; and a sowing of Batavian Endive may be made a week later than the last-named time. Usually, however, the dwarf hardy Lettuce of the Hammersmith Cabbage breed are preferred to come into use in spring. Endive cannot boast of so many varieties as most other vegetables. A Green Curled and a White Curled form the general autumn and early winter crop; and the plain-leaved variety, or Batavian, is more hardy, and usually planted to stand over the winter. In addition to these, some growers have affixed their names as having produced an improvement in the plant. A hardy useful sort by Mr. Fraser was much admired a few years ago.

The White and Green Curled, however, differ so little on the whole that they may both be regarded as one to the small grower, and sowings of each may be made at the early periods indicated. If the weather is very hot and dry at the time of sowing, the beds should be on the north side of a wall; or, what is still better, sow in an open exposure, and water and shade as directed in THE JOURNAL OF HORTICULTURE for Cabbage and other seeds. If the seed is good it need not be sown too thickly; no vegetable suffers more by being thick in the seed-beds than Endive. As the value and utility of the plant depend on the number of leaves arising from the collar, these cannot well be produced if the plant is closely packed up amongst others suffering equally with itself. Should circumstances, therefore, prevent the bulb being planted out in the proper place at once, when getting thick on the seed-bed, thin-out, for generally there will be a plentiful supply left for consumption.

**PLANTING.**—As before stated, an open piece of ground well manured is best for the main autumn crop, but the shelter of a north wall will be better for such as have to stand the winter. Rows about 18 inches apart, and the plants about 15 inches from each other in the row, will not be too much. Shallow drills drawn with the hoe are advantageous for the plants, as these are then planted somewhat deeper; and the leaves resting on the cool earth derive much benefit during the dry period we sometimes have in September or before.

Watering need not be resorted to, except in peculiar cases where the ground is very dry, and the situation a sort of hot hungry sand. In the latter case water may be an advantage, and the more so if manure water be occasionally administered; but where possible avoid systematic watering, as it induces the roots of the plants to remain near the surface in the expectation of that food artificially given to it at the stated time. Do not, however, let the plants suffer; but a growth which mostly takes place in autumn when the nights are long and dews heavy rarely suffers for want of water.

**BLANCHING.**—Many makeshifts are adopted for effecting this. The best thing is a common pantile; but flower-pots and pans are often used, and sometimes slates or boards, the object being to exclude the light, without at the same time bruising the plant by the weight placed upon it, so as to cause it to decay

and thus perish. It is also essential to have the plant dry at the time it is covered up, as extraneous moisture is hurtful to a plant undergoing a process which deprives it of much of its vitality.

A few days generally suffice for blanching the required number of plants, which must be selected as being the most forward in the plot, and showing symptoms of blanching themselves. So long as the weather keeps open the plants so treated in the open ground where they are growing are the best; but when harder weather sets in another way must be adopted, and some should be taken up and stored away in any sheltered dry place where they can be had at all times. This subject brings us to the next point in the treatment of the plant.

**PROTECTING IN SEVERE WINTER WEATHER.**—As already said, some protection is necessary when several days' frost may be expected in succession. For this purpose a dry, open shed, with one side perfectly open, is as good as anything. Plants which have been previously tied up on a dry day should be taken up with good balls, bedded in here tolerably thick, and, unless the weather be very severe, they will require very little other protection; but if it does, it is easy to place some mats or straw over the plants. Batches of plants may be brought in as required, as it is advisable to have some under cover all the winter.

A frame with glazed lights is also a good place, and such protections are often wanted for something else in winter; but a cold pit, whether of turf sides or brickwork, with wooden shutters instead of glazed lights, answers very well, and such a pit is very useful for other purposes. Sometimes a few thatched hurdles placed over the plants where they are growing will save them to a great extent, but not so well as where more pains are taken to exclude severe frosts. Many other contrivances for providing temporary shelter are likewise resorted to.

**CONCLUDING REMARKS.**—The above means of protection are usually adopted with the Curled varieties, and the plain Batavian may be subjected to the like treatment; but being very hardy, it also does pretty well out of doors. Where there is the accommodation of a frame and lights, or lights for a cold pit, or even only thatched hurdles or wooden shutters for the cold pit, Lettuce instead of Endive is often indulged with the space; still Lettuce never blanches to such a true white colour, so that its appearance at table is not so good as Endive when in first-rate condition. However, the taste of the parties requiring the article will decide the respective claims of the two vegetables, both being useful and both deserving protection.

A dish of finely-blanching Endive set round with slices of Red Beet of the richest and best colour is of itself as ornamental as many vases of flowers are at the dull period of Christmas. Some other adjuncts, as small salading, &c., help the general effect of a dish of salad; but the pure whiteness of Endive and the Red Beet contrast strongly together. Let, therefore, Endive have its due, and by-and-by perhaps the hunters after novelties in the ornamental-plant way may turn their attention to this one, and give its present graceful foliage a variegated or other ornamental form. Though the poetic name of Fern cannot be attached to it, possibly its attractive features may rival those of that popular family; but this is apart from the duties of the kitchen gardener, and need not be entered into here. J. ROBSON.

#### AMMONIACAL LIQUOR A DESTROYER OF CATERPILLARS.

I TRIED the following, eight days ago, as a last shift. I sent for a barrel of ammoniacal liquor from the gas-works. To every gallon of the liquor I put five gallons of water, and boiled it all together; then I syringed my Gooseberry trees all over with the liquor as hot as I could bear my hand in it. The following evening I syringed with warm water, and am very rejoiced to say the trees were not only uninjured but looked refreshed and the caterpillars destroyed. I gave my Roses the same washing, and find them looking well after it.—T. C., *Huddersfield*.

["UPWARDS AND ONWARDS" reported some time since that he had adopted this remedy successfully.]

**STRAWBERRIES.**—The proper plan to follow with forced Strawberry plants is to plant them in rows 3 feet apart. This was the plan adopted here last summer, and I never have seen

anything so magnificent as the promise for this season. As forced plants bear another crop the first season, in October it is as well to pinch off the bloom.—SCRUTATOR.

### LASTREA v. LASTRÆA—RHODODENDRON BOOTHII.

I AM glad to see you are converted to my notions as to the orthography of *Lastrea*. I have rested solely upon the fact that *Lastrea* is the name Presl gave to the genus when he founded it. The fact which you mention of Bory having originally written the word in the same way, and not *Lastrea*, as he did afterwards, which fact, not having the books at hand to refer to, I had forgotten when I first wrote to you, I take, however, as a clincher to the argument.

I must also take exception to Mr. Boston's remark about the yellow *Rhododendron*, so far as it implies a censure on me. I did not say anything about *R. Boothii* suiting his correspondent, or being the right shade of yellow for any particular object; I merely said it was a yellow without the tawny shade, which is the fact.—DELTA.

[If we said anything justifying our correspondent in concluding that he might rejoice in our conversion, we most certainly expressed what is contrary to the fact. So far are we from repentance that we are hardened in our first conviction, that *Lastrea* is the authorised orthography. Bory adopted it as what he considered the more correct spelling—a conclusion he came to two years after he had taken the name for a genus. Presl took the name from Bory, though he included under it different species, and the etiquette of nomenclature decides that Bory's amended mode of spelling should be retained. If asked whether *Lastrea* or *Lastrea* is essentially most correct, we reply we know of no grammatical rule against either, and if there is any rule which ought to govern that case we showed last week how botanists set all such rules at defiance.]

### CULTURE OF THE PINE APPLE.

(Concluded from page 162.)

#### INSECTS AND DISEASES.

THE insects that prey upon the Pine Apple are the white scale (*Aspidiotus nerii*), the mealy bug (*Coccus adonidum*), and the brown turtle scale (*Coccus testudo*). The first and second are the most injurious and most difficult to entirely banish from the plants and houses infested with it. The first adheres closely to the leaves, feeding upon them, the females seem lifeless and never move, though the males are more active, and to all appearance have wings to move about with. The females lay their eggs under their bodies, and then die, the scale protecting the eggs. The mealy bug is not so sluggish, it lays its eggs and then works a covering for them like a mealy woolly powder, which is impervious to water. I have seen Pine Apples infested with this insect so much that the fruit could not be sent to table till it was washed many times in warm water and brushed with a hard brush to clean the nasty-looking filth off the Apple and crown, thus spoiling, in a great measure, the appearance and flavour of the fruit. It is almost omnivorous; feeding upon, besides the Pine Apple, the Vine, the Orange, and almost all the plants inhabiting the stove, concealing itself in the soil of the pots, the bark of the shrubs, and crevices in the woodwork of the houses: hence, where it abounds much labour and persevering attention are requisite to entirely destroy it. Many operators think if they clean the plants once thoroughly they have rid the plants of these pests, but in a very few months they will, to their grief and astonishment, find the insects almost as numerous as ever: hence, they doubt the efficacy of the means used, and in despair the infested plants are destroyed, and the houses thrown open for a year in hopes that with a newly-painted house, and a set of fresh clean plants, the enemies will be completely eradicated, destroyed, and banished for ever. Yet if one pair escapes or is introduced on some new exotic, in the course of a few years even this so-called radical cure will be found to be fallacious. I have had Pine plants under my care as much infested with these insects as any I ever saw; but with untiring perseverance I was in time successful in clearing the plants entirely from them.

The first step I took was to remove every plant out of the house, I then had all the old bark taken out and the walls of the pit

whitewashed with lime slacked with boiling water and laid on as hot as possible. To be doubly sure I had this whitewashing done twice over, so that not a crack or a crevice escaped this, to insects, and even their eggs, destructive fluid. All the other walls were treated in a similar manner. Then the woodwork underwent a hard scrubbing with a stiff brush dipped continually in soft soap and water, and finally the floors were flooded over with boiling water, brushed over, and afterwards mopped-up and dried. The house was then, to use a homely proverb, as clean as a new-scraped Carrot.

The best season for this thorough cleansing is the month of May, because then the Pine plants can be placed in a shed for a few days without sustaining much injury. If, indeed, there are Vines on the rafters that time will be inconvenient, and in such a case the cleaning can only be done when the Vines can be turned out of doors, which in Pine-stoves generally can be managed by the end of August. Before the Vines are brought in again they should be pruned and washed over with the mixture described below for the Pines.

Whilst the whitewashing, &c., was in operation, the Pine plants were subjected to a similar dressing, only instead of hot lime and hot water they were thoroughly washed with the following mixture:—1 lb. brown soap cut in small pieces, 1 lb. soft soap,  $\frac{1}{2}$  lb. flowers of sulphur, and half a gallon of tobacco water. The soaps were dissolved in boiling water till all was made liquid, then I added the sulphur and tobacco water, and as much water as made the whole into five gallons. This mixture was boiled for about a quarter of an hour, and when it had cooled a little a pint of spirits of turpentine was poured into it, for I found if the spirit was boiled its strength partly evaporated. Previous to applying this medicated strong liquid I had every plant carefully looked over, and every visible insect rubbed off cautiously, so as not to scratch or bruise the leaves, with a bast-mat brush made of bast cut into short lengths and tied tightly to a smooth stick about 18 inches long. When this was completed the mixture was applied with a small sponge tied also to a stick, and every part of the plant was thoroughly wetted. The sponge does not scratch the leaves as a hair brush would do.

I have frequently found these insects on the roots of the Pine plants, and also in the soil: therefore, to be certain of getting rid of them entirely, I had the soil all shaken off the roots, and all dead roots cut off. The living roots were then dipped in the mixture in a tepid state, and when they were dry I had them repotted in clean pots and fresh soil, and placed them in a warm room or house till the bed was ready to receive them. That bed was made of all fresh spent tanner's bark, or if leaves were used, altogether of leaves fresh from the heap. Both the tan and the leaves were duly prepared by being kept moderately dry and in a fermenting state at the time I used them. As soon as the pit was filled the plants were set upon the tan, and only half plunged for fear of its becoming too hot and scalding the roots. The house was then kept rather close, and a moist atmosphere kept up to start the Pine plants into fresh growth. They were not syringed for several days, to give the mixture full power on the insects.

As stove plants are generally grown in the Pine-stoves, I subjected them also to this thorough cleansing, washing every hard-leaved one with the mixture. Soft-leaved plants I put under a hand-glass placed on a warm flue, and on the flue within the hand-glass I set a saucer containing spirits of turpentine or spirits of wine. If this was not effectual the first time, I did it a second time, and that was certain to kill every insect.

After this washing and steaming was done I treated the stove plants in a similar way to that adopted with the Pines—that is, I shook off as much of the old soil as I thought safe, and repotted every plant in fresh proper soil, using only very clean pots, and then I placed them in the Pine-stove in the spot where they had been before.

As this somewhat severe treatment naturally gave them a check in their growth, the roof of the house was shaded daily whenever the sun was shining; but the moist air and fresh soil soon set them growing, and then less and less shade was given, and the Pine and stove plants were regularly syringed every warm evening. That syringing soon washed off the mixture, and then the plants looked fresh and green, and as healthy as need be. Afterwards they were watched constantly, and if any insects showed themselves they were instantly destroyed. By this method I perfectly succeeded in clearing the plants of insects

of every kind, and by a careful attention afterwards I prevented their re-appearance.

Some writers have strongly recommended the fumes arising from horsedung in a state of fermentation, as a destructive agent to use against the scale and bug on Pine plants. I have no doubt that agent will answer the purpose, and as ammonia is the main gas that escapes from, or is generated by the manure, it seems probable to me that the ammoniacal gas liquor so abundantly obtained in our gas-works now-a-days, would be better than spirits of turpentine or wine to put amongst my mixture. It has been found destructive to many kinds of insects that prey upon our vegetables, and why should it not be equally destructive to such tenacious insects as infest the Pine Apple?

Worms sometimes prevail both in the pots and amongst the bark in the pit. These I effectually destroyed with lime water, which is made by pouring water upon unslacked lime, and allowing it to stand till it is quite clear. Woodlice and ants are also sometimes troublesome. Both feed upon the ripe fruit. The former may be destroyed by setting traps of Cabbage leaves laid on the tan; and every morning have ready a pan filled with boiling water, and then lift up the leaves and pour on the woodlice the scalding liquid, which kills them instantly. Ants are more difficult: I used to lay fresh bones here and there, and go in of an evening, taking up the bones and throwing them into a vessel of hot water, which effectually finished them. A toad or two kept in the houses devour hundreds of these pests. By persevering in the above remedies the Pine-stores may be kept clear of insects, and thus the plants kept in good health.

Diseases.—The Pine Apple is never diseased, at least I have never observed any.

MONTHLY TABLE OF TEMPERATURES.

For the instruction of the amateur I append a monthly table of the average heat required for the Pine Apple.

	With Sea			With Sun			
	Night.	Day.	heat.	Night.	Day.	heat.	
January .....	55	60	65	July .....	65	75	95
February .....	55	60	65	August .....	65	75	90
March .....	60	65	70	September .....	60	70	80
April .....	60	70	75	October .....	60	65	75
May .....	60	75	80	November .....	55	60	65
June .....	65	75	85	December .....	55	60	65

Whenever the thermometer rises above these figures then give air, unless it is very frosty in the winter months.

T. APPELEY.

DESTROYING THE GOOSEBERRY CATERPILLAR.

THERE has been, and still is, much said respecting the destruction of the Gooseberry caterpillar. It is a universal plague to all gardeners, whether of the mansion or the cottage: therefore, a knowledge of an effectual mode of destroying it must be regarded as a great boon.

Well, when I found the pest on my bushes this spring, I referred to several volumes of THE COTTAGE GARDENER, and to the new series, and in Vol. XX. of THE COTTAGE GARDENER, page 23, I found a most effectual receipt, the efficiency of which has been proved by upwards of twenty years' experience. It is as follows:—Get a tub that will hold 25 gallons or 30 gallons, put into it 2 quarts of tar and 7 lbs. of common washing soda; pour a few gallons of boiling water on it, stir it until the soda is dissolved, when the tar will mix with and be held in solution by the water, then fill the tub with cold water, and it is fit for use.

Having mixed the solution I syringed the bushes affected by the caterpillars, which utterly destroyed them all. This is one amongst the many valuable hints I have received from your publication.—J. CANDLIN, Gardener to C. Fison, Esq., Thetford.

DOUGLAS FIR—GUM TREES.—It seems that the enormous length of the great flag-staff of Douglas Fir from Vancouver's Island, also noticed in last month's "Proceedings," is likely to prove an insurmountable obstacle to its ever reaching these shores. The last advices are to the effect that no vessel at Vancouver's Island was large enough to take it. An equally great curiosity as to length is, however, to be seen in the Western Middle Arcade, in a spar of a Gum tree, from Tasmania, 230 feet long, although it is infinitely inferior in value, and wants a great part of its interest from not being in one piece. It is only about half a foot square at its base, and extends the whole length of one

of the lofty New Holland Gum trees, or Eucalypti, the top portion still retaining its bark; and although its small diameter gives a most inadequate idea of the tree itself, still it serves to impress forcibly enough upon the mind what a tree of 230 feet in length really is. The species which has produced it is Eucalyptus viminalis, or the white swamp Gum. There are two other most amazing logs placed in the ante-garden as seats, also from Tasmania, the one 90 feet in length, 18 inches in breadth, and 6 inches deep, cut from the Eucalyptus globulus, or Blue Gum of Tasmania; the other from the Eucalyptus giganteus, the stringy bark of that dependency, 80 feet in length, 18 inches broad, and 7 inches deep. There are three other immense planks from Western Australia not yet placed, also of the Eucalyptus, or Gum tree tribe, which, although not so long, are scarcely less startling from their breadth, one being 24 feet long, 3 feet broad, by 7 inches deep; another, 28 feet long, 4½ feet broad, 5½ feet deep; and the third, 28 feet long, 3 feet 9 inches broad, by 5 inches deep.—(Royal Horticultural Society's Proceedings.)

ECONOMY OF FUEL.

THE importance of the heading which I have affixed to this communication will, I think, be acknowledged on all hands; and more particularly by those who, in the pursuit of their horticultural tastes, find the item a heavy one. An idea has just struck me by which, I think, a most important saving might be effected.

In all furnaces, and more particularly the boiler furnaces employed in horticulture, a large amount of heat is absorbed by the brick setting, and to utilise that is the object of my idea. I would propose for that purpose the employment of a tubular boiler, such as Ormson's or Weeks', around which, at a sufficient distance to permit of free action to the fire, should pass an iron jacket; and between this again and the brick setting a space of say 6 inches all round, constituting a hot-air chamber, to be employed on the Kiddean plan.—M. G. CUNNINGHAM.

[We are obliged for your idea; but so far as credit is concerned, we fear that what is good in the proposed plan is not new, and what is new is not so simple and economical as it seems. Boilers in general are expensive enough in themselves, but your iron jacket fitted to pass tightly and air-proof over pipes, &c., would pretty well be the expense of a second boiler. Anything like thin iron would be out of the question. It would soon warp and burn out, and where then would be the use of the chamber? In furnaces much used, even furnace-bars soon wear out. Those formed of tubes and holding water will, with fair treatment, last much longer than the common iron bars; but it is questionable if a fire will burn bright so quickly over them. The heated air from such a jacket, when red hot or nearly so, would require much mollifying before it went among any plants whatever. We certainly should prefer a Polmaise or Kiddean furnace to the iron jacket. The more nonconducting the material surrounding a furnace-fire the better. When such substances as fire-brick or Welsh lump are used for containing a fire of any kind, from being slow conductors of heat they do not rapidly convey this away from the fuel, as is the case with iron and other quick conductors of heat: consequently the fire is more easily lighted, and, when once fairly burning, not so liable to go out as when surrounded by metal. Another advantage resulting from the use of nonconducting substances round a fire is that when once red hot they insure, when the fire is getting low, a more perfect combustion of the fuel and gases than metal.

Tredgold in his "Principles of Warming and Ventilating" recommends that the slowest conductors of heat should be used for setting boilers, and that no more metal should be used than is absolutely necessary.

Engineers to economise heat employ a jacket of felt or other nonconducting materials for cylinders much exposed to the air. Why not, therefore, use a fire-brick jacket for the fire instead of an iron one, which is about the very worst that could be used? The interposition of a body of air between an inner and an outer casing would then be very good indeed; but no such air should be allowed to pass into the atmosphere of the house. There is nothing new in having a chamber over and round the setting of a boiler, instead of letting that heat go to ameliorate the general atmosphere. To prevent the heat absorbed by the brickwork passing into the surrounding medium, Mr. Fish has also recommended isolating it by an air-tight chamber some 6 inches wide. Most of the heat then that was absorbed by the brickwork in setting would

be radiated back again on the boiler, instead of being conducted to the surrounding earth or other medium. After all the loss of heat thus sustained is trifling in comparison to what passes through the chimney. It is here that the great robber of heat is to be found. One great saving in a large boiler heating many houses, arises from the fact that there is only one robber instead of many. No boiler can be so set as to prevent this loss altogether. The nearest approach to it is when a flue is taken from the furnace to heat a separate part, or a separate house. Then a great portion of the heat will be absorbed before the smoke gets to the chimney. When the heated air after going round and round the boiler, or through it, and over it, and round it, goes then at once up a shaft, the most careful stoking and regulating of the damper will not prevent much heat escaping. Where fires are pitched on without much consideration, and dampers are left to take care of themselves, pretty well half the heat from the fuel goes to improve the temperature of the general atmosphere. We should be glad if our ingenious correspondent would turn his attention to and devise a remedy for this huge loss. It was lately mentioned how by turning a small air-tap Mr. Beale knew at once if the supply-cistern were attended to. Placing the hand on the chimney or smoke-funnel of a hot-water apparatus, will furnish in its comparative coolness or warmth a test of the care exercised in firing and managing the damper.]

### SKIMMIA JAPONICA UNFRUITFUL.

CAN you tell me the reason of *Skimmia japonica* not setting its berries? I have about fifty healthy plants, which were loaded with bloom about the 15th of May, but it all fell without setting a berry. They have been planted two years, and are at the present time making vigorous growth. Twelve months ago they were loaded with berries, and, thinking they might weaken the plants, I took them off, after which the plants grew with great vigour.—D. C.

[The same failure has happened with many plants this season, chiefly owing to the wet cloudy weather, and the blooms being too thick. Thinning might have prevented the dropping.]

### THE INTERNATIONAL EXHIBITION.

(Continued from page 176.)

2071. AMIES & BARFORD, *Peterborough*.—The water ballast roller, of which we gave a favourable opinion in our report of the Royal Horticultural Society's Show, page 155.

2130. HORNSBY, R., & SONS, *Grantham*.—Improved washing and wringing machine, substantially constructed and apparently very efficient in its action. The improvement principally consists in the introduction of a ribbed hollow bridge at the bottom of the oak box for containing the articles to be washed, by which means they are better inflated, prevented from becoming rolled up, and more effectually rubbed.

2156. MUSGRAVE, BROTHERS, *Ann Street, Belfast*.—Iron piggery with iron feeding-trough. This is made entirely of iron, with an open back for placing against a wall; the roof is of corrugated-iron, and arched, covering in a yard for the pigs, to which a good supply of air is admitted at the front and by lattice openings at the sides. The arrangement for filling the trough from the outside and emptying it of rain water, or for the purpose of cleaning, is excellent, insuring cleanliness and preventing waste.

2159. NIXEY, W. G., 12, *Soho Square*.—Kistell's patent garden labels. Neat and apparently durable, consisting of a cast-iron frame in which the name is painted, and protected from the weather by a piece of glass.

2191. TAYLOR, J., & SONS, *Kensal Green*.—Conservatory, boilers, and furnace-doors. The conservatory is of the span-roofed description, with upright sides and ends. Ample provision is made for the admission of air, the whole of the side-sashes opening by a simple contrivance, and ventilation at top is effected by small moveable sashes on each side of the ridge, worked by a cord and pulley. Altogether it is a neat, plain, useful conservatory of no great size.

Two boilers are shown; one is a modification of the common saddle kind, but with corrugated sides, and composed of two chambers, dividing the boiler horizontally in two; the other is a tubular horizontal boiler having numerous small pipes at the sides of and above the fire, but principally the latter.

2193. THOMPSON, H. A., *Lewes*.—Improved entrance gates. These are constructed of wood and iron, with cast-iron pillars, and no mortice or glue is employed. The whole is braced together by iron bars—the top one an inch, the others half an inch in diameter; and the edges of the woodwork being bevelled, the rain does not lodge upon it. They look much neater than the ordinary form of wooden gates, and appear peculiarly suitable for park entrances.

2197. TYLER, H. & CO., *Upper Whitecross Street*.—Oval tub garden engines of oak and galvanised iron on wheels, pail engines, and syringes of various sizes.

2198. UNDERHILL, W., *Newport, Salop*.—Game and poultry fence, and tree guards. In these the upright wires pass through notches in horizontal straps of iron which extend lengthwise. They are remarkably cheap, and would very well answer the purposes for which they are intended.

2200. WARNER & SONS, *Crescent, Cripplegate*.—These well-known hydraulic engineers exhibit a variety of garden engines, syringes, pumps, watering-hose, and fountain jets of various patterns, all of which are well and solidly made.

We also observed Spary's fumigator noticed last week; an improved water-barrow on cast-iron wheels, the suspended cistern of which is of galvanised iron, and capable of containing about thirty-five gallons of water; and in another part of the building a double-action force pump mounted on wheels. This can be used for pumping water, distributing liquid manure, or as a small fire engine. It will throw a continuous stream of water to a considerable distance; and the price being very low, it would be a valuable addition to any gentleman's house, even if useful for no other purpose than protection against fire.

2201. WEEKS, J. & CO., *King's Road, Chelsea*.—Boilers, heating-stacks, and models of conservatories. The boilers are of the well-known powerful form seen in our advertising columns, consisting either of a double or single row of pipes according to size; and the excellent appearance of the heating pedestal has been already noticed in our report of the Royal Horticultural Society's Show. Of the models of horticultural buildings one is that of their own conservatory at Chelsea, with a number of other houses for various purposes, and the other represents a lofty curvilinear conservatory.

2208. WHITEHEAD, J., *Preston*.—Brick-pressing machine. We mention this on account of the beautifully moulded bricks which it turns out, and which in building would present a very fine joint between the courses. The machine is in the form of a table on wheels, and has in its centre two mould-boxes, the bottoms of which are pistons, and a hinged lid serving to cover each alternately. A piece of clay is put into one of the mould-boxes, and the lid closed; the man gives the wheel by which the pistons are worked a half turn; the clay is pressed into the mould; the lid is lifted, and the brick taken out. The same proceeding is repeated with the other mould-box, and so on alternately. It is stated that a man with two boys to feed the machine with clay and carry off the bricks as turned out can make 6000 bricks a-day, and that with a larger machine differing from this in the mode of feeding and delivery, double that quantity can be produced.

2025. WILLIAMSON, W.—Washing and wringing machines. These differ in principle from Hornsby's and other machines in the articles not being washed by a rotary or rocking motion of the receptacle itself, but by means of an open frame somewhat like louvre boarding. This, receiving an alternate backwards-and-forwards motion, and being jointed, a slight upwards-and-downwards one as well, squeezes and rubs the clothes, as far as we could judge, very effectually, and with but little exertion on the part of the person using the machine. It is made of various sizes differing somewhat in the arrangement of the moving power, and with or without rollers for squeezing the water out of the washed clothes.

2204. WILLISON, R., *Alloa*.—Ventilator for vineries. It is stated that this apparatus was invented by Mr. W. Thomson, of Dalkeith, and that it has been tested by him in a vinery with very satisfactory results. Every practical man is aware of the danger of admitting cold currents of air into hothouses, especially those devoted to early forcing, in which at the same time a constant supply of fresh air is needed. To meet this difficulty the hot-water pipes in the front of the house are surrounded by a light iron or copper sheathing perforated on its upper surface with holes, a space being left between the pipe and sheathing for the circulation of air. In connection with the sheathing a pipe provided with a regulating valve is carried to the outside of the

house; the air, being admitted through a grating at the extremity, passes between the sheathing and the hot-water pipe, and is, consequently, warmed in its progress before escaping by the perforated holes of the casing. The idea is good and is deserving of trial, though we are not aware what the cost of the contrivance, which is to be patented, will be.

2405. TAYLOR, J., JUN., *Parliament Street*.—Among other building contrivances are exhibited a coping of tiles for fruit-tree walls, with the pieces readily joining into each other so as to form a continuous joint. These tiles might not only be used as a temporary shelter in spring, but also as a substitute for a regular coping. Their cost is not stated.

The use of hollow-glazed tiles constituting a damp-proof course in buildings, as shown by this exhibition, is excellent. The tiles being open at both ends permit of a free passage of air through the wall, and thus, no doubt, keep the part subjected to damp much drier than it otherwise would be; whilst from the glazed material of which the tiles themselves are composed the ascent of damp is entirely prevented. The same exhibitor also shows an ornamental tile for permanent copings, which, if cheap and durable, will be useful; and a kitchen-garden drain and edging-tile in one, a gutter for the water being formed in the sole at the base of the upright portion.

(To be continued.)

### PORTRAITS OF PLANTS AND FLOWERS.

**BOLBOPHYLLUM CUPREUM** (Copper-coloured Bolbophyllum).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Native of Manilla and Araucan. Flowers copper-coloured and smelling very like the root of Valerian.—(*Botanical Magazine*, t. 5316.)

**RHODODENDRON FULGENS** (Brilliant Rhododendron).—*Nat. ord.*, Ericaceæ. *Linn.*, Decandria Monogynia. None of the Indian Rhododendrons can vie in colour with this. Dr. Hooker says it is the richest ornament of the Sikkim Himalaya, at elevations of from 12,000 feet to 14,000 feet. Flowers intensely crimson. Bloomed at Kew in April.—(*Ibid.*, t. 5317.)

**PALISOTA BARTERI** (Mr. Barter's Palisota).—*Nat. ord.*, Comelyneæ. *Linn.*, Triandria Monogynia. Found at Fernando Po in a grove of Oil-Palms. Colour of flowers there white, but in the stove at Kew they had a purplish tinge. It is almost stemless and herbaceous.—(*Ibid.*, t. 5318.)

**ANTHURUM SCHERZERIANUM** (Scherzer's Anthurium).—*Nat. ord.*, Onoriaceæ. *Linn.*, Tetrandria Monogynia. Native of Guatemala and Costa Rica. Spadix and spathe brilliant scarlet. Bloomed at Kew in April.—(*Ibid.*, t. 5319.)

**OREODAPHNE CALIFORNICA** (Californian Mountain-Laurel).—*Nat. ord.*, Laurinæ. *Linn.*, Enneandria Monogynia. "Fine evergreen and hardy tree, described by David Douglas as forming the greater part of the forests of California." The camphor-like odour of these trees is so strong as to cause sneezing to those resting under their shade. The hunters make a tea of the leaves, which is stimulating.—(*Ibid.*, t. 5320.)

**ECHINOSTACHYS PINELIANA** (Banded Echinostachys).—*Nat. ord.*, Bromeliaceæ. *Linn.*, Hexandria Monogynia. Native of Rio Janeiro. Peduncle and bracts vivid crimson. The zebra-like stripes on the leaves are alluded to in the name "banded." (*Ibid.*, t. 5321.)

**MUTISIA DECURRENS** (Decurrent-leaved Mutisia).—*Nat. ord.*, Compositæ. *Linn.*, Syngenesia Superflua. Native of the Andes of Chili, sent to Messrs. Veitch & Son, of Exeter and Chelsea, by their collector, Mr. Pearce. Flowers intensely orange. "As a hardy climbing evergreen this plant is a welcome addition to our gardens, irrespective of the interest attaching to its curious structure. Its hardiness seems to be well established, inasmuch as it had withstood without the least injury the severe winter of 1860-61, at Exeter, where it had been subjected to 26° of frost; and at Messrs. Veitch & Son's, Combe Wood Nursery, Surrey, it has since stood unharmed through the last winter. It is stated to be a plant of easy cultivation. The specimen from which the flowers were obtained having been merely planted out in good soil against a north-west wall, where it had made vigorous growth, and had perfected many of its brilliant flowers."—(*Florist and Pomologist for June*.)

**DIANTHUS HYBRIDUS MULTIFLORUS** (Many-flowered Pink).—Flowers rosy, very fragrant, and numerous. It blooms freely and grows freely. In a greenhouse without heat it blooms in April. Raised by Messrs. Henderson, Wellington Road Nursery, St. John's Wood.—(*Ibid.*)

**GERANIUM MRS. POLLOCK**.—One of the zone-leaved varieties.

Centre green, with next to it a crimson zone, and an outside one of bright yellow.—(*Floral Magazine*, Plate 101.)

**DOUBLE-FLOWERED CHINESE PRIMROSE**.—Two varieties of this double form, *Delicata*, white, tinged delicately with flesh-colour, and *Rubra grandiflora*, a deep crimson. Messrs. F. & A. Smith, nurserymen, Dulwich, had a first-class certificate awarded to them for the last-named by the Floral Committee of the Royal Horticultural Society.—(*Ibid.*, 102.)

**NEMOPHILA ELEGANT**, a variety of *N. discoidalis*. Flowers deep purple or maroon, bordered conspicuously with white. Raised accidentally by Messrs. Charlwood & Cummings, Florists, Covent Garden. The Floral Committee of the Royal Horticultural Society gave it a label of commendation, and it is mentioned in their "Proceedings" as "an annual desirable for general cultivation."—(*Ibid.*, 103.)

**AZALEA DUC D'AREMBERG**.—"Flowers of good form and substance, of a delicate salmon pink colour, with a broad distinct margin of white, and dashed with red. Upper petals at their base spotted with red."—(*Ibid.*, 104.)

### PROTECTION OF SMALL BIRDS IN SWITZERLAND.

I MUST thank you and your correspondents for taking up the cause of the small birds so valiantly. It is indeed of national importance. Having resided for some years at Geneva, I know full well the direful effects of killing these useful protectors of the crops. The Genevee were just awakening to a sense of duty; just finding out the use of them, and imploring the people not to kill any more. Edicts in the name of Mare Viridet were on all the walls warning the people; not to much purpose I am afraid.—PATELIN.

[The names of the trees you mention, are *Araucaria imbricata*, and *Sumach*, *Rhus coriaria*.]

### THEORY OF COLOUR, AND THE INFLUENCE OF LIGHT ON VEGETABLES.

(Continued from page 135.)

WE have already mentioned that colours depend wholly upon the reflection and absorption of light by the apparently-coloured object; but it should also be understood that this result depends upon the chemical constitution of the particular substance: hence the inquiry into the cause of vegetable colours becomes also a chemical one; and from certain well-known chemical laws these colours must have a definite constitution: therefore, when any change of colour takes place there must also be a chemical change of constitution.

It was likewise mentioned that chlorophyllite, the green-colouring matter of plants, depends for its formation on the action of the solar rays. Many circumstances concur in leading us to this conclusion. Everybody has observed the difference between a plant growing in the full enjoyment of light, and of one growing in some obscure corner where that agent is partially or totally excluded; the former is of brilliant tints, the other of a pale sickly colour. It is, therefore, quite obvious that a plant kept always excluded from the light must have a difference in its composition.

The function of the leaves and other green parts of vegetables is to absorb carbonic acid, and, with the aid of light and moisture, to appropriate its carbon. These processes are in continual operation; they commence with the formation of the leaves, and do not cease with their perfect development. But when light is absent, or, during night, the decomposition of carbonic acid does not proceed—nay, carbonic acid is emitted, and oxygen gas is absorbed.

The effects of darkness upon some vegetables are very remarkable; so much indeed is this the case that the most common plants have, when they have vegetated in the dark, deceived even the practical botanist. Professor Robinson mentions that in visiting a coal-pit he found a plant with large white foliage, and which was quite new to him. It was left at the mouth of the pit for a few days, when the subterranean leaves died away, and common fanny sprang from the root.

From the facts already noticed it would appear that the green-colouring matter of vegetables depends upon a peculiar substance existing in the vegetable, not absolutely essential to the plant,

nor invariably present, and depending on circumstances, but which is at the same time best for the health and well-being of the plant.

Though green is unquestionably the predominating colour in the vegetable kingdom, and exception to this is found in that freak of Nature—variegation, this variegated form of leaf is particularly observable in the Geranium family, which is now so extensively employed in the present style of flower gardening, producing a fine effect when judiciously arranged in combination with strong colours; but all attempts to trace the cause of variegation to its origin have hitherto proved abortive. Several very interesting papers on this subject have appeared from time to time in the pages of this Journal—papers fraught with instruction, and containing many useful hints to future workers in the same field. By some the cause of variegation has been ascribed to disease; but depend upon it, it is a mistake. As facts accumulate on our hands, the results of actual experiment, and the attentive and careful investigation of these facts as they are presented to us, the more firmly are we convinced that disease is not the cause of variegation. The results of several attempts to produce variegation by artificial means—in which I succeeded to a certain extent, but the results were not sufficiently satisfactory to draw definite conclusions from, and I shall, therefore, try again before saying anything of the means used to produce the diversity of colour in the leaves of plants—from a number of facts elicited in these attempts, I am strongly inclined to believe that an appeal to chemistry would be a step in the right direction towards a solution of this perplexing problem.

We may rest assured that there is more than one operating cause producing this discolouration of the leaf, but I cannot perceive that the disease theory is supported by a single fact. Is it not anomalous to suppose that diseased parents should be capable of producing a healthy offspring? and yet numberless experiments prove this to be a fact. In my experiments I have always had a greater number of plain-leaved varieties from a cross between two variegated-leaved Geraniums than from one between Tom Thumb and a variegated-leaved one.

Now, assuming disease to be the cause of variegation, one would expect the reverse of this to be the case—that by imparting fresh life to a diseased plant by means of a healthy variety we should imagine that the disease would be at least mitigated, if not extinguished. From a batch of seedlings obtained from a cross between *Hendersonii* and the Countess of Warwick, both variegated varieties, three-fourths were as free from variegation as Tom Thumb, and certainly quite as robust, some of them a good deal more so; five more were slightly variegated—just enough variegation to swear by and no more, and even this entirely disappeared with one season's cultivation. Surely these facts bear strongly against disease being the cause of variegation in plants. In the animal kingdom certain diseases are hereditary in some families; and it has been proved beyond a doubt that this peculiar form of disease will descend from one generation to another, still retaining its original character, frequently disappearing in one generation and breaking out again in the next or succeeding one in all its original virulence, making it evident that the taint had been communicated, and, though not showing itself, was still lurking in the system of the individual. Now, if we admit of any analogy between the diseases of plants and animals, it is not unreasonable to suppose that by crossing the progeny of diseased parents one with another, that the disease would become more apparent; but in a majority of instances the reverse of this is the case. But after all that has been said, both for and against disease as being the cause of variegation in plants, they exhibit no symptoms of unhealthiness in growth and habit, unless they are planted in poor soil, and otherwise maltreated. True, they are generally more dwarf than the plain-leaved sorts; but we do not see how dwarfness of habit can be regarded as indicative of disease. In the animal world it is no uncommon thing to see several individual members of a family almost positive dwarfs compared with their parents, and they live in the full enjoyment of health and strength physically and mentally.—J. DUNN.

(To be continued.)

ROYAL HORTICULTURAL SOCIETY'S AMERICAN PLANT SHOW.—We regret to learn that this magnificent exhibition has been brought to an abrupt termination by the tent with which it was covered being blown down by the late high winds. Much

damage has been sustained by Messrs. Waterer & Godfrey's noble specimen plants, the replacing which with plants equally fine will probably take years to accomplish.

On previous occasions we called attention to the insecure and altogether discreditable character of this tent, which caused us to fear a catastrophe such as this. We trust that out of the evil which has occurred good may yet arise, and that the Society will altogether abandon the use of tents.

## NOTES FROM BURMAH.

I AM delighted to tell you that I have shot a rhinoceros, I believe the only one that has been killed by any European either in the Mantaban or Tenasserim provinces. Some have been killed by Col. Fytche, our Commissioner at Moulmein; but he got his up the Irrawaddy river above Bassein. He is a most daring sportsman. He was out after elephants some time since, and came upon one very large one with tusks some 10 feet in length. He got up close to him, but rather behind him; knelt down until he turned a little on one side; when suddenly the elephant smelt him, and, raising his trunk, beat the bush close to the Colonel. The latter, not being enabled to shoot, the elephant caught him with his trunk, and sent him up some 30 feet among the boughs of some neighbouring trees, gun and all. This was considered rather a narrow escape, especially as this particular elephant, which is said by the natives to be more than a hundred years old, is a very cool fellow. He was one day eating a poor man's Sugar Cane, and the owner got a gun and went up into a house close to the Cane plantation on the outskirts of a village, and had a shot at him. But this only enraged the elephant, which entered the village and pulled down ten of the native huts.

But about my rhinoceros. I went towards the sea-coast, about two-thirds down the river, and then to the right across the narrow strip of land, which is about seven miles in width, from the river to the sea. The first two days I was unsuccessful; but on the third day I came upon some fresh tracks, and heard the beasts on the hill above me. I ascended, and started them without getting a shot, but followed; and soon one of the two hiding himself in some thick bushes about 30 yards away, I raised my rifle, and put the ball through the arteries of the neck, when he fell on the spot. He was a fine male, not quite full grown, but very handsome. The Burmese danced round me and pulled me by the arm, saying they had never seen anything done so well before. He was 13 feet 6 inches in length, and the skin was as much as six men could carry, the head being a good load for two. This rhinoceros was of the one-horned species; but we have the double-horned kind in the lower part of the provinces below Unequi. I am going out again after the rhinoceros as soon as the monsoon is well over and the jungle a little thinned by the fall of the leaf. The Burmans are very fond of the flesh of the rhinoceros, and use the blood as a specific in all diseases. I shot him through the neck, and hit both carotids, so that when we went up to him the blood was spouting out from both sides. Pieces of Bamboo were soon cut, and the blood collected for the lame, the halt, and the blind. I shot him on the side of a low range of hills, on the shady side of which they are generally found in the day, but go down to the swamps in the night to wallow in the mud.

The single-horned is by far the handsomest of the two kinds of rhinoceros, the double not having the "coat of mail" skin, but one more resembling that of a buffalo. The horns are only attached to the skin, not to the bone as in other horned animals. I am considered a regular Gordon Cumming amongst the Burmese, and can get any number of them I require.

I have not yet received the Rose-cuttings. I want principally Perpetuals and some of the Tea-scented, as *Devoniensis*, a sulphur colour. I really think any cuttings would live in a small open-mouthed glass bottle, or in six pieces of glass fastened together, forming a miniature Ward's case. With a little moisture, put in a small wooden box and sent through the post, I think *Fuchsia* cuttings may also be tried as well as *Roses*. I am afraid you will think me very troublesome, but it will be a very great success should they grow, as it has never, I think, been tried before. I find the *Pink*, *Carnation*, and *Picotée* will do here. Some seeds of good or first-rate would be most acceptable. The latter is now grown with a white instead of a yellow ground. These would be much prized here.—B. H., *Taoy, Tenasserim Provinces*.

## DISCOVERY OF MUSA VITTATA.

In his report of the Royal Horticultural Society's Exhibition, Mr. Beaton says *Musa vittata* was introduced to Kew by their own collector; but I see by the June Number of the "Proceedings" of the Society, just received, that this beautiful plant was "introduced by Mr. W. Ackerman to the nursery of M. Van Houtte, of Ghent, from St. Thomas, a small island in the Gulf of Guinea," page 361. Who is right—Mr. Beaton, or the authority of the Royal Horticultural Society?—K.

[On referring this question to Mr. Beaton himself, he answers as follows:—"Perhaps we are both right, but the 'Proceedings' are certainly wrong in the statement. M. Van Houtte did introduce the plant to the Continent; but before his collector was aware of its existence, there were a number of plants of it on the way home for Kew Gardens—the very plants I reported on from the different nurseries. I do not think this side of the question needs that I should give the information respecting the way both the collectors discovered *Musa vittata*, but I know it. I also knew something of plant-collecting in many parts, and of the difficulty of having everything as it ought to be in 'Proceedings.'—D. BEATON."]

## KNOBS ON YUCCA RECURVA.

I HAVE some *Yucca recurva* that I wish to increase. One of them has had for two years past three large knobs showing through the ground, but as they do not break into leaf I feel inclined to take away the surrounding mould, and slightly pull them from the old stock, filling-in with the fibre.—H. B.

[Do not pull them off, but cut off clean if you can, and smear the part with charcoal-dust. Most likely these knobs if potted will give you a number of plants.]

## DESTROYING MARCHANTIA CONICA ON TURF.

THE turf, say 40 feet square, in my suburban garden is overgrown with *Marchantia* where always in the shade. Is there any mode of destroying it? I have heard of wood ashes.—M. D. P.

[We have little faith in the wood ashes unless you drained the ground, and that would take away what this Liverwort feeds on—the stagnant moisture. If this were done, and the ground dressed with quicklime, we think you would get rid of the annoyance.]

## SAVING STRAWBERRY PLANTS FROM GRUBS.

A CORRESPONDENT from Bolten-le-Moors complains that the "black bot" (or grub of the daddy-longlegs), is eating up his vegetables. I also find that I have a great quantity in my garden, for about three weeks ago I perceived the flower-stalks of my Strawberries falling down, half eaten off at the bottom. Upon removing the soil from about the roots of a plant I perceived a number of bots. I immediately procured some lime slaked to a fine powder and placed some round every plant, since which they have done them no damage.—A. Q.

DEATH OF MR. JOHN EDWARDS.—By this event, which took place last week, the floricultural world has lost one who, both as a cultivator and a judge, held a very high position. I will remember paying him a visit when he resided at Holloway, in the year 1847, and was much struck with the zeal and energy with which he had carried out his favourite pursuit. I believe he commenced as a florist about seven years before that as a grower of Pinks and Pansies; but, like most of the fraternity, one thing led him on to another, and soon Tulips, Roses, Dahlias, Carnations and Picotees, and Auriculas were added. At one time Azaleas, Orchids, stove and greenhouse plants also received his attention; but, alas! that ever-spreading monster, our great metropolis, coveted his garden, and then devoured it. His collection was sold, and villas occupied the once-blooming garden. He, however, continued a most valuable and active member of the various London horticultural societies; and for many years was the diligent and painstaking Secretary of the

National Floricultural Society, until it became defunct, in consequence of the establishment, on a broad and liberal basis, of the Floral Committee of the Royal Horticultural Society. He also acted as judge at the metropolitan exhibitions in the department of florists' flowers; and having been associated with him in that capacity, I have often been struck with the intuitive perception he seemed to have in looking over a number of stands, where the merit really was. Beyond this I knew but little of him personally; but I have ever heard him spoken of as one whose opinion in his own special line few would gainsay.—D., Deal.

## OXALIS ELEGANS (ELEGANT WOOD-SORREL).



*Nat. Ord.*, Oxalidaceæ. *Linn.*, Decandria Pentagynia.—A very showy, half-hardy, tuberous-rooted perennial, with trifoliate leaves, the leaflets of which are deltoid, or sub-rhomboid, and glabrous. There are two varieties, in one of which the under side of the leaves is a purple tint, in the other green; the latter has the flowers somewhat smaller, but brighter coloured than those of the other variety. The flower-stalks grow 9 inches or a foot high, bearing an umbel of from six to ten flowers, of five broad, oval-clawed spreading petals, rose purple, with a very dark purple eye; in the smaller variety the blossoms are upwards of an inch across. These are likely to become valuable plants for the flower garden. Both varieties are from Columbia: Andes of Loxa, at an elevation of nearly 7000 feet. Introduced in 1848 by Messrs. Veitch & Son, of Chelsea and Exeter, through their collector, Mr. W. Lobb. Flowers throughout summer and autumn.

## ARCHITECTURAL TERRACES.

BY H. NOEL HUMPHREYS, ESQ.

I HAVE, in my last communication, shown how terraces may be produced at an exceedingly moderate expense, suitable to various styles of cottage and villa architecture, and it is on this moderate scale that suggestions for the formation of terraces will interest the greatest number; but this most important feature of decorative gardening would be but imperfectly explained did we finish the series without alluding to terraces in their more palatial form, and in their noblest proportions. It is not always necessary to terrace effects, on the largest scale, that architectural decorations should be introduced; for, by simple embankments, as suggested in our paper on cottage terraces, gardenesque features of a very noble character, and suited to residences of the

highest class, may be obtained. The effects to be produced near main terraces, by deep, massive Box-edgings, have been much neglected, and might be revived with great effect; but this feature must be cautiously used, and not carried too far, as, in that case, the attempts invariably sink into the meretricious—when, for instance, these cropped edgings are tortured into initial cyphers, or even entire epigrams, as in some of the later Italian villas; or to select a more modern instance, in the magnificent gardens of the late Earl of Shrewsbury at Alton Towers—gardens reclaimed by art from land, which some years ago was no other than a barren waste—where, if my memory serves me correctly, a bust has been placed upon a marble column, in a conspicuous part of the ornamental gardens, at the base of which, the ingenious and persevering spectator may decipher, in the cropped Box, the motto, “He made the desert smile,”\* in honour of the late Earl of Shrewsbury, under whose directions the improvements were effected. Such elaborate conceits are apt to make the spectator smile; but they are not, as I have observed, without their precedent, for some of the finest of the Italian villas are disfigured by similar effusions, and to a much greater extent, of which several ridiculous and scarcely credible examples might be cited.

Of the more architectural terrace, with its full complement of statuary, vases, fountains, &c., the villa Panfilo Doria may be cited as an example. Of this magnificent specimen, the engraving will convey a good general idea.

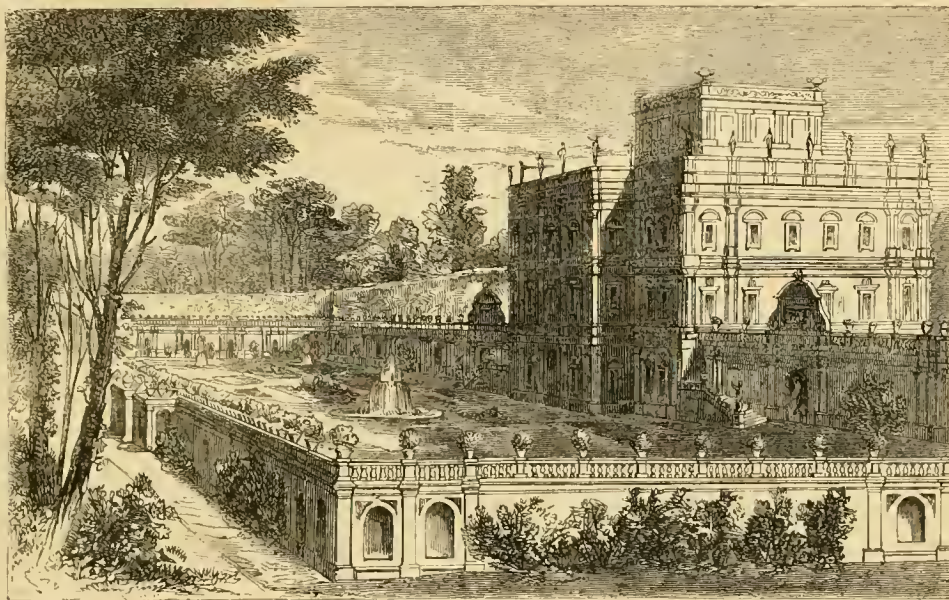
As displaying the true feeling of the palatial terraces of the

school, these Italian villas are the safest, as they are the original models. I find in my Italian journal the following notes on these fine monuments of architectural and gardenesque composition.

The villas of the modern Romans merit the name of palaces, and form one of the most characteristic features of Italian scenery. Of those in the immediate vicinity of Rome, that of the Borghesi family, which is the confiscated domain of the unfortunate Cenci, is the most important; it is open to the public, and forms the Hyde Park of the Romans; but neither Hyde Park, nor Kensington Gardens, nor the Tuilleries, nor Versailles, can convey any idea of the peculiar charms of a Roman villa. There is a freshness of vegetation about the suburban *delizie* of Rome, that the neighbourhood of large towns always tarnishes, except in Italy. But there, close under the walls of Rome, the Appennine Anemone, of various tints, brightly-coloured Scillas, the deep crimson Cyclamen, and many beautiful Orchids put forth their fragrant blossoms in early spring, as in the woody dells of the secluded country. The “sky-cleaving Cypress” shoots aloft its pointed or forked peak to a height equal to the Poplar of the north, and noble groves of Ilices, whose vast trunks spread above with groined branchwork into densely-matted foliage, form

“A pillared shade  
With echoing walks beneath.”

The peculiar character of the tufted heads of the Stone Pines, too, grouping in picturesque masses with terraces, statues, and fountains, tend to invest Roman villas with a charm peculiarly their own.



THE VILLA PANFILI DORIA.

To return to the subject of our engraving. The villa Panfilo Doria is next in importance to that of Borghesi among the villas near Rome; but its somewhat greater distance, and unhealthy situation, cause it to be much less frequented. The palace itself is, on its exterior, almost entirely encrusted with antique *alto-relievi*, some of which are of the highest merit, and most exquisite beauty. This is a luxury which cannot be imitated, except in Italy, where the soil still teems with the fragments of her ancient splendour, many of the finest of these *relievi* having been turned up in digging the foundation of the building. The whole of the composition of this palace and gardens—for the whole forms one harmonious design—is an excellent model for the careful examination of the modern student; but the reduced dimensions of our engraving can convey but a very inadequate idea of the numerous and elaborate details.

I find the following brief notices of one or two other villas in my journal, with which I shall conclude this article, which, though not strictly of a practical character, is yet, I think, cal-

culated to convey my opinion of the styles to be adopted in the higher class of terraces better than more mechanical definition.

The villa Albani, perhaps, realises more than any other the dreams of the Italian villa that haunt the imagination before having seen Italy. It is chaste, and severely classic in its style, yet, withal, richly magnificent—a rare and difficult combination. And to its intrinsic features the charms of position are super-added, the range of views from its marble terraces commanding the finest portions of the picturesque campagna, with its rugged lines of half-crumbling aqueducts, and scattered groups of detached ruins.

The gardens of the Borghesian villa, Mondragone, at Frascati, combine, to an unusual extent, the richness of immediately surrounding features with the result of art. The noblest views over the Appennine range, and the campagna, the latter extending even to Rome, where the vast cupola of St. Peter's are seen describing a dim blue arch upon the horizon. The various and picturesque foreground offered by the rich marble terraces of Mondragone have not been overlooked by artists; many distant views of Rome and of the ever-attractive campagna having been painted from this spot.—(*Gardener's Magazine of Botany.*)

\* I am not certain whether the vegetable literature may not be confined to initial cyphers, and the motto itself engraved on the edging; if so, the cyphers serve the purpose of illustration equally well.

### VINES IN A GLAZED CORRIDOR ENTRANCE.

THE entrance to my villa, now building, is through a glazed corridor (you can hardly call it a conservatory), the size being 29 feet in length by 6 feet 3 inches in width. The aspect of this is due south, and I think a few of the hardiest kinds of Vines, nicely trained to cover the roof, would have a pleasing effect; and likewise form a shade from the sun during the summer months. I do not care about the fruit so much as the effect. If you approve of the plan would you put them into the front, and so train them up the roof? or would they be better put on the back wall and trained in this, and then brought down the sloping glass roof?—A SUBSCRIBER.

[We have no doubt that Vines will answer admirably, and if you have pilasters or anything of that kind in front, the stems should go against them as well. We would in your circumstances not plant them against the back wall, as that might render the walls of the dining-room, &c., damp. We would prefer having them planted in front, and if the ground is well drained, and good soil used, there need be no eyecore, as you do not contemplate forcing. We would use six plants or so, and nothing would suit better than Black Hamburgs; or if you liked variety, say three of that and three of Royal Muscadine. We presume you have upright glass in front; if not, and you did not like to break the ground there, two Vines may be planted at the entrance end, and they would soon go along the roof longitudinally. If the front is glass it would be best to plant in front; if at the end, the roots of Vines in good soil will thrive well enough below the gravel of the drive.]

### WHY SMALL BIRDS SHOULD BE PROTECTED.

I AM really gratified to find you are pleading a little in favour of the utility of small birds, and much wish also the feeling was as general as it should be. Perhaps, then, you will allow me a corner to give my experiences on the subject. For the last thirty years of my life my flower garden has been one of my chief hobbies; and let me add, that the voluntary nesting therein of various small birds has greatly enhanced the pleasure as well as doubled its attractiveness to visitors, independently altogether of that far more important feature—their general utility. For the time named I have never been without several boxes provided expressly for their accommodation, thus to induce their easily-attained nidification on my own premises. Whilst I am writing, a pair of Redstarts are feeding their young ones within sight of my breakfast-room window, and the hundreds of “daddy-longlegs” taken daily to their brood can scarcely be credited, save by witnessing it. From the earliest dawn to the last ray of evening they are continually taking supplies, not only of this most injurious insect during the time it remains a caterpillar, but also any description of butterfly or moth that is comestable. Both the Redstarts and also the Grey Flycatcher have almost annually bred in these boxes, though from some unknown cause the latter have not even been seen in this immediate neighbourhood this summer.

Both varieties of these insectile feeding birds are most amusing in their habits, and when they perceive they are not injured become, as incubation progresses, marvellously familiar. Their delight is to sit perched on a tall standard Rose, or any similar object that affords opportunity for a good look-out, and from this they dart at every insect that approaches. The chase of a butterfly is, perhaps, one of the most amusing of their habits, lasting in bright sunshine frequently for a minute or more, the butterfly dodging its best incessantly, and the old birds repeatedly stooping as hawks will do when in pursuit of their prey on the wing. The colours of the Redstart are under such circumstances seen to the greatest possible advantage. Generally after capture, if by the male Redstart of any large insect, he will alight on the top or footboard of his nesting-box, place the still struggling fly under one foot, and sing a few notes of triumph before feeding his little ones. The Flycatchers are undoubtedly the more beneficial of the two, however, as being by far the greatest feeders. The Robins almost always breed with me likewise; but this season the Redstarts gained prior possession of their favourite box, and the Robins, in extreme dudgeon, betook themselves to some adjacent Ivy; for, most unusually, the Redstarts have even yet maintained the mastery all the season. Some twenty-three years back a pair of those very rare birds, the Spotted Flycatchers, built with me, and reared with

success half a dozen young ones; they proved far more active but much less confiding than the common Flycatcher.

At that time I was collecting specimens for a small museum, still in my possession. After the Spotted Flycatchers had reared their young, the temptation to take the cock proved too strong for me, and he now stands preserved a silent monitor of reproof for an act I even then quickly regretted, and which I still view with like feelings. It is worthy of mention, that though several pairs came for a day or so the following spring—most probably the old hen and her brood of the previous year—they passed on to safer quarters; nor have I seen for many years a single living bird of this description.

The boxes I use are about 6 inches by 5 inches; they are gabled, the one end having a hole to hang on a nail in the wall, the other being provided with a circular entrance about 2 inches in diameter. As the cats this year robbed me of a brood, to which by some alteration in the adjoining premises they unfortunately gained access, I purpose before another breeding-time to place on a single support square boxes to each hold four nests, to be placed in the open sufficiently elevated to be above the leap of a cat, and have but little doubt they will soon be occupied, as for many years the Flycatchers bred within only a few inches of each other without any display of anger or unfriendliness; a Robin also rearing its young within a yard of the same spot, and simultaneously.

The quantity of insects thus consumed by a single brood whilst yet unledged is scarcely credible; and the far-increased amount of sustenance they require for the several months they remain after leaving the nest must be even greater. I am well assured, also, that few individuals could be found who would not be interested in watching their movements; and it should be borne in mind that no personal trouble is required: for the less the birds when resting are interfered with the better. An object of unusual interest to my late sister resulted from a Wren having built in the head of a tall standard Rose, a most unlikely spot certainly, being also close to a path; yet the Wren carried out her purpose successfully, and the young ones proved very familiar up to winter time. Some of my neighbours, who, at the outset, smiled at my hobby, are now following my example; and our comparative freedom from blight I attribute almost exclusively to the increasing efforts of these little pets for hours prior to the generality of persons turning out to their gardening occupations.

To those readers who can give this matter a fair trial in suitable situations, I am sure the results will be both instructive and pleasurable.—EDWARD HEWITT, *Sparkbrook, Birmingham.*

### CUCUMBER MAGNOLIA (MAGNOLIA ACUMINATA).

ONE of the most beautiful trees in America is the Cucumber Magnolia, which grows abundantly in Knox Co., Ohio, in the neighbourhood of Mount Vernon. It is generally found on the higher lands along the ridges. It is tall, of cone shape from the lower limbs to the top. The trunk is straight; bark of dark ash colour. This tree bears a beautiful aromatic fruit, of deep scarlet red, oblong, from 4 inches to 6 inches long, 1 inch in diameter, which ripens about the 1st of September; it opens its cells, and drops its seeds (which are about half the size of Persimmon seed) late in October. The fruit is considered an excellent medicine, being a tonic, antiseptic, and stimulant, and is used successfully in curing intermittants.

Perhaps this is one of the most beautiful trees on the continent. The fragrance of the fruit is delightful, equal to the Clove and other aromatic varieties of the Islands. The leaves are as large as your two hands, of heart shape. As an ornamental tree, this cannot be excelled.—J. LLOYD, in *Valley Farmer (American).*

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

*Asparagus*, to husband the strength of the grass for next year no more of the produce should be cut. Late and close cutting is one of the principal causes of weak grass. *Cauliflowers* which are now forming to be watered and mulched with short litter, it will cause them to come close and compact; the head when fully formed to be shaded from the sun by snapping the midrib of one of the leaves and bending it over the head. *Celery*, continue to plant successional crops into trenches; take up the plants with as much earth about the roots as possible, and do

not shorten any of the leaves. Immediately after planting give them a good soaking with water. *Endive*, make a sowing for the main autumn crop. Plant-out a few of the early-sowing, keep them watered if the weather is dry until they get root-hold. *Herbs*, some of them will shortly be fit for drying, the best time for doing so is just as they are coming into flower. *Lettuce*, keep a quantity tied-up for blanching. Make another sowing in drills where they are to remain. *Potatoes*, earth-up the main crops in the garden immediately after the rain. Keep the ground between the rows loose. *Spinach*, sow a few rows for succession; if the weather be dry water the drills before sowing, and again after covering them.

#### FLOWER GARDEN.

There are two or three important points relating to the flower garden, which are sometimes wholly neglected, and at other times very inefficiently done. In the first place, the thinning of hardy annuals should be more generally performed; one of the chief causes of their remaining so short a time in flower may be traced to their being so thick that it is quite impossible for them to branch out, and, consequently, they have only a flower or two at the end of each single spindling stem. The thinning of the flower-stems of herbaceous plants is also but very rarely done; but it is a necessary operation to insure good flowers. Staking is another operation in which there is not sufficient pains taken, the numerous flower-stems of herbaceous plants, and the mode of tying them up, give them the resemblance of a green faggot set on end rather than a living plant. The different kinds of climbing *Roses* to be carefully tied or nailed to prevent them from being injured by winds. Plant-out *Dahlias*, *Salvias*, *Ten-week Stocks*, *Asters*, *Convolvuluses*, *Campanulas*, *Nolanas*, *Kaulfussias*, *Indian Pinks*, &c., into borders or flower-beds, and likewise a few on rockwork. Pot a portion for planting-out into beds later in the season, to replace such as have gone out of bloom. Divide *Campanula carpatica*, and plant it for edgings or in borders in front of herbaceous plants. *Poly-anthus* require a shady situation, as hot weather is very prejudicial to them. Early-planted beds would be much improved by slightly hoeing them over to loosen the soil after the surface is battered hard by the heavy rains which we have had lately. Mow grass lawns regularly during this growing weather. Clip edgings, and endeavour to render the whole neat in appearance.

#### FRUIT GARDEN.

The leading shoots of *Peach*, *Nectarine*, and *Apricot* trees to be tacked-in, taking care to allow plenty of room in the shreds. When thinning-out superfluous shoots it is necessary to foresee what portions of wood will require to be removed at the winter pruning, and the most appropriate shoots to be accordingly reserved for succession and encouraged throughout the summer. If any shoots laid-in for bearing have failed in producing, they may be gradually removed in order to afford more space for successional young shoots. The shoots of *Pears* should not yet be cut back, otherwise the buds that ought to remain as such to form fruit-spurs will be induced to break into shoots. It is now a good time to scrub the stems of fruit trees infested with scale, for the young broods are issuing from their fastnesses and are as naked and tender as mites.

#### STOVE.

Continue to stimulate the plants, repot any that may again require it. Attend to the training and stopping of such as are making rapid growth, syringing every afternoon. As the weather continues changeable take care that the young shoots do not get checked or injured by cold draughts, or scorched by sudden bursts of sunshine.

#### GREENHOUSE AND CONSERVATORY.

*Camellias* after blooming to be placed in a little warmth to make wood and set their flower-buds. Do not allow them to suffer for want of water. *Indian Azaleas* may also be similarly treated. *Rhododendrons* under glass to be fully exposed to the sun for the production of good foliage and an abundance of buds. Keep the conservatory shaded during bright sunshine, and cool to prolong the blooms of all plants introduced there. Keep down the green fly by fumigation, the red spider by syringing, and the mealy bug with the finger and thumb. The thrips, one of the greatest enemies, may be subdued by constant smoking and occasional syringing with lime and soot water in a perfectly clear state, but this and all other insects when they once make their appearance must be followed up in right earnest until they are completely extirpated.

#### FORCING-PIT.

This pit may be profitably filled with many ornamental plants requiring the aid of additional warmth to bring them kindly into bloom. Among these may be named *Balsams*, *Cockscombs*, *Hydrangeas*, *Gardenias*, &c. The propagation of *Geraniums*, and other softwooded plants, may be also carried on in the same place.

#### PITS AND FRAMES.

Shift specimen plants as often as they require it. Shade a little during the middle of the day if the sun is hot, and attend carefully to watering. Give liquid manure to such plants as have filled their pots with roots, but not too frequently; the liquid to be clean and weak. Some caution is necessary, as plants are frequently injured, and even killed, by frequent applications of strong liquid manure. Put in cuttings of choice greenhouse and herbaceous plants, that they may be rooted before the pits and frames are wanted for other purposes.

W. KEANE.

### DOINGS OF THE LAST WEEK.

ROUTINE in all departments much the same as before.

#### KITCHEN GARDEN

Took occasion of dripping weather to thin *Carrots* and *Beet*, the *Parsnips* having thinned themselves, thinned *Onions*, and where defective transplanted; put others thickly in rows for salads, and pricked-off others on hard ground with about an inch of friable stuff on the surface, in order to get some button *Onions*, as when grown in the usual way our ground is too strong for buttons. In all such planting, when either large or small bulbs are wanted, no more should go in the ground than the true roots. If the base of the bulb is much inserted farewell to all good bulbing: hence transplanted *Onions* often bulb the best. Of course, for pickling *Onions*, they should be sown or pricked-out thick, and on heavy land the ground can scarcely be too poor for that purpose. Sowed *Turnips* and *Radishes*, and a fair breadth of late *Peas*, chiefly *Marrowfats*, of moderate height. Cleared out the remainder of the *Kale*, and most of the *Broccoli*-stalks to the burning and charring-heap, as even the latter is of less value now, when *Cauliflower* is coming in, and *Peas* and *Beans*, somewhat accelerated, plentiful. Turned out more *Cauliflower*, and pricked-out from seed-bed in order that the plants may be a good size before being moved to the quarter, as their natural enemies are not uncommon this season, and soon make havoc of plants when small. Fresh regulated and pruned *Cucumbers* that had been bearing heavily. I am sorry to say that signs of gum on the fruit are appearing, so will plant out again in fresh soil ere long, as soon as the successors are in full bearing. There are many modes of mitigating, but I must own I have never obtained a perfect cure for this disease. Fresh soil is a good preventive, and in autumn and winter heath soil enriched with weak liquid manure will generally give a crop quite free of any malady. Although you may have plenty of fine fruit, it vexes one to see some with these gumming excretions when you feel you cannot eradicate it. If perceived at first, rubbed off, and dusted with a powder consisting of equal parts of sulphur, lime, and charcoal dust, it will generally leave merely a dried-up mark behind it. So much for a palliative. Such fruit would be no use for an exhibition-table. When, however, there is some three or four times the show of fruit at a time that the plants can mature, if a few show any such affection, it is best to cut them off at once. For this and the curling of *Cucumber* leaves, with an unhealthy yellowish tinge along with it, and the yellowing of the points of *Cucumbers*, of which now I have some dozen complaints beside me, I know of nothing but such palliatives as the above, and a pure atmosphere, air back and front, soil in a sweet, healthy condition, not too dry, nor too wet, nor gorged with manurial matters, and, perhaps, most important of all, a temperature at night not much above 60°, with a rise of from 10° to 20° from sunshine, also a gentle, yet not a high bottom heat. I have been as successful as most people with *Cucumbers* in the times that are past, and have seen very splendid crops: perhaps the very best for a small space was at Hatfield House, and there with the exception of a little sweet dung and leaves to start them—say some 15 inches or 18 inches, the plants could have no bottom heat. But of this and other matters there I hope some day to give more details. I am thus discursive, perhaps, more than I ought to be; but my old friend Mr. Keane, gives such excellent directions as to what ought to,

be done, that it would be pretty well lost space to do little but rewrite his remarks.

#### FRUIT GARDEN.

Much the same as last week. Gave some manure water to *Strawberries*, having as yet found no time to put straw or litter between the rows. Will, if possible, throw a little soot and lime between the rows, as that sends the slugs and worms a-field; and it is so annoying, when gathering an extra fine specimen, to find it perforated by a slug-hole. When manure water rather strong can be given in dripping weather, it acts most successfully. If the weather is dry, it is a good plan to put it on carefully with the spout of the watering-pot, and then follow afterwards with clean water from the rose. This clears all impurity from the fruit and leaves. No good *Strawberries* can be got from ground that is parched dry. To have them in fine size and flavour, the ground must be moist, and the atmosphere clear, dry, and sunny. I notice the many nice bits about birds. I like them dearly, and they would be quite welcome to the smaller *Strawberries*, or even a few of the best; but the rascals are never satisfied except with the largest, and these in general they merely bite, going from one best to another best, as a bee goes from flower to flower. Now I should be sorry to see the sootballs (sparrows), and far less the blackbirds and thrushes, anything like overmuch thinned; as, besides their eating the enemies of gardeners, they deserve some recompense for their delicious notes night and morning; but still in many places, where game is rigidly preserved and no nests are ever taken, it is an easy matter to get too much of a good thing. If the preserving of thrushes and sparrows goes on in the same ratio as the preservation of pheasants and hares, the time will come that whole gardens will require to be enclosed with nets at certain seasons, if anything is wanted from them for a gentleman's table. There are a vast number of places where nets now must be liberally used if the birds are to be confined to anything like a fair portion of the supplies—that is, if we wish to keep them as servants, and not to make them thoroughly our masters.

#### INSECTS—LAURELS.

I read with much interest the chapters on insect-destroyers last week, by our friend Mr. Robson. At one time or other I have tried almost everything he mentions, and with varied success. Just as in the case of Neal's Pastils, sometimes they killed everything, and at other times killed hardly anything. The same thing happens with smoking with the best shag tobacco. There seems to be much depending on the state of the insects, the state of the atmosphere, and the care of the operator. One insect-destroyer, however, Mr. Robson overlooks, which I have often used with effect, and I mention it because there are wagonloads of it at Linton, and few gardens are without it. Like other cures, however, its action has been precarious, sometimes very effective, and sometimes not. I allude to the common *Laurel leaves* in winter, and young shoots at this season. A good barrowload of these shoots and leaves bruised between a mallet and stone and put into a small house, will often make short work of every insect in it, and leave a pleasant perfume behind, like a manufactory of custards. I often find that burning such bruised material, provided the smoke that issues from them is cool, will kill green fly when the tobacco smoke has failed to do so. But just like tobacco and pastils, it will not always do so. As a wash from the syringe and garden engine, I consider laurel water next to good tobacco water for efficacy, and most of the stone-fruit trees like it as much as the insects dislike it. A good barrowload of shoots bruised, put into a barrel—say 18 gallons, covered over with 4 gallons or 6 gallons of boiling water, left covered up all night, the barrel filled up with common water in the morning, the liquor poured through a sieve into the engine and used directly will generally do good, and the expense is little where Laurels are plentiful. I by no means insinuate that it would be as effectual as tobacco, but the latter so often fails that frequently a combination of remedies must be resorted to. Laurels and laurel water can generally be had easily enough.

#### BEDDING.

We are anything but finished as yet; but there are two points on which information is asked—First, do these plants, transferred to temporary beds instead of pots, do as well in the flowering beds, and look as well at first as those turned out of pots? In many cases they will not look so well at first. Scarlet Geraniums will be apt to lose some leaves from the check given from lifting and planting; whilst those turned out of pots, if watered

before planting, may be expected to go on without flagging or losing a leaf. If the ball was not at all reduced, those from pots will not grow so well as the others ultimately, as the roots from being loose will cater for themselves more freely. We put up then with a few yellow leaves on Scarlet Geraniums when first turned out of temporary beds, because we believe there will be little difference between the two in a fortnight, but that the advantage is rather with the former, and because the trouble of picking off a few yellow leaves is very little to the trouble of so much watering, if the plants are kept some months previously in pots. Then secondly, I am asked some dozen times this in purport, "How am I to water? copiously, slenderly, at root, or overhead?" Now, this is too large a matter for a cursory note. But keep these things in mind. Every plant when turned out should have enough of water to moisten the roots, and but little more. When inclined to flag, a little more in the same way should be given; a great deal would cool the soil by its attendant evaporation. To check that when the little is given, cover it up with dry soil, or draw a hoe through it shortly after to leave the surface loose. It is a mistake to deluge such plants now, if you wish active growth. In bright days after dull weather the leaves may flag from excessive evaporation, even when there is plenty of moisture at the roots. In that case shading would be best for a little time. The next best is what we have recourse to where shading cannot be thought about. Take the garden engine full of clean water, and set a man who can place his finger or thumb on the nozzle, so that the discharge will resemble drizzling mist rather than rain, and scatter it all over the foliage. So long as the leaves are dampish, the evaporation of moisture from within is arrested. In such cases, surface or leaf sprinkling often does more good than root-deluging, and at a twentieth part of the trouble.—R. F.

#### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

SEEDLING PELARGONIUMS AT THE CRYSTAL PALACE SHOW.—There was a mistake in the official prize list as first published. The necessary corrections are as follows. Second prize, Mr. J. Wiggins, gardener to W. Beck, Esq., Wootton Cottage, Isleworth, "Pelidea." Third to the same for "Rory Bloomer." Fourth, Mr. C. Turner, Royal Nurseries, Slough, "Loveliness."

EXTIRPATING DAISIES (*A Subscriber*).—Every attempt at ridding lawns of Daisies, save that of spudding them out, has failed. It takes three or four years to extirpate them entirely, and very close and early mowing is the next best help.

LIQUID MANURE—DOVE'S DUNG (*A Subscriber, Manchester*).—The soda in the soapsuds will increase rather than diminish their utility as a manure. One gallon of urine to eight gallons of your soapsuds will be quite strong enough. The dung of turtle doves, like that of pigeons, is very stimulating; 1 lb. of it to four gallons of water would be a good liquid manure.

CLIMBERS FOR A CONSERVATORY (*Anna, Norfolk*).—To bloom in winter and spring:—*Habrothamnus elegans*, *Maurandya semperflorens*, *Fuchsia serratifolia*, *Kennedya Marryatiae*, *K. nigricans*, *Fuchsia microphylla*. The *Fuchsias* are not climbers, but will answer the purpose and bloom. To bloom in summer:—*Kennedya Comptoniana*, *Bignonia Chirere*, *Brachyosma latifolia*, *Jasminum odoratissimum*, *Tacsonia pinnatisetipula*, *Pasiflora caerulea-racemosa*. The chapter you mention will probably be published in a volume.

NERINE FOTHERGILLI (*W. W. B.*).—As the leaves are green we would not lessen the supply of water for a month to come, and then gradually. Let the plant have all the sun possible.

PROPAGATING *WIGELA ROSEA* (*G. S.*).—It is very easy. As soon as the bloom is well over look over your plants, and slip off some short shoots about 3 inches long, taking them close off to the older wood; remove the leaves from the lower part, and insert the shoots in a well-drained shady place in sandy peat, and sand on the surface, placing a hand-light over them. They will soon strike if well managed.

WHITE FOXGLOVES (*W. Elliott*).—Your white Foxgloves are the richest marked in the inside we have ever seen. The whole of the inside surface is as regularly marked with purple spots and blotches as the outside of a magpie's egg is.

PRIZES FOR CONSERVATORY-TUBS (*G. S., Belle-Vue*).—There are two exhibitions of them—one in June, the other in September. *Crocus* seed and

Hyacinth seed should be sown in October, and covered a quarter of an inch deep, in a bed of light rich soil, in an open situation. The seedlings will appear in the spring.

NAMES OF PLANTS (*S. S. Woodlands*).—It is a *Dollehes*, probably *D. purpureus*; but the pods and seeds are necessary to enable us to speak decidedly. (*B. B. H.*).—1, Pennyroyal; 2, Savery; 3, Burnet (*Poterium sanguisorba*); 4, Tarragon; 5, Statice, probably *latifolia*, but not being in flower not certain; 6, *Clematis grandiflora*. Tarragon will endure the winter near London.

**POULTRY, BEE, and HOUSEHOLD CHRONICLE.**

**POULTRY SHOWS.**

- JUNE 12th, NORTH HANTS AGRICULTURAL SOCIETY. *Sec.*, Mr. H. Downs. Entries close May 21st.
- JUNE 26th and 27th. SUFFOLK (Woodbridge). *Sec.*, Mr. J. Loder, jun. Entries close June 5th.
- JULY 3rd. PRESCOT. *Sec.*, Mr. James Deesley. Entries close June 21st.
- JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. *Secs.*, G. Newton and J. Wade. Entries close June 21st.
- SEPTEMBER 9th. WORSLEY AND ARMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Atmley, near Leeds.
- DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

**THE HOUDAN HEN.**

(Continued from page 187.)

*Leg and Foot.*—Strong, fleshy, and provided with five toes like the cock.

*Colour of the Leg.*—Like that of the cock.

*Laying.*—Abundant and precocious; fine eggs.

*Incubation.*—Ordinary.

**DESCRIPTION OF THE PLUMAGE.**

The entire plumage composed of feathers of the ordinary proportions should be splashed—that is to say, irregularly mixed; some feathers black, some white, some black and white, sometimes black at the quill and white at the end, and *vice versa*; but generally having on the back, shoulders, sides, and tail-coverts splashes more distinct and less mixed than on the thighs, belly, and topknot. The large tail and flight-feathers are also mixed with black, white, or spangled feathers, but it is better they should be entirely black.

**GENERAL CONSIDERATIONS ON THIS BREED.**

It is one of the most beautiful breeds of poultry, and nothing can be richer than the appearance of a poultry-yard full of Houdans; but their good qualities are far more remarkable than their beauty. Beside the small weight of their bones, the quantity and fine grain of their flesh, their fecundity and precocity are admirable. They attain their growth in four months—they fill out and fatten in an entire state.

The pullets make magnificent poulardes, and of all breeds this one approaches nearer than any other to an equal weight between the sexes. The pullets lay early and abundantly; the eggs are very white and large. The pullets lay in January.

This is a rustic breed, and is easier to rear than any other indigenous fowl (in France); it is more sedentary, and less predatory than most others.

Like all hens that are abundant and long layers they are but middling sitters; nevertheless they perform this operation fairly, and are good mothers.

**THE BEVERLEY EXHIBITION OF POULTRY.**

It gives us great pleasure to state that this year's Exhibition of poultry has proved itself not only a far superior collection, but the attendance has greatly exceeded that of any of the four preceding years. We in justice add, the Committee well deserve the success they have attained. It must be admitted, also, that Beverley possesses a building in the Assembly Rooms, Norwood, equal to any in the kingdom, for the perfect accommodation of from five to seven hundred pens. The local attractions, also, are of no mean character, whether we consider the venerable Minster or Saint Mary's Church, both marvellous piles of architecture, raised by the industry in accordance to the religious feelings of our forefathers in honour of Divinity. A most singularly quaint epitaph is attached outside Saint Mary's that called forth the attention of many strangers. It is remarkable rather for its abruptness than for any refinement of

expression. It is surmounted by cross swords, and we append a copy of it verbatim.

"Here two young Danish Souldiers lye.  
The one in quarrell chanced to die;  
The other's Head, by their own Law,  
With Sword was severed at one Blow.  
December 23rd, 1689."

Thus brief, it stands in excellent preservation, but without giving the curious reader any further account of either the names of the disputants, or the locality of the disturbance. Still, in all its primitive rudeness, this stone, by its veritable description, bears favourable contrast to the eulogiums we so frequently see on the headstones in our graveyards of the present day, which in too many cases are surely more descriptive of what we had desired the deceased should have been, than of their actual character when among us.

Burton Bushes is another attraction of Beverley. It contains many thousand hawthorns, both red and white, which were just in perfection of blossom. The woodbine so lavishly growing among these hawthorns were scarcely at maturity. A great boon to free-born Beverley men is this—that each has the prescriptive right of pasturage on this land of some fifteen hundred acres of excellent quality, for a horse during nine months in the year, for an outlay of 10s. only. But we must return to the Poultry Show.

Game fowls were its great gem, nor have we for years past seen so excellent and praiseworthy a competition. Mr. Harry Adams, of Game fowl notoriety, obtained a lion's share of premiums, with birds of condition unsurpassable. It is reported that his stock is almost without limit as to numbers; yet, even so, it is remarkable that never does a bird enter any of this gentleman's exhibition pens, that in other hands could be improved. Here lies the one great secret to success, a success so great, by-the-by, that we were informed eighty-eight prizes had fallen to his lot in one year at our public shows for Game fowls exclusively. The two additional silver medals, it will be seen, were gained by specimens from this gentleman's yard. The Beverley men seemed determined, if possible, to prevent Game prizes going out of the district. Mr. Julian's Game were also highly worthy of every praise. In sustaining condition, however, Mr. Julian must cry second to Mr. Adams; a leaf out of the latter competitor's books on this point would be invaluable to him, for it is but seldom we see better stock than Mr. Julian's.

A *Spanish* class, such as is rarely witnessed, brought into position the pride of the yards respectively of Messrs. Rodbard, Brown, and Fowler. They were all of them triumphs of careful selection, and by their excellence alone placed three pens usually prizetakers among the highly commended only. Few breeds seemed so great favourites with visitors.

The *Dorking* class was a goodly rival, as to perfection, to the foregoing. Seven highly commended pens evince the opinion of the Judges, independently of the prizetakers. Several of these pens were claimed by the visitors.

*Cochins* were really first-rate; and more particularly worthy of our notice were Mr. Dawson's pens (of Hopton Mirfield), of both White ones, and a lovely pen of Silver Cinnamons. They were universally admired. We must add Mr. Stretch's pen of Partridge-coloured ones were equally praiseworthy representatives of that breed.

We very rarely see better classes than the two Spangled varieties of *Hamburghs* shown at Beverley; but both kinds of Pencilled ones were absolutely inferior. Years may pass by before a better "variety" class meets the public than was here shown. Some especially useful farmyard crosses were also shown in a class expressly devoted to them.

In *Bantams*, the Game breeds were the most perfect. In the class for Black or White Bantams, as faithful journalists we must expose the wilful deception practised by the owner of the pen awarded the first prize—viz., blacking the legs of the cock bird. It seems from what we afterwards heard, that only last week the same deceit was practised as successfully on two other judges at Hull by the same owner. The artifice at Hull was discovered from the after-fact that an experienced exhibitor claimed the birds "thinking them a bargain and all right;" but, on handling the cock on removal, he discovered the cheat practised, and consequently, very properly refused taking them; but whether the party who by such disreputable acts had the prize awarded to him, then obtained it, we could not discover. At Beverley, however, the Judges on their own responsibility withheld the prize altogether, on the matter being exposed to them by a party who, knowing the affair at Hull, had looked

toward especially to its repetition at Beverley. There cannot be a question that such tricksters (as is the common rule of most societies), should be not only deprived of their present ill-gotten gains, but also precluded from competing at future meetings of the Society. It is the only reliable remedy, whilst none are to blame but the personal delinquent himself for so luckless an issue.

The classes for pairs of *Hens* were decidedly successful.

In the *Ducks*, the "variety" class was well stored with perfect East Indians, and specimens as fine in feather as wild birds of both Mandarins and Carolinas.

The *Pigeons* were as good as could be met with during a year's visits to poultry meetings—there was not a badly-represented breed among the whole; whilst the "any variety" class for these birds was so good that, at the desire of the Judges, two extra prizes were conferred.

The *Cauaries* and *Mules* were really first-rate specimens: a *Goldfinch*, the father of one of the *Mules*, was very remarkable for its singularity of colour. An involuntary shudder passed over us on our attention being drawn to a poor *Goldfinch Mule*, said to be purposely blinded to improve its song. We much regret to find—we had long indulged the fond hope, even yet it appears a delusion—that the days of punishment for witchcraft by popular outbreak, the splitting of *Magpies'* tongues to make them talk, and lastly the blinding, and thus rendering hapless and solitary for life a poor, unoffending, cage-bred bird to improve its song, were the grave misdoings of a period far bygone to our own, both as regards common humanity, and also general information. We regret most fervently, however, thus to find it is not so; and we consider the mode of operation of darkening the eyes to improve the song, by the use of a heated knitting-needle, is so utterly inhuman, that surely our readers must almost universally endorse our opinions—at least, we feel absolute pity for the mind, if existing, so heartless as to be incapable of so doing.

The *Beverley Committee* were deserving of every praise for their courtesy and directions to all parties during the meeting, and also speedy attention to the removal of the birds at its close.

The *Show* was open, under a revised rule, only one day, and the weather was most favourable; nor do we hardly call to mind so great an attendance of the fair sex at a poultry exhibition as at this one.

**GAME (Black-breasted or other Reds).**—First (also, the Society's Silver Medal for the best pen of Game fowls in Classes 1, 2, and 3), H. Adams, Beverley. Second and Third, H. M. Julian, Beverley. Highly Commended, W. Boyes, Beverley; J. Cann, Farnsfield (Black Reds). Commended, H. Adams.

**GAME (Duckwings and other Greys).**—First, H. Adams, Beverley. Second, G. W. Langdale, Leckonfield. Third, W. Dawson, Selly Oak, Birmingham. Highly Commended, S. Dupe, Everscrech. Commended, G. W. Langdale.

**GAME (any other variety).**—First, W. Dawson, Selly Oak, Birmingham. Second, H. Adams, Beverley. Third, J. Woodhouse, sen., Bampton, (Black Game).

**SPANISH.**—First, J. R. Rodhard, Bristol. Second, E. Brown, Albert House, St. Philip's Road, Sheffield. Third, J. K. Fowler, Aylesbury. Highly Commended, T. B. Stead, Leeds; J. Shorthose, Newcastle-on-Tyne; J. Dixon, Bradford. Commended, T. C. Trotter, Sutton, Hull.

**DORRING.**—First and Third, H. W. B. Berwick, Helmsley. Second, E. Smith, Middleton. Highly Commended, A. O. Young, Driffield; Mrs. G. Boynton, Barmston; H. W. B. Berwick; Rev. J. F. Newton, Kirby-in-Cleveland; R. M. Stark, Hull; H. Crossley, Broomfield, Halifax; J. W. George, Beeston Page.

**COCHIN-CHINA (Buff, Lemon, and Cinnamon).**—First, W. Dawson, Hopton Mirfield (Silver Cinnamon). Second, T. Stretch, Bootle, Liverpool (Buff); Third, C. Felton, Erdington. Highly Commended, T. Stretch (Buff); E. Smith, Middleton (Buff). Commended, H. W. B. Berwick, Helmsley; H. Yardley, Birmingham (Buff).

**COCHIN-CHINA (any other variety).**—First, W. Dawson, Hopton Mirfield. Second, T. Stretch, Bootle, Liverpool. Third, J. Shorthose, Newcastle. Highly Commended, T. Stretch. Commended, C. Felton, Erdington; E. Smith, Middleton.

**HAMBURG (Golden-pencilled).**—First, Mrs. G. Boynton, Barmston. Second, J. Dixon, Bradford. Highly Commended, H. Beldon, Bradford; T. Straker, Beverley.

**HAMBURG (Silver-pencilled).**—First, J. Dixon, Bradford. Second, S. Shaw, Staniland, Halifax.

**HAMBURG (Golden-spangled).**—First, R. Tate, Driffield. Second, J. Dixon, Bradford. Highly Commended, W. F. Entwistle, Bradford; R. Tate, Driffield; H. W. B. Berwick, Helmsley.

**HAMBURG (Silver-spangled).**—First, H. Talbot, Sheffield. Second, J. Dixon, Bradford. Highly Commended, R. Tate, Driffield; H. Carter, Upperthong; J. Dixon, Bradford. Commended, K. Carlin, Cottingham.

**POLAND (any colour).**—First, J. Dixon, Bradford. Second, H. Beldon, Bradford. Highly Commended, J. Dixon; F. Hardy, Bradford.

**ANY OTHER PAIR OR DISTINCT VARIETY.**—First, H. Adams, Beverley (Black Hamburgs). Second, J. Ramsey, Shadwell (Malays). Highly Commended, J. K. Fowler, Aylesbury (Brahma Pootra); Lady Hawke, Womersley Park (Brahma Pootra); T. C. Trotter, Sutton (Rumpless); Messrs. Whitty & Young, Cottingham (Pernigan); S. Shaw, Staniland (Black Hamburg); J. Dixon, Bradford (Black Hamburg).

**ANT FARMYARD CROSS.**—First, Mrs. White, Thearne. Second, J. Bilton, New Village, Cottingham.

**BANTAMS (Gold or Silver-laced).**—First, S. Shaw, Staniland (Silver-laced). Second, E. Hutton, Pudsey, Yorks. Commended, W. H. Boddy, Hull (Gold-laced); J. Dixon, Bradford.

**BANTAMS (Black or White).**—First, J. Gawan, Beverley. Second, J. Dixon, Bradford. Highly Commended, Master W. Laybourn, Beverley; E. Hutton, Pudsey. Commended, J. E. V. Nussey, Wortley, Leeds (Black); E. Holdsworth, Leeds (Black).

\* It having been proved after the First Prize was awarded to Pen 180, that the legs of the cock had been fraudulently coloured, the first prize was withheld, as a punishment for the deception.

**BANTAMS (Game).**—Prize, H. Adams, Beverley (Black Game). Highly Commended, Master H. Laybourn, Beverley; R. Tate, Driffield (Brown Reds). J. Cann, Farnsfield; C. W. Brierley, Rochdale; J. W. George, Beeston Pidge; J. Shorthose, Newcastle. Commended, J. R. Jessop; R. M. Stark, Hull; F. Rippon, Beverley.

**GAME COCKS (Black-breasted and other Reds).**—First, and also Silver Medal as being the most perfect pen shown of any kind, H. Adams, Beverley. Second, H. M. Julian, Beverley. Highly Commended, H. Adams, Beverley; C. W. Brierley, Rochdale; W. Boyes, Beverley.

**GAME COCK (Duckwing and Greys).**—First, H. Adams, Beverley. Second, W. Walker, Lockington Station.

**GAME COCK (any other variety).**—First, B. Boyes, Beverley. Second, W. Dawson, Selly Oak (Black).

**SPANISH COCK.**—First, J. K. Fowler, Aylesbury. Second, T. P. Wood, Chesterfield.

**DORRING COCK.**—First, Rev. J. G. A. Baker, Old Warden. Second, T. H. Barker, Hovingham, York. Highly Commended, H. W. B. Berwick, Helmsley (Grey). Commended, A. O. Young, Driffield.

**COCHIN-CHINA COCK.**—First, T. H. Barker, Hovingham, York. Second, Withold.

**GOLD OR SILVER-PENCILLED COCK.**—First, R. R. Tulip, Monkwearmouth. Second, J. Dixon, Bradford.

**COCK (Gold or Silver-spangled).**—First, A. Hudson, York (Gold-spangled). Second, J. E. Powers, Biggleswade. Highly Commended, H. W. B. Berwick, Helmsley (Gold-spangled); H. Carter, Upperthong; J. Dixon, Bradford.

**GAME HEN (Black-breasted or other Red).**—First and Second, E. Ackroyd, Darlington (Black Red and Brown Red). Highly Commended, H. Adams, Beverley.

**GAME HEN (any other variety).**—First, F. Hardy, Bradford. Second, H. Adams, Beverley.

**SPANISH HEN.**—First, E. Brown, Sheffield. Second, R. Tate, Driffield. Highly Commended, J. Shorthose, Newcastle.

**DORRING HEN.**—First, E. Smith, Middleton. Second, H. W. B. Berwick, Helmsley. Highly Commended, W. Watson, Bishop Burton; H. W. B. Berwick; W. Stanton, Cottingham; Rev. J. G. A. Baker, Old Warden.

**COCHIN HEN.**—First, E. Smith, Middleton. Second, Messrs. Whitty and Young, Cottingham. Highly Commended, T. H. Barker, Hovingham, York; H. W. B. Berwick, Helmsley (Buff).

**BANTAM COCK (Game).**—First, E. Brown, Sheffield. Second, R. Voakes, Driffield. Highly Commended, W. W. Boulton, Beverley; Lady Hawke, Womersley Park; R. M. Stark, Hull; E. Holdsworth, Leeds.

**BANTAM COCK (any other variety).**—First, — Hutton, Pudsey. Second, Mrs. Foster, Molescroft.

**DUCKS (Aylesbury).**—First, J. K. Fowler, Aylesbury. Second, R. Tate, Driffield. Highly Commended, J. K. Fowler.

**DUCKS (Rouen or Rhone).**—First, S. Shaw, Staniland. Second, J. R. Tate, Driffield. Highly Commended, J. R. Tate. Commended, T. H. Barker, Hovingham, York.

**DUCKS (any other variety).**—First, J. R. Jessop, Hull. Second, S. Shaw, Staniland (Carolina). Highly Commended, J. Dixon, Bradford (Mandarin); J. Inghrose, Cottingham.

**SWEEP-STAKES.**

**GAME COCKS.**—First, W. Boyes, Beverley. Second and Third, H. Adams, Beverley. Highly Commended, H. Adams. Commended, G. R. Tate, Driffield.

**BANTAM COCKS (Game).**—First, W. W. Boulton, Beverley. Second, R. Hawkeley, Southwell. Third, J. Crossland, jun., Wakefield.

#### PIGEONS.

**CARRIERS (Black).**—First, W. Cannan, Bradford. Second, S. Shaw, Staniland. Third, A. L. Silvester, Birmingham. Highly Commended, A. L. Silvester.

**CARRIERS (any other colour).**—First, W. Cannan, Bradford (Dun). Second and Third, A. L. Silvester, Birmingham.

**POWERS OR CROPPERS.**—First, H. Beldon, Bradford. Second and Third, S. Robson, Brotherton. Highly Commended, A. Smelt, Beverley; T. Rippon, Beverley.

**TUMBLERS (Almond).**—First, S. Shaw, Staniland. Second, E. Holdsworth, Leeds. Third, W. Cannan, Bradford. Commended, A. L. Silvester, Birmingham; T. Coodron, Sunderland.

**TUMBLERS (Kite).**—First, T. Rippon, Beverley. Second, Mrs. E. Rippon, Beverley. Third, J. Bell, Beverley. Commended, Miss S. Bell, Beverley; H. Yardley, Birmingham.

**TUMBLERS (any other variety).**—First, S. Shaw, Staniland. Second, E. Holdsworth, Leeds. Third, J. W. Edge, Ashton New Town. Highly Commended, Mrs. J. Bell, Beverley (Splashed Tumblers); W. Cannan, Bradford; H. Yardley, Birmingham.

**BARRS.**—First, S. Shaw, Staniland. Second, E. Holdsworth, Leeds. Third, F. Key, Beverley. Highly Commended, Mrs. Craigie, Woodlands.

**JACOUBS.**—First, T. Ellington, Woodmansey. Second, S. Shaw, Staniland. Third, Miss S. Dawson, Woodmansey. Highly Commended, H. Yardley, Birmingham.

**TRUMPETERS.**—First, F. Key, Beverley. Second, F. Else, Bayswater. Third, S. Shaw, Staniland. Highly Commended, A. L. Silvester, Birmingham; H. Yardley, Birmingham.

**OWLS.**—First, F. Key, Beverley. Second, F. Else, Bayswater. Third, E. Holdsworth, Leeds. Highly Commended, J. W. Edge, Ashton New Town.

**TURBITS.**—First, J. W. Edge, Ashton New Town. Second, F. Else, Bayswater. Third, H. Yardley, Birmingham. Highly Commended, Miss S. Bell, Beverley.

**PANTAILS.**—First, J. R. Jessop, Hull. Second, F. Else, Bayswater. Third, Mrs. Ellington, Woodmansey. Highly Commended, W. Cannan, Bradford.

**ANY OTHER VARIETY.**—First, E. Holdsworth, Leeds (Silver Runts). Second, S. Shaw, Staniland (Swallows). Third, Miss L. Turner (spots). Extra Third, A. L. Silvester, Birmingham (Snabians). Extra Third, H.

Beldon, Bradford (Archangels). Highly Commended, F. Else, Bayswater (Yellow Magpies); T. Rippon, Beverley (Blue Horsemen); E. Holisworth (Yellow Magpies); F. Key, Beverley (Silver Runts); W. Lingard, Cottingham (Black Nuns). Commended, A. L. Silvester (White Horsemen); H. Yardley, Birmingham (Black Nuns); Mrs. Craigie, Woodlands (Silver Runts).

The gentlemen appointed as Judges were E. Howitt, Esq., of Sparkbrook, Birmingham; and F. Ferguson, Esq., of Walkington, near Beverley.

**DISTINGUISHING THE SEX IN EGGS.**

T. G. H. (an old subscriber) will be obliged if the Editors can advise him how to distinguish eggs that will produce hens from those that will produce cocks.

[There is an epidemic in questions, the letter above being selected only as the shortest of several which contain the same query.

We never yet met with any one who could foretel what sex the chicken would be that was to be produced by an egg; yet the opinion that it could be so foretold is as old as the days of Horace. He says in his Satires, *Lib. ii., Sat. iv.*

"Lunga quibus faeces oris erit, illa memento,  
Ut succi melioris, et ut magis alma rotundis,  
Ponere: namque marem exhibent callosa vitellum."

That is, "When you would feast on eggs, select the long ones; they are whiter, sweeter, and more nourishing than the round, and would produce cocks."

Francis, in giving the translation in verse, writes thus—

"Long be your eggs, far sweeter than the round,  
Cock-eggs they are, more nourishing and sound."

To show how poets as well as doctors differ, he adds in a note. "This precept is contradicted by experience. The round are male eggs, and their shell is harder than that of the long."

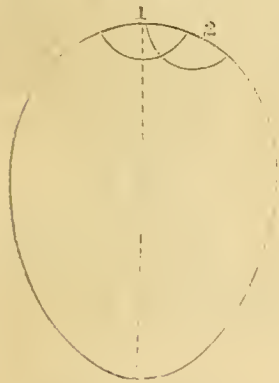
However, as others entertain an opinion contrary to ourselves, and more than one correspondent says that the mode described in the following note is infallible, we reprint it.

"At the large end of the egg there is a circular space or cavity containing air, which country folks call "the crown" of the egg; its proper name I know not. When you examine the egg,

hold it, the large end uppermost, before a candle or gas-light, and in looking through it you will observe a dark circular mark something similar to the moon when partially eclipsed. This dark circular mark is the space filled with air, or "the crown" of the egg, and is to be found in all eggs, situated either in the centre or on the side of the perpendicular dotted line. (See diagram.)

"My method of examining the egg is as follows:—I make use of the thumb and forefinger of my left hand as two points, by placing the small end of the egg on my thumb, my forefinger covering the large end of it, and as near the centre of each end as possible. I then

place the egg in this position steadily before a candle, and gently turn it round; if the crown be in the centre it will be scarcely visible, the forefinger nearly covering it. On the contrary, if the crown be on the side (No. 2) you will only see it on one side of the egg as you turn it round.—RICHD. SMITH, *Wood Green, Witney.*"]



1. Centre-crown, male.  
2. Side-crown, female.

**THE POULTRY SHOW OF THE ESSEX AGRICULTURAL ASSOCIATION.**

This was held at Halstead, on the 3rd inst. In order to afford to those of our readers who may be unacquainted with Halstead, some little idea of its past history, we append a brief sketch of the principal events which have occurred in connection with it in years gone by. It derives its name from the Saxon word Halstede—i.e., healthy place, so called because it stands on a beautiful eminence and commanding a splendid view of the country around. The name of Cheping Hill, which is given to

the old market-place, indicates that a market was established in the time of the Saxons; and the market was retained by the Crown till the year 1251, when it was granted by Henry III. to Abel de St. Martin, who was indicted by Hugh de Vere of the neighbouring Castle of Hedingham, for setting up a market prejudicial to the Earl's market, but Abel producing the Royal grant the matter was adjusted on his agreeing to pay the Earl the sum of half a mark yearly. The market, it appears by the ancient records, continued to be held on Cheping Hill till the reign of Queen Elizabeth, when it was removed to the situation it last occupied in the centre of the town. The lordship of Halstead was held soon after the Conquest under Richard natural son of Richard Duke of Normandy, by a family surnamed De Hausted, who in the reign of King Stephen or Henry II., sold the manor to Abel de St. Martin. It was afterwards conveyed to the De Bouchier family, one of whom Robert, Chancellor of England in the reign of Edward III., obtained a charter of the King for a court-leet and other privileges, and founded a collegiate church for eight priests, procuring the Pope's license to appropriate it to the church of Sible Hedingham. He appears to have occupied a prominent position in the esteem of the Black Prince, for we find he had eighteen lordships in Essex, was chief justice of Ireland, and fought by the side of his King at the famous battle of Cressy, and in the following year went to France as an ambassador from the Court of England to treat with the French on the subject of proposals for peace. He occupied Stansted Hall, which he was permitted by Royal authority to convert into a castle, and many of his posterity acquired great fame in the wars with France. Stoe House was formerly a manor, which was given by the Conqueror to Aubrey de Vere, and remained in that family a considerable time: it was afterwards made part of the endowment of the chantry founded by Robert de Bouchier, and in time came into the possession of the Hunwick family, and subsequently was purchased by Charles Hanbury, Esq., who pulled down the old building and erected in its place the present edifica, in the grounds around which the present Exhibition was held.

The show of poultry, which was larger than in any preceding year, was exhibited, as usual, in the admirable pens invented by Mr. Joseph Cooke, of Colchester, and was a source of great attraction during the day. It included some very first-class birds, and the *Dorkings* were especially fine.

The following is a list of the prizes awarded by the Judges:—

- COCHIN CHINA.**—First and Second, C. Punchard, Haverhill.
- DORKING (Coloured).**—First, G. Griggs, Romford. Second, Lady J. Cornwallis, Kent. Third, J. Frost. Commended, G. Griggs, Romford; W. G. Ranson, Suffolk.
- SINGLE COCK.**—Prize, G. Griggs, Romford. Highly Commended, Mrs. Honeywood, Kelvedon. Commended, G. Griggs.
- DORKINGS (White).**—First and Second, H. Lingwood, Suffolk.
- SPANISH.**—First, R. B. Postans, Brentwood. Second, J. H. Cuff, London. Third, J. H. Craigie, Chigwell. Commended, J. H. Craigie; J. L. Lowades, Aylesbury; J. H. Moore.
- SINGLE COCK.**—Prize, J. H. Craigie.
- GAME (White and Piles).**—First, S. Matthew, Stowmarket. Third, J. J. Hazell, Great Bromley.
- GAME (Blackbreasted and other Reds).**—First and Second, S. Matthew, Stowmarket. Third, T. Hill, jun. [A First extra prize was awarded to Mr. E. Pettitt, Colchester, whose birds were not penned through an error on the part of the Secretary, which was not discovered till after the award had been made by the Judges, who recommended that an extra prize should afterwards be given to Mr. Pettitt, his birds being superior to those to which the first prize had been awarded.] Highly Commended, T. Hill, jun. Commended, J. J. Hazell.
- GAME (Duckwing).**—First, S. Matthew, Stowmarket. Second, W. P. Bognhurst, Frating Abbey. Third, J. J. Hazell.
- GAME COCK (any colour).**—Prize, S. Matthew, Suffolk. Highly Commended, Rev. T. L. Fellowes, Aels, Norfolk. Commended, W. P. Bognhurst, Colchester.
- HAMBURGH (Gold-pencilled).**—Second, Rev. T. L. Fellowes, Norfolk. (No First Prize awarded).
- HAMBURGH (Silver-pencilled).**—Commended, Rev. T. L. Fellowes. (No award of prize.)
- HAMBURGH (Gold-spangled).**—Prize, Rev. T. L. Fellowes.
- HAMBURGH (Silver-spangled).**—First, Lady J. Cornwallis, Kent. Second, Rev. T. L. Fellowes. Commended, J. Cooke.
- ANY OTHER BREEN.**—First, J. F. Chater, Braintree. First, J. H. Craigie. First, R. B. Postans.
- TURKEY (Norfolk or Black).**—First, G. H. Cant, Colchester.
- TURKEYS (Coloured or Grey).**—First, H. Evershed, Halstead. Second, R. E. Sturgeon.
- TURKEY COCK (any colour).**—Prize, H. Evershed, Halstead.
- GESEK (Emden and White).**—Prize, H. Evershed.
- GESEK (Toulouse and Grey).**—First and Second, G. Cawston.
- DUCKS (Aylesbury).**—First, W. P. Bognhurst, Colchester. Second, Sir T. Barrett-Lennard, Bart., Aveley.

Ducks (Ronen).—First and Second, C. Punchard, Haverhill. Highly Commended, R. E. Sturgeon.  
 Ducks (Any other breed).—H. J. Moore, Halstead.  
 Judges, Rev. C. Hughes D'Aeth, Sible Heddingham; and Mr.

Thomas Twose, Halstead. Referee, Mr. Vero W. Taylor, Sible Heddingham. Steward, Mr. W. A. Warwick, Colchester.—  
*(Essex Gazette.)*

CREVE CŒUR FOWLS.

PEOPLE are grown wiser since what was miscalled the Cochin mania. Then there was a rush to get some of the fowls regardless of less of expense, and little pains were taken to ascertain purity or excellence in the specimens that were obtained. This year many good judges have decided that the Crève Cœur is worth encouraging as a very useful variety. We are disposed to agree with them, and therefore publish this week a short notice of it. We are indebted for much of the information to the excellent and careful work published in Paris by M. Jacque. That clever and painstaking gentleman thus describes the cock :

“PROPORTIONS AND GENERAL CHARACTERISTICS.

“Voluminous body, squarely built, short, well seated on solid legs; back almost horizontal, and slanting but little towards the tail; pectorals, thighs, legs and wings well developed; short limbs; very large head; topknot, whiskers and beard; doublecomb, shaped like horns; wattles long and hanging down; ear-lobes short and hidden; four toes on each foot; feathers of the abdomen long and thick; large feathers of the wing ordinary length; sickles and large sickles very long; the plumage of the finest specimens quite black—in ordinary ones, partly white and partly yellow.”

*Deposition.*—Grave and proud.

*Weight.*—For an adult, from 6½ lbs. to 8 lbs.

*Flesh.*—Very abundant.

*Bones.*—Very light, less than an eighth of the weight of the bird.

We leave out some comparative statements, as we have to do only with one breed. To follow literally, would not be more useful in gaining information, than to be told by a person whose age we asked that he was just twenty-two months younger than his brother Tom, the latter individual being unknown to us. To continue.

*Topknot.*—Well furnished, voluminous, heavy lancet-feathers falling all round the head in the best specimens. Crown-feathers erect, save some that fall forward.

*Whiskers.*—Very thick.

*Beard.*—Long, ample, and falling below the wattles.

*Comb.*—Variable, but always forming

*Horns.*—Sometimes parallel, straight, and fleshy; sometimes joined at the base, slightly uneven, pointed and divided at the top; sometimes uniting to these last appearances interior ramifications which give them the likeness of the horns of a young stag.

*Physiognomy of the Head.*—Not unlike that of the Houdan; the eyes are almost always hidden under the feathers of the topknot. The comb, when it is shaped like horns, gives to the face of a Crève Cœur the appearance of a devil.

*Plumage.*—Entirely black, relieved by bronzed, bluish or greenish reflections on the hackles, the saddle, the wings, the tail-coverts, the large and smaller sickle-feathers. The rest of the plumage is of a dead black, except those of the abdomen, which are of a brown black. The topknot generally becomes white at the back after two or three moultings. Many specimens have a good mixture of straw-coloured feathers; they are not less pure, and they breed black chickens, but they are less esteemed by amateurs.



*HENS.*—Well shaped square body, well defined, and being in some respects like Cochinchinas, both in bulk and appearance; ample size, though low on the legs; large head; varying topknot, black in a pullet, whitish in a hen after the second moult; bearded; ear-lobes short and hidden; comb and wattles short.

*Appearance.*—Grave and heavy.  
*Average Layers* of very large eggs.  
*Non-sitters.*  
*Food for this Breed.*—Egg paste the first eight days. Barley-meal paste\* to the end of two

months. Then feed on grain all those fowls intended for breeders; the others are fed on the paste till they are fattened. This is the way they are managed in Normandy.



COMB—HORNS.

\* Grind or rather crush barley, to produce a flour in which every part of the grain is preserved. Put in a pail a quantity of water or skimmed milk, according to the quantity of the paste required. Experience will soon teach the necessary proportions. Throw in handfuls of meal, and mix with the hand till all is thoroughly wetted. Throw in more meal and manipulate again, so that there shall not be a dry morsel. Continue thus till a thick paste is formed. Thrust your fist through the paste, and turn it inside out. Keep on till it is firm, then roll it out, and powder the surface with a little dry meal. In an hour or two, it is dry enough to break; it can then be given to the fowls. They are fond of it. In Normandy, it is always made the day before it is required. It takes a slightly fermented flavour, which makes it more relishing.

## DO BEES VARY IN DIFFERENT PARTS OF GREAT BRITAIN?

I SHOULD feel much obliged if the "DEVONSHIRE BEE-KEEPER" or any of your experienced correspondents would have the kindness to state whether there is any sensible difference between the bees kept in different parts of Great Britain. Several years ago an observant naturalist and clergyman, as well as a gardener, who kept bees, asserted positively that there were certain breeds of bees which were smaller than others, and differed in their tempers. The clergyman also said that the wild bees of certain forests in Nottinghamshire were smaller than the common tame bees. M. Godson, a learned French naturalist, also says that in the south of France the bees are larger than elsewhere, and that in comparing different stocks slight differences in the colour of their hairs may be detected. I have also seen it stated that the bees in Normandy are smaller than in other parts of France. I hope that some experienced observers who have seen the bees of different parts of Britain will state how far there is any truth in the foregoing remarks. In the Number of your Journal published May 15, 1860, Mr. Lowe gives a curious account of a new grey or light-coloured bee which he procured from a cottager. If this note should meet his eye I hope he will be so good as to report whether his new variety is still propagated by him.—CHARLES DARWIN.

[We insert this without expressing any opinion, because we wish to have answers from as many of our readers as have paid attention to the subject. We, as well as the well-known writer of the inquiry, will be greatly obliged by any observations upon the subject.—EDS. J. OF H.]

## GREAT FECUNDITY AND PREMATURE DEATH OF A LIGURIAN QUEEN.

"THE old queen leads off the first swarm," is an aphorism enunciated in nearly every bee-book, and is certainly as trustworthy an axiom as any that can be propounded for the guidance of apiarians. That even this universally accepted rule is, however, not altogether without its exceptions, has just been proved to my complete satisfaction, or rather, I should say, to my complete dissatisfaction, since it has cost me the life of a valuable Ligurian queen, besides destroying the hopes I entertained of obtaining a magnificent super of pure honeycomb.

At the commencement of the season I set aside one of my strongest stocks with a beautiful Ligurian queen only one year old, for supering, with the view of proving what could be done with an undisturbed colony of Ligurians. Although the stock-box was a large one (14½ inches square by 9 inches deep, with ten frames) the bees soon took full possession of a super 13 inches square by 7 inches deep, and when this became pretty well filled I raised it on another of the same diameter and 6 inches deep, into which they soon extended their combs, and being in great numbers in wax-working festoons. All appeared going on well until to-day (4th June), when without the slightest premonitory symptoms an immense swarm suddenly issued about half-past twelve o'clock, filling the air in such numbers that they literally obscured the sun, at that time shining most brilliantly. After a little while I found them settled in two clusters on two different gooseberry bushes. Struck by this circumstance occurring with a first swarm, which ought, of course, to have but one queen, and that the old one, I bethought me of examining the ground in front of the hive, and there to my great mortification I found the dead body of the royal mother of all these countless thousands. Although life was perfectly extinct, she had evidently not been dead long, and now all became clear to me. In my mind's eye I witnessed the escape of a young princess from her waxy prison, next followed the duel, *à l'outrance*, ending in the death of the queen regnant, then came the probable escape of one or more young princesses, sisters of the victor, the confusion caused thereby culminating in the tumultuous issue of an enormous swarm.

As it appeared possible that under these circumstances there might really be two queens present, I resolved upon treating the clusters as distinct swarms, and endeavouring to establish them as two independent colonies. With this view I shook the small-est into an empty box, and put it immediately in the old stock's place, removing the latter to a new position, and taking from it the super with the bees and combs which it contained. Into this super I shook the remaining large cluster of bees, and established it at once as a separate stock. About an hour after-

wards I noticed that the first-hived swarm and returning bees from the old stock appeared by no means satisfied with their new habitation; whilst many stragglers were still hovering round the gooseberry bushes. This led me to a closer inspection of the latter, and upon one of them I found yet a third cluster of bees as large as a moderate-sized swarm. Bringing the box of dissatisfied bees close to the bush, and placing it upon a cloth spread under the cluster, I raised its front upon a couple of blocks and swept down the overhanging mass. An immediate rush into the box was the result, and in a short time I was enabled to return the live to its place with a united and contented population. Many hundreds of bees still remaining on the cloth, I remembered the fact that bees from a second swarm\* having only an unimpregnated queen will accept any fertile sovereign that may be offered to them; and having satisfied myself by a careful scrutiny of the laggards that their queen had already sought refuge in the box, I at once availed myself of it by conveying them on the cloth to the side of a hive containing a magnificent Ligurian queen, which had for her subjects only a few young bees scarcely able to take wing. Gently raising the side of the hive upon a couple of wedges, I insinuated under it the edge of the cloth. An almost instantaneous vibration of the wings of the whole party soon proclaimed that they likewise had found a home, and a cordial fraternisation upon terms of mutual accommodation was the result.

Being perfectly satisfied that the first-hived colony was now in possession of a queen, although I had not actually seen her, I turned my attention to those in the super. Not doubting from their behaviour that they had a queen either in *esse* or in *posse*, I was yet willing to obtain ocular demonstration of the fact, and therefore proceeded to shift the bees with their combs into the hive they were intended permanently to occupy. On lifting them out I was astounded at the masses of sealed brood (mostly worker) which met my view. Six combs, 13 inches wide by 9 inches deep, were completely filled; whilst hanging to their edges were royal cells in every stage of progress. Failing to detect a queen among the enormous number of bees which crowded the box, I first shook two or three clusters of the super-abundant population into a weak stock possessing only embryo queens, with the inhabitants of which they immediately fraternised, and then cut out three fully-developed royal cells which I thought could well be spared for queen-rearing operations.

The results of this unlooked-for swarm may be thus briefly summed up:—I have sufficient bees to form three strong colonies, besides some thousands spared to strengthen two weak stocks. Although I have failed in my attempt to obtain honey, I have again demonstrated the amazing fecundity of Ligurian queen bees. When it is borne in mind that this colony was in the outset by no means a particularly strong one, and that breeding did not commence in it until March was pretty far advanced, I think any one who peruses the foregoing simple statement of facts can scarcely fail to participate in the astonishment felt by—A DEVONSHIRE BEE-KEEPER.

## QUEEN BEES DESTROYED BY THEIR OWN WORKERS.

IN page 110 I narrated my own experience of this phenomenon, and quoted a somewhat similar instance related by Herr Rothe. In a subsequent Number of the German "Bee Journal" the subject is referred to by Herr Wallbrecht, who says:—

"Much has already been written about the change of queens, and it may indeed very often happen when even the bee-master does not observe it. This is especially the case with the 'pudelmützen,'\* or bell-shaped straw hives, which are not easily examined; but in boxes with moveable combs it not unfrequently happens. My fellow apiarian, Herr Rothe, ascribes such a revolution to the frequent disturbance of the stock, and believes this to be in most cases, if not always, the cause of hostile attacks upon queens by their own bees. But this is not my opinion. I am much more inclined to believe that when bees are disturbed they are the least likely to think of attacking their queen, but rather endeavour to protect their own property and sovereignty to the utmost of their power. We therefore observe how soon all the bees fill themselves with honey in order to secure as much as possible, and at last attack him hostilely that occasioned the disturbance.

"The true motives of every imprisonment and ultimate destruction of the queen it would be very difficult to discover; but they may be weakness, exhausted fertility, and other causes. Last summer I lost a queen in a box, without having disturbed it; and I think if this happens once it may occur

\* Although this was not a second swarm it possessed only an unimpregnated queen, the old queen having been destroyed as above related.

† Literally "poodle-caps," a kind of fur cap often made of the skin of a poodle dog, and which, fitting close to the head, presents a very exact type of the ordinary straw hive. These caps were formerly much worn in Germany.

several times, and by chance also just when the stock is examined. But the queen may easily be killed during examinations of the stock, owing to want of caution on the part of the examiner, either by falling from the combs, which may not unfrequently occur owing to the unwieldiness of a stout pregnant queen, or by crushing or stifling. For this reason the utmost caution should always be observed during such operations.

"When putting a strange queen into a stock last summer, I found that she, because the bees pursued her, flew into the air. I soon lost sight of her, and did not think of her returning; but, after a few minutes, she came back and flew again into the box which remained open. Upon consideration this appeared to me very natural, since every queen bee longs for her people, and a strange queen, which knows no other hive, flies back to the one she has left. How many, especially Italian queens, may have been lost in this manner? It would undoubtedly have been the case here, if I had closed the hive immediately."

I am myself disposed to coincide with Herr Rothe that examining bees has some effect in disposing them to attack their queen. I have often found young queens imprisoned upon opening their hives, and in the case already referred to I have for some time usually found the unfortunate queen confined in a cluster of workers whenever I opened the hive, until at length she fell a victim to one of their attacks as before related. On the other hand, she may have shown signs of exhausted fertility, which were sufficiently apparent to her subjects, if not to myself. I received her from the continent in 1860, when I believed her to be young, but she might not really have been so, and in this case the bees may have adopted the best course for perpetuating the colony. That they have no inherent disposition to destroy their sovereign is evidenced by the fact that they have raised another fine Ligurian queen, which, having become impregnated, has commenced egg-laying. Although my recent examinations have been quite as frequent as during the reign of her predecessor, the bees have never on any occasion manifested the slightest disposition to molest their present sovereign.

On one occasion I lost an Italian queen just received from the continent in the manner described by Herr Wallbrecht. Whilst attempting her introduction to a colony of British bees, she suddenly took wing, and I never saw her afterwards.—A DEVONSHIRE BEE-KEEPER.

## GENERALLY USEFUL MANAGERS.

(Continued from page 12.)

### PIG-KEEPING.

HAVING touched briefly on the management of the cow and the dairy, we must now say a few words respecting the skim milk and the buttermilk. Of course, a pig must be kept, fattened, and killed, and cured for the use of the family. But as there may not be sufficient wash to keep even one pig all the time, a large tub must be procured (at the oil merchant's, or where oil is used in manufactories such are often to be had cheap), and the milk is put in as it comes to hand, and when it is full, and a smaller one partly filled, then think about getting a pig. The size to get will depend upon the time of year you will be ready for it; but it should be managed to have it ready to kill early in the new year, for an extra joint of pork will be very acceptable after the Christmas beef.

Now, in selecting a suitable one, if you have any experience of the various breeds, and their propensity to fatten, you will require but little advice; but if not, it will be well to learn a little on the subject when opportunities offer, and not go to market altogether a novice, for a chief point to insure success is to get things suitable to your circumstances, not what may suit some one else in quite different circumstances. The chief aim will be to select a pig that will weigh about 200 lbs. when thoroughly fat. The hams must be thick, and they are the best size where it is requisite to dress only half a one at a time; but when dressed whole the pig should be 40 lbs. or 50 lbs. less, still well fattened.

Having purchased one to your satisfaction, and got it home, it is possible it will refuse to eat your stale food. If so, you must give it some fresh skim milk, and put about 2 ozs. of flowers of sulphur in, then let it get thoroughly hungry before you give it any more; when you do mix a little of the stale food with some fresh, and continue to put the fresh into the smaller tub, adding from the larger one as required, and with very little trouble you will find all going on to your satisfaction. After a time I make a point of giving it a few peas once or twice a-day, and continue so till it is fattened, with the addition of barleymeal to finish with. The sty should be swept out every morning, and if there is a boarded stage for the pig to lie on, so much the better. Covers must be kept on the tubs to keep the fowls out, or you will have them drowned.

Respecting fowls you will learn from THE JOURNAL OF HORTI-

CULTURE all the information you will need in getting a stock of pullets for winter laying. We have only just commenced keeping fowls here, and I shall defer saying anything more on that point till I have tested our arrangements.

The weather having been all that could be desired for getting out the bedding plants, the chief point of attraction will be hay-making. There is every prospect of an abundant crop.

Haymaking is a very pleasant thing in fine weather (so sang Hood), even where there is a responsibility on your shoulders; but, unfortunately, there is no dependence on the weather prophets for a continuance of it: therefore, most people that have the responsibility of it are desirous of getting it over as quick as possible. There are people that make a point of commencing on a certain day without any regard to the season or the crop, but I am not of their number; and I would say to all, Wait for a crop, and do not let the grass to mowers until you are ready to begin; if you do you must wait their time, and if the weather is not very favourable the chances are that your hay will be badly made. My usual practice is, when there is a fair crop on the ground, and I am not particular to a few days, either before a full crop or after it is ripe, to look after the weather, and as soon as I feel satisfied with the barometer, I then get it down as quick as possible, and when circumstances will admit, I try to get it cut on a Saturday, and let it lie in swath till Monday; then if the weather is fine get it shaken abroad as soon as possible, and that is the most important point in haymaking. Every cock should be well opened, and all the ground covered. It is better to take a little time and do it well the first time, as it will save time in the end, and not have to stop to open green cocks of grass when time is more precious, and the hay three parts made, or they will be left as they are put in the rick, to make the good hay mouldy. Some will scamper over a lot of grass in no time, and are continually shaking and shaking from morning till night for days together, let the weather be what it may; but without attempting to lay down any rules for haymaking, I will venture to say, that in nine cases out of ten that time is worse than thrown away, for if the sun is scorching, the seeds and the best of the leaves will be left on the ground. After the first shaking about if the weather is anything like favourable, I have very little use for the pick till the hay is made, the hand-rake I consider the chief and best tool for haymaking, there is a knack in using it, and in proper hands one rake is worth three picks. It always leaves it light for the sun and air to go through it, and when pulled up into little light rollers in the evening the night air will season it, and forward it almost as much as the day, for it must be understood to make good and nutritious hay, it is by no means necessary to have all sunshine, a good dry air is of equal importance. Each individual must be guided by local circumstances respecting the state of putting it together. Some grass when it is short and thick at the bottom will require more seasoning than when it is long and coarse, as the latter will not heat in the rick like the former, and is improved by a little warmth. Have some straw close at hand when the rick is made, in case of storms, for a heavy storm has spoiled many a well-made hayrick.—THE DOCTOR'S BOX.

WASPS.—In an old thatch in this neighbourhood forty queen wasps were destroyed this season. Twenty-five queens have also been killed feeding on the sweet excrements of the black aphid, which infest a cherry tree on the north side of our garden wall, and still the wasps come apparently as abundantly as ever. Now is the time to exterminate these pests, or all chance of ripe fruit must be given up. Orchards, fruit gardens, vineries, and orchard-houses, &c., in the vicinity of sixty-five wasps' nests are not a pleasant subject for contemplation.—SCRUTATOR.

## OUR LETTER BOX.

MR. TOMLINSON'S COCHIN-CHINA FOWLS (*Fairplay*).—We see no breach of faith in selling now those birds which were not sold at the previous auction. Nor do we think any one ought to buy birds merely on the supposition that they are the seller's best birds. Every lot should be examined and valued according to its merits.

ROUPEY COCK (*Q. T. L.*).—Wash his head daily two or three times with tepid water. Separate him from the other fowls; feed him only on soft food, such as barleymeal, giving in it daily one grain of powdered sulphate of copper. Once a-day also give him a feed of bread soaked in ale. Let him also have as much green food as he chooses to take.

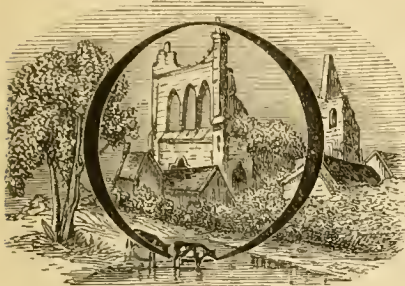
APIARIAN SOCIETY (*E. B.*).—We believe it is defunct. "How to Farm Two Acres Profitably, Including the Management of the Cow and the Pig," will give the information you need about the dairy. You can have it free by post from our office for fourteen penny postage stamps.

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	JUNE 17—23, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.	Sun Sets.	Moon Rises and Sets	Moon's Age.	Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.							
17	Tu	<i>Crotalaria elegans.</i>	39.021—30.006	deg. deg. 81—44	E.	—	m. h. 44 af 3	m. h. 17 af 8	m. h. 16 11	20	m. 31	168	
18	W	<i>Lotus creticus.</i>	39.058—30.010	82—56	S.W.	—	44 3	17 8	34 11	21	0 43	169	
19	Th	Sun's declin. 23° 26' N.	30.010—30.000	89—52	S.E.	—	44 3	18 8	53 11	22	0 56	170	
20	F	QUEEN VICTORIA ACCESSION.	29.887—29.809	84—51	E.	-.46	44 3	18 8	morn.	23	1 9	171	
21	S	QUEEN VICTORIA PROCLAIMED.	29.918—29.813	79—58	E.	-.36	44 3	18 8	11 0	24	1 22	172	
22	SUN	1 SUNDAY AFTER TRINITY.	29.902—29.722	76—49	S.W.	-.01	45 3	19 8	31 0	25	1 35	173	
23	M	<i>Portulaca Thellusonii.</i>	29.749—29.662	77—51	S.W.	-.02	45 3	19 8	59 0	26	1 48	174	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 72.7° and 49.4° respectively. The greatest heat, 93°, occurred on the 19th and 22nd, in 1846; and the lowest cold, 30°, on the 20th in 1855. During the period 131 days were fine, and on 114 rain fell.

GARDENERS' HOURS AND HOLIDAYS.



If your subscribers there must be many who, like myself, would be very glad to know what hours of work daily they have fairly a right to expect their gardeners to keep. Their

working hours seem to me to be growing "small by degrees," judging by my own experience.

I fancied, in this summer time, it would not be unreasonable to expect a gardener to come to his work at six A.M. But often nearer seven than six do I see my man making his way from his cottage to his work; calculating, no doubt, that his master may not be up so early, and so not know at what hour he makes his first appearance.

Then, at eight to a minute, he will be off to breakfast, professing to return at half-past eight; but he does not seem to think a quarter of an hour later in coming back to work of any moment.

Then, again, at twelve home to dinner, returning at quarter to half-past one as it may happen.

At five home to tea, coming back just to water his plants, and then finally off home at six to a minute.

Now, the point I want to know is this: Ought not a gardener's day of work to average ten hours one day with another the year round?—say six to six in spring and autumn, less two hours for meals—viz., half an hour for breakfast, one hour dinner, half an hour tea. And seeing that for some months in the depth of winter the daylight necessarily limits a gardener's work to less than this, ought he not in all reason to work rather longer hours in the busy time when days are long?—say some such hours as these:—November 1st to March 1st, half-past seven to five, less only one hour to dinner, breakfasting before coming to work, and tea after leaving work—that is, eight hours and a half work for four months, or an hour and a half less than his ten hours average. Then to compensate, say from May 1st to September 1st, during the four months of long days and busy time,

6 to 7, work	1 hour.
7 to 7½, breakfast.	
7½ to 12, work	4½ hours.
12 to 1, dinner.	
1 to 5, work	4 hours.
5 to 5½, tea.	
5½ to 7½, work	2 hours.

or eleven hours and a half work in all, being an hour and a half over the ten hours average; and for the remaining months in spring and autumn ten hours work a-day.

I wish you would, as they say, "ventilate" this sub-  
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ject, and enable employers to fix on some rule of hours that would be fair both to master and men.

Also, on another point some rule would be desirable.

Ought a master to stop his gardener's wages for any holidays he may wish to take? Or if not, what amount of yearly holiday should a master allow without deduction of wage? My man now and then asks for five or six days holiday at a time, and would think his master very hard if any wages were stopped for his absence.—R. W.

[Unfortunately the subject is one to which no general rule will apply, just because gardening is something more than a mere mechanical art; and the man who takes no more interest in his employment than merely passing over a certain number of hours—becoming, in fact, what the late Joseph Knight, Esq., of Chelsea, would, with his telling irony, have called "a six-o'clock man," never will do great things for himself or those who employ him.

The subject, however, is of such importance, and gentlemen and brothers of the spade have asked my opinion on the matter so often privately, that I readily furnish, as you wish, a few general ideas, which, of course, coming from the gardener's point of view, may be counteracted by the opinions of the Editors and other gentlemen employers of labour.

The first idea suggested, then, is the impossibility of coming to a general decision on such a subject with the one-sided view of the sketch given; no mention being made of the remuneration, the distance of the cottage from the garden, the size and make-up of the garden itself, farther than that there are plants to be attended to. Now, it must be a very small garden indeed, or one containing only the hardiest and commonest objects of culture, in which attention and supervision will not be required beyond all reasonable working hours; and if the employer will insist at all harshly on punctuality to the minute, the gardener may unhappily be led as doggedly to keep as strictly to his hours, and let things take their chance afterwards—a state of proceedings which could not long remain satisfactory to, or endurable by, either party.

Again, I am not so biassed in standing up for my order as not fully to grant the right of every employer to decide upon the terms, the number of hours, &c., in which he is to be served. If he be wise he will stipulate for nothing that is unreasonable or contrary to general custom. So long as that agreement lasts, the servant, if he lays claim to honesty, is bound conscientiously to abide by it. If at all harsh or contrary to custom, it would be unreasonable and unnatural to suppose that a man would continue a day longer in such an employment than he could help himself to a better. Whenever mutual confidence and respect between an employer and servant are lost, it is best for both parties that the connection should cease. Without, therefore, endeavouring to establish a general rule, "R. W." would act more wisely in making arrangements for himself.

Thirdly, I have as great if not a greater dislike to want of punctuality as to time than even "R. W." For

all general work I should soon form a poor opinion of a man who came drawing to his labour at any time. From six to six in summer I consider to be very reasonable hours. In large establishments it is customary to enforce punctuality to the minute by sending those that are late back for a quarter of a day. Few things are more annoying than to stand at the tool-house and find men drawing in at different periods after the clock has struck. With men having families leniency may sometimes be shown with advantage. In the case of lads and young men no cure is so effectual as sending them home for the day. If they are not lost to shame, they will sneak home by some back path to avoid the chaff and scorn of the village. So much for labourers and young gardeners.

Whatever position the gardener of "R. W." occupies, there can be no hardship, when in health, in his being at the garden at six. If very irregular, and he has a man or men under him, they will soon trust to and surpass him in his irregularity. It is rather amusing in such circumstances when asking for the gardener to be told with rather a meaning look, "It is not his time yet, sir." They soon know the times and seasons, and are apt to act accordingly. There is much homely truth in the old adage, "It is the early bird that picks up the worms." Nevertheless, a slight want of punctuality at far intervals should not be construed hastily into eye-service. A conscientious man, worth having, would soon make up for lost time in that respect. Besides, if driven into a corner, and his natural combativeness not mollified by moral principle, he might easily keep working for ten hours, and do no more than he could do in five, or four if his heart was in his work in serving a kind master; or he might, if his cottage was any distance, claim the right of an artisan or a mechanic to consider the time spent in walking to his work as so much of the stipulated labour period. Beyond regular punctuality I have no faith in complicated agreements, but every faith and dependance in mutual forbearance—kindness on the one hand and fidelity on the other.

This leads me to say a few words more on the specific hours mentioned by "R. W." If the cottage is not close to the garden, half an hour is not enough for breakfast. I find that men can manage in that time, if they can walk from the garden into their rooms, and their coffee, &c., are previously all ready; I believe that is the general time about London. When I was in the Exotic Nursery at Chelsea, in Mr. Knight's time, no one could be more particular as to punctuality; but he allowed us neither forty or forty-five minutes for breakfast, and I believe with advantage to himself, as there was time to walk back comfortably from lodgings and commence work at once. As to the other contemplated arrangements for summer and winter, I can only say I should be hard-up before I would agree to them, and that I would break them the first opportunity I had for getting a better place. I should like to know more about the wages given before I could see the justice of the compensation principle spoken of, and likewise to be assured that the gardener had not many things to attend to in overhours for which no compensation was given. Not but that I have often worked much later and earlier too than "R. W." contends for as compensation, but then I did it willingly, because the work wanted doing, and not because I was under obligation to do so; and, also, because I knew that if I wanted a day or two when I had got things pretty square, I had no more to do than say so, and, if going far, receive extra encouragement besides. Why, under such circumstances a man would do pretty well a fair day's work in an evening if not too often repeated, or not too long continued. It would be unnatural to expect such a thing from a mere six-o'clock-time-serving principle of action.

Besides, there is a great error running through this compensatory principle of getting a man to work from five A.M. to half-past seven P.M. in summer to make up for the short days of winter. "R. W." would treat the human worker as he would any other piece of machinery—which the longer it worked would produce the more. This cannot long be the case with human labour. The system may be so enervated with over-exertion that the longer the employment is continued, the less will be the profitable result. A spinning-jenny would do more at equal speed in twelve hours than in ten, and so would a man if the same speed were maintained throughout. To do so there must be an extra stimulus to exertion. A fillip must be given alike to the mental and physical system, and that if too frequently repeated will gradually lose its force, and there will be a wearing-out of physical power.

As a general rule, we hold ten hours to be long enough for a

man to work for an employer. The extra time spent in working is anything but all gain. Without a potent stimulus to extra exertion, such as enthusiasm for his profession, the unpleasantness of seeing things out of order, the desire to gratify kind employers, or extra remuneration to supply extra sustenance, and encouragement for the extra wear and tear, the working the long hours will become a dawdling, drawing occupation. The man who will not do a good day's work in ten hours, will be less likely to do it in eighteen. Not long ago I saw a great number of men pretending to dig in a public park. They must have been filling out *their* time. Four good labourers used to the spade would have done more in the same time than any twenty of them. "R. W." should know that mere long hours is quite a different thing from having a great amount of work done. Without such stimuli as those referred to, the work will be dawdled. When these incentives are present, the gardener who feels a pride in his place will very often work extra time without being bound, and all the better, because he is not bound by agreement to do so.

There are few gardens in which such extra work is not needed at certain seasons, and in which assistants and labourers are not required to do their share. If this is done on the mere compensation principle of making up for the short days of winter, the men will soon do no more in the long day than they would do in a short one. A gross injustice used to be perpetrated on many labouring men in gentlemen's and even noblemen's gardens, of causing them to work long hours without any extra remuneration. One of the first of British gardeners told me not long ago, that it gnawed him to the bone to be obliged to send men to mow at half-past four in the morning all the summer over, because it had been the custom, and that without the smallest extra remuneration, and the wages the year round, 9s. per week! He candidly stated that his conscience would *not* allow him to look much after them in the afternoon, and his conviction, that if the men in such circumstances had been allowed to go home an hour and a half earlier he would have got more work done. In such cases justice requires that extra hours should be extra paid for—that is, that a trifle more should be given for every such hour than the usual rate of the ten hours. Then, if not too long continued, the full value in labour will be returned. I say advisedly, *if not too long continued*.

In this neighbourhood it is customary to work long hours in hay and corn harvest. In the latter, labourers, in general, receive double pay, or thereabouts. Men are often kept regularly employed in winter, in order to retain their services in summer. The long hours with such stimuli applied, permit of the work being done with fewer men, and the men employed are not only satisfied, but we escape the disagreeable necessity we otherwise should be under, of taking on men in summer when work is plentiful, and discharging them when work is scarce. But for this unpleasantness, a close observation of the results of long hours of labour, has convinced me that it would be more profitable, and better for the man, to spend a part of the extra money in paying extra men, and lessening the hours of labour. With the encouragement generally given, the system works well enough, and could not be dispensed with, unless in unfortunate times when labour is superabundant, and the disadvantages are greatly counterbalanced, by the pleasure of not being under the painful necessity of parting with men just when out-door employment is becoming scarce.

On the score of economy, then, sound policy, and obtaining a fair day's work for a fair day's pay, extra long hours are to be avoided, unless on special occasions, and for these occasions extra inducements ought to be presented. Without more knowledge of circumstances, I cannot say whether I think "R. W." has any equitable right to the compensation in extra hours which he seeks. In most gardens of any extent, there is much work in winter not at all tempting, and sweltering in a hothouse, or digging in a quarter for ten hours in summer, will bring fatigue and lassitude with it. Besides, in most places in the shortest days there are duties to be attended to in overhours, of which employers in general know little. Often and often in a mild evening, to save fuel, we have lighted no fires, and yet by ten or eleven o'clock have had to turn out and set every fire agoing, and make up the furnaces, perhaps, at twelve or one o'clock; and, then, there is no end to things that need protection on an emergency. I called early in the morning at a large place this spring; the frost had been severe, and the young men seeing what was coming, had turned out at eleven o'clock the previous night, and netted and covered all the wall trees; thus securing

a crop that otherwise might have been lost. It is just possible that "R. W.'s" gardener had been doing something of the same kind one of those mornings he was seen coming rather late from his cottage. Circumstances thus totally alter cases. The compensation principle is a two-edged sword, and in the case of gardeners, in general, I honestly believe, so far as time is concerned, they would have a claim against the employer. This, however, will make no excuse for laziness, indolence, or want of punctuality. These are cases that must be judged by themselves.

I should be sorry to see advocated any such general rule as "R. W." recommends. I feel certain that among other evils it would destroy the good feeling and mutual confidence and trust that now exist, and that all such extra hours stipulated for would be followed by worse than actual loss as to results. A good man will need no such binding; an unprincipled man may obey it to the letter, and thoroughly break all such trammels by merely seeming to work.

In one word, then, I agree with "R. W." in insisting on punctuality. Nothing can be well done without it. I cheerfully accord to him the right of deciding how and for how many hours he will be served. That is a matter entirely between himself and his servant. If beyond this he would farther appeal to my professional experience, and what little knowledge of human nature I have gained, I would just say, If resolved to make hours of labour depend on the season of the year, make up your mind to have also a clear defined schedule of remuneration according to these hours. If at all liberal this will bring into play a stimulus to continued exertion. Without it, your long hours according to the bond will be a grievance to your servant, and sure to end in loss and disappointment to yourself.

It would be idle to attempt anything like a settled rule for holidays. Some employers are perfectly uneasy if they know their gardeners to be away for a day. Other employers like their gardeners to look about them, believing that they themselves will be benefited by the increased intelligence thus gained, and the stimulus to exertion thus obtained. Good gardeners are generally as reluctant to leave home often, as such employers are anxious they should go. Nothing shakes self-conceit and vanity out of a man so effectually as seeing productions and arrangements superior to his own. If a gentleman wishes the most to be made of his garden, he ought to send his gardener, if at all comeatable, to one metropolitan exhibition every year, and also to some celebrated gentleman's garden. I say this the more, because gardeners, as a body, when they have a holiday, generally make a point to visit some gardens, and I must say that I have seldom looked in upon the smallest and the least pretending without gaining something by the visit. Still, the question as to payment for holidays is a question purely between employer and employed. Abstractedly considered, the workman has no right to wages for which he has not wrought. When he receives them it is as a favour rather than as a right; but a favour which ever, in the case of a man worth having, will spur him on to greater and renewed exertion. So well is this understood in mercantile establishments, as well as the necessity of a little change of scene, to give a bolstering strength to the mental and physical system, that these holidays once a-year or so, are now becoming general, and when extra or common success has been achieved, a small *douceur* often accompanies the leave of absence, as well as the paying of the regular wages. In the case of gardeners engaged by the year, or, at any rate, not considered as mere daily or weekly servants, I have seldom known or heard of holidays being deducted from wages. If they were, a respectable man looked upon it at once as a sign that his services were not appreciated, and would take the first opportunity to act accordingly.

The number of these holidays must be a matter of arrangement. "Five or six days now and then" seems rather going ahead in holiday-making. A day or two now and then would be a more correct idea of the holidays that prevail. Once or twice, or, perhaps, thrice, in a long service, I may have had from a week to ten days to go long distances; but I have been at other times with only a part of two or three days from home for a twelvemonth. There can be no regular rule on such a subject; but if I wanted five or six days, common prudence would say, Do not let that be more than once a-year, or in two or three years. A day or part of a day at a time is a very different affair from being away during the night. I and many more have paid holiday visits, and hardly been a night from home for years.

One thing more is of greater importance to the gardener. Let no such holidays be taken without the knowledge and sanction of the employer. If I have to go out a few hours on business, I do not now think it worth while to mention it; but I should not go from home for a whole day without my employer's knowledge. I have just the feeling that I could not enjoy myself in such circumstances; and what is worth the having is worth the asking for. Some good gardeners have split on this rock; they got above asking, and took as something like a right what they ought to have received as a boon.

After what has been said, I hope that "R. W." and other employers, instead of stopping wages for a moderate holiday, will not only pay the wages cheerfully, but encourage industrious, hard-working men by slipping a present into their hands to defray their expenses to see a metropolitan flower show, and the Grand Exhibition, which I hope myself to behold before long.

I must apologise for the crudeness of these remarks. There is little time just now for condensation and polish, which they no doubt want; but, in their roughness, they may give an idea from the gardener's point of view; and I feel sure the Editors will supplement deficiencies, and kindly show where the ideas are unsound or unsuitable.

R. FISH.

We placed our correspondent's letter in the hands of Mr. Fish, because we knew that however he might have a tendency to make things pleasant for the craft, of which he is so worthy a member, he has too sound a judgment to endeavour to have them pleasant by sacrificing the interests of employers. The result is good as we expected, and, as employers of gardeners ourselves, we need only add that we fully assent to all his statements. A gardener worthy of that name, when he accepts a situation knows, and resolves to give, the attention and labour it will require; and he fully appreciates that at some seasons and on some days far more than the usual number of hours must be occupied in the garden over which he presides. If he did not attend to those extra duties—did not devote to our garden those needed extra hours—we should consider him not up to our estimate of a good gardener, and should supersede him.

On the other hand, there are seasons and days when there is no need for even an attendance strictly for a daily ten hours, and we should consider ourselves harsh masters if we even commented upon an hour or two's unusual absence.

We never deducted the wages of the days which we allowed to our gardeners for holidays, for the plain reason that we allowed the holidays because we thought our gardeners faithful and deserved as well as needed relaxation, and we, therefore, did not wish them to pay for what they deserved and needed. If a gardener asked for leave of absence so frequently, or for such long periods as we considered unnecessary, we should tell him so, and if he persisted in requiring them we should tell him that it must cause our separation.

In conclusion, we are decidedly of opinion that the gardener who requires to be bound to an hour-measured service is unworthy of the profession, and no employer will be gratified by being served by him. So, on the other hand, the employer who thinks that every shilling of wages should have been preceded by twelvemonth worth of labour is indeed a hard task-master, and must never expect that best of all service when the head, heart, and hand work in concert.]

#### ROYAL HORTICULTURAL SOCIETY'S EXHIBITION.—JUNE 11.

As bad luck would have it, the tent for this Show collapsed and hung about in all directions; and a gangway covered with canvass was carefully set up from the grand entrance to the interior of the wreck, signifying a wish that all the well-wishers of the Society might be led unawares to the scene of the disaster, in order the more fully to be able to sympathise with the Council of the Society on their bad luck, under the very eyes and noses of representatives of all the people on the face of the earth who came to the International Grand Show in time to see the splendour of our span new garden in the months of May and June. Well, some did feel very sorry, and I was one of them; some were delighted; and some gave expressions to feelings, such as a generous foe would never entertain towards opponents or rivals. But welcome be the day when no British gardener shall exult in the fall or failure of any member of our family, much less when more than one is in for it. Divided authority is the bane of public or private enterprise; and any number of men,

from any craft or profession, acting together instead of under one head, would be just as liable as our Council to have their schemes "gang aft aglee."

In consequence of the tent-ruin, the Show had to be arranged all up the western arcades, through the most beautiful conservatory, and down along the eastern arcades to very near the end, and there never was a better show, and all that was wanting was more shelter for the plants.

The day was disagreeable, battering, blustering, coaxing, tempting, hot, cold, wet, and dry by turns; and a shocking spectacle it was to a gardener to see hundreds of plants in the eastern arcade, worth from £5 to £50 a-piece, knocked about and against each other just as if they were by the seashore in a gale; while the one-third of the price paid for those stupid and most ugly-looking tents would have paid for temporaries, which would render these arcades as comfortable as a drawing-room to visitors, and just as suitable for all sorts of plants as the conservatory is now for the stove and Orchid ones, and next day or the day after these temporaries could be entirely removed.

The Show was very little different from the May Show; the grand Pelargoniums made up for what the Azaleas lacked of their May lustre; and the competition for the dessert and dinner-table decoration was so imposing as to embrace more than the same amount of the public attention which was given in May to the drawing-room and conservatory, decorations. But the effect was singularly different.

The grand improvement was in the dinner-decoration services. I should think that from two dozen to thirty people competed for the distinction, and, with the exception of three of them, they were very well done indeed, and some of them very superiorly. The idea is most excellent; but people who thoroughly understand it find such a difficulty in breaking through an old and original principle of the dessert-table, that none or hardly any but amateurs have yet attempted to compete, and perhaps that is as well. Strangers, however, to the grand doings of our grandees in their territorial dining-rooms can yet get no glimpse of it from these competitions. Not one of the "sets" of last year or of this has been set on dining-room principles—a fault which I wonder such lady judges have not yet pointed out to the Society, and a fault which might easily be prevented. The dining-table was, say 100 yards long, and if there were thirty competitors there would be just ninety dishes, or thirty "services," which are never called dishes in dining-room language. Every two dishes of each of these thirty "services" were placed wrongways on the table at this Exhibition—that is to say, were set down in the line of the run of the table, instead of *across the table*.

In high private dining arrangements, it is considered either vulgar, or evidence of a want of means, to put any fruit bigger than Cherries in the centre group at all. The bare bones of a private dessert are six dishes, and a centre of three, the middle one being the *centre*, and the other two the *flanks*, and these invariably stand across the dining-table. The "top" and "bottom" are the first and second best dishes of "bare bones," and the "four corners" are the next best, and must be in match pairs. That is the smallest dessert you can place within the letter of the law, and your "centre piece" is the ornamental part of it for flowers, confections, and very fancy things, which the young of the party are sure to amuse themselves with ere all is finished; but if the party is thought to be rather too many for the size of the dinner-table, the bottom of the flanks and centre may be borrowed, as it were, to hold your small fruit, which is seldom touched. But in more ordinary ways, I never could see why the "centre" should not hold, or do for all the fruit and flowers. But I hold it as being perfectly impossible for any one to "set up" fruit and flowers on a centre group, as in this competition, with any degree of confidence, or with much effect either, unless he is to know whether the centre is to be the whole dessert, or merely the ornamental part of it.

The premier prize went last year and this on the supposition that the "centre" was at least the main seat of the dessert, which it never is, except at dinners on a very limited scale, or when a family sit down to enjoy a meal by themselves, which is as different from a dinner party as are a carriage bonnet and French gloves to a garden hat and gardening gloves.

But I must talk about the plants. After the very much improved long row of competitions for the very liberal prizes from Sir Wentworth Dilke, the next lot was also on a long level table in the centre of the space, and the first 17 yards of it were oc-

cupied by the Messrs. Veitch's Japan plants in three rows; then 16 yards of boxes of cut Roses, in double rows, the one side Paul & Son, and the other side W. Paul, who had three other English seedlings, Roses of his own rearing. The best of them a deep rosy crimson all in one shade, and called Multiflora, was marked a "bedding Rose," and if it really will bed it must stand next to a bed of Reynolds Helle, which took the fancy by surprise last summer in that conservatory, and in Mr. Standish's contribution. The other two seedlings of Mr. W. Paul were quite as good to my eye as nine-tenths of the French seedlings.

The next 12 yards of this centre table were wholly occupied by Mr. Standish's new Japanese plants. I heard him discoursing about *Ilex Fortunei*, which is not at all like an *Ilex*, being made into all sorts of topiary work in Japan, as the Yew is here, or has been, and that hedges of it closely kept will bear the weight of a Japanese to walk over it. I once walked as one in three abreast along the top of a Holly-hedge 16 feet high, not two miles out from Edinburgh, on the south side, but I forget the name of the place, and I wonder if that hedge be there now. That was in 1828, and the place was on the right-hand side as you would go to Hawthornden, for I went there to see the original Apple tree of that name the same day.

Against the back wall of the arcades in this part were stands of cut flowers of Ranunculuses, Verbenas, Rhododendrons, Pansies, Pinks, Peonies, and Delphiniums, the last two were very fine, from Mr. Salter. After these, all the arrangements were against the back wall of the arcades, and against the back, centre, and ends of the conservatory in three broad steps, or stages, covered with green baize with canvass screening in front of the west side arcades; but not so on the opposite side of the conservatory where the splendid groups suffered dreadfully from the blowing wind.

The first of the back wall plants were two, a match pair, of the Mrs. Ferguson Petunia. They were 9 feet high and loaded with the gayest flowers you ever saw, every one of them striped with five purple bands; and THE COTTAGE GARDENER of the autumn of 1860, is the godfather of the kind when no one else would hardly venture an opinion on the flowers.

Mr. Williams next with heaps of variegated plants, and amongst them the *Gnaphalium lanatum* that is to run against *Antennaria margaritacea*; also the second kind of variegated *Scrophularia*, called *melifera*. Then a very rich seedling single *Petunia* striped with purple more deeply than Mrs. Ferguson, and named Flower of the Day. I should like to be not only the godfather of this new *Petunia*, but to have been the raiser of it, for, depend upon it, no one who can afford to buy it, will long go without it next year, when it must come out. Here, also, stood lots of other new seedlings, *Petunias* from Mr. Bull; *Pelargoniums* of great beauty, and a whole collection of them from Mr. Turner. Some very poor specimens of, seemingly, good seedling *Tropæolums* in the most wretched condition, and a very fine *Delphinium bicolor grandiflorum*, the latter from the Messrs. Downie, Laird, & Laing, a very good dwarf Scarlet *Geranium*, *Adeline Patti*, with large flowers, from Mr. Macintosh, of Hammersmith. Then a most noble collection of fine-leaved and variegated plants from Messrs. Veitch, of Exeter and Chelsea, occupying 20 yards, including grand specimens of the *Alocasias*, *Caladiums*, the new Fig plant, very much better than in May, grand *Cyanophylls*, and the best *Erica depressa* in that nursery no doubt.

The next 24 yards were of Ferns, and fine-leaved plants from various growers. But the newest plant in that part was an African *Crinum*, without the columnar stem of the Asiatic kinds and very near *Crinum Forbesii*, of the Eastern parts of Natal, but marked just like *Hippeastrum vittatum*, with a deep band of purple up each segment of the perianth. There was no name to it, but a ticket telling it was introduced in 1859 by Capt. Speke, from the centre African lake Victoria (?), and was sent to the show by W. Speke, Esq., Jordans, Somersetshire. That *Crinum* and *Forbesii*, if we could get it, and the common *longifolium* of the Cape, would easily get up a race of *Crinums* as hardy and as varied in aspect as the *Gladioli*, and six times more florid and majestic in looks. But where is Lake Victoria in central Africa? Does it mean the great waters of the Makololos above the great falls of Victoria, beginning the Zambesi, or what? If so, this *Crinum* will need Orchid-house treatment till it is crossed with the hardy race.

Now, up a flight of steps, refreshment arcade, and then the grand curve to the west end of the conservatory, and it was in

that curve that grandeur reposed in comfort. But, first, the only collection of standard Rhododendrons there, Mr. Noble, of Bagshot, being the sender and sustainer; then 12 yards of Roses, Calceolarias, and Heaths, and full 60 yards of the most splendidly-grown Pelargoniums ever staged hereabouts or far away; but I recollect when the oldest of them had, or was refused a certificate.

Now for genealogies. How many of the 60 yards had first or second-class certificates when they were seedlings? and how many kinds which had first-class certificates since 1842, the date of the oldest Pelargonium there in my stud-book are now out of cultivation?

Who can answer that?

And now into the grand conservatory. I admire this house the more I see of it. It was a wise thing not to have planted out in borders in it, yet it lacks the very best part of the furnishing of a conservatory for want of climbers. What a noble effect a right selection and direction of climbers would make in that house! I would not care a fig for flowers, so much as for the living festoons of varied green which might run from side to side, suspension-bridge-like, above the feathery and features of the fairest flowers of our race.

This beautiful house was magnificently "set." The first-prize collections of stove and greenhouse plants, and all of their like. The Orchids, too, and the Azaleas were there, as were many novelties, and the hosts of camp-followers you see at all the great London shows. There were 35 yards of Orchids, some very good specimens; but the kinds and the looks of the plants not to be compared, for one moment, with the Orchids, the "morning Orchids" of ten and twelve years back. I have every one of them booked; and of all the Heaths, stove plants and not stove plants, Vanda Batemanni from the Exotic Nursery, and Cattleya superba with two flowers on it from Mr. Chilman, were the two rarest to the shows which were there; and there was also Dendrobium Falconeri the most delicate of the five-stemmed race from India, with flowers after the way and fashion of noble.

At the west end were many novelties from Messrs. Veitch, which stood the brunt of the Floral Committee, and some hybrid Orchids from the same, with one of which another botanical genus is knocked on the head. I allude to a robust-looking seedling from *Goodyera discolor*, older than I am, and by the pollen of *Ancetochilus Lowi*, so *Goodyera* must merge into the more euphonious name at last. A crossed Pitcher-plant, and several others were also shown; but one from the Fox-brush Orchid, the *Erides Fieldingi*, with affine, shows the two to be too much of a sort for useful breeding. *Lindleyana* and *Schroederi* appear the two most likely to give a better third; but it is most interesting to see and know that Mr. Dominy has really got into this secret of the Orchids, without the aid of moths, like *Scintillaria macroglossa* which crosses them, sings over them, sucks them, and looks at you all the while.

The little hard dark brown *Mimulus cupreus* was there, a really good thing; and there was a freshly-potted *Philadelphus hirsutus*, very much in the way of the *P. mexicanus*, which Mr. Turner exhibited at the Azalea Show. I once had up a batch of crossed seedlings from mexicanus by the common old one, and they went for it in 1836 before I could flower them. They and the *Deutzias* will yet make a fortune to some breeder, and this *hirsutus* is just the very sort of plant to vary and make good the strain.

The pretty little yellow *Oxalis valdiviana* was very pretty indeed, and *Stenogaster speciosa* in the same group would seem to offer temptations to cross some of them with *Streptocarpus*, if only to put with another genus. The most curious plants at the other end of the house were *Alocasia zebrina*, from Messrs. Veitch, and cut specimens of the old Hand-plant of Mexico from C. Dorrien, Esq., Ashdean, Chichester. The long leaf-stems of that *Alocasia* are as the markings of a snake with plain green leaves; and here stood under a glass a fine group of skeletonised leaves by Miss Rubergall, of Heath Farm, Old Brompton, and they were exquisitely prepared.

The eastern arcades began with 17 yards of Azaleas, of which *Constantia rosea* was the darkest purple, *Extrani* next, and then the great mass of various shades of orange scarlet, until they ran into rose and salmon tinted, of which one *Fenella* in Mr. Page's collection was the best example; then 30 yards of huge foliage plants in great distress, followed by 39 yards of collections of stove and greenhouse plants; the whole ended with 5 yards of the newer Azaleas, and a group of twenty-four fine dwarf hardy

Ferns—a very select lot from Mr. Ivory, of Dorking, who also with Mr. Turner, had another turn with these new Azaleas. The fruit-stand was down another flight of steps; it was moderate this time, and the best Black Grapes were from Mr. Henderson, of Trentham, and the Ingram's Hardy Prolific Muscat from Mr. Standish was never seen to such advantage. D. BEATON.

#### FLORISTS' FLOWERS.

A TOLERABLY fine day, the height of the season, and the *éclat* which for a time at any rate attaches to the Horticultural Society (which it is *the thing* to belong to), sufficed to bring together a very large concourse of the fashionable, sight-seeing, and gardening world to behold one of the largest and most interesting collections of plants ever brought together, but shown under disadvantages which nothing but the intrinsic merits of the plants themselves could have overcome. It is quite clear that, as at present laid out, the place is not suited for a flower show. The arcades are draughty and cold to a degree; and when covered-in in the front, and the weather is cloudy, it is like looking at flowers in a vault. The arrangement certainly does not please; and as a matter of taste I should think our French neighbours were not a little astonished to see how little we made of our vast materials. However, as I saw Mr. Beaton with pitying eye beholding the fine-foliated plants in the eastern arcade blown about by the fierce south-west wind, I doubt not he will tell the world what he thought about it, and I shall go on to the florists' flowers, which, I rejoice to say, still attracted the larger number of admirers.

Again the foliated plants were passed by. The collections of stove and greenhouse plants were only favoured with a passing glance; but whenever you heard a "Move on, if you please," from X 21, you might be certain that you had come on a box of Roses, a group of Azaleas, or a stand of Pelargoniums. Orchids will always attract their share of attention and were very fine, but with that exception the most popular subjects are florists' flowers.

Pelargoniums were never finer—in fact, I question if Mr. Turner's were ever so fine as they were to-day. They were not only models of growth and masses of bloom, but there was a character about each individual flower which showed how carefully they had been attended to. In his twelve show plants were—Lord Clyde, a flower of great brilliancy of colour, orange scarlet, and of fine shape; Fairest of the Fair; Lady Canning; Viola; Desdemona; Bacchus; Etna, a fine rich scarlet; Prince of Prussia, good white; Rose Celestial; Sir C. Campbell, and Candidate. Messrs. Dobson & Son, of Isleworth, were second; and had amongst their plants very fine specimens of Carlos, Governor General, and Sanspareil. Messrs. J. & J. Frazer were third; and Mr. Burley, of Limsfield, was fourth. He had a fresh variety, Virginia, very brilliant in colour but indifferent in form.

Amongst Amateurs, Mr. Bailey, of Shardloes, was first. Bianca, Sanspareil, Glowworm, Viola, Carlos, Duke of Cambridge, Lord Clyde, Desdemona, and Rosa Bonheur comprised his plants.

In six Fancies, which were open to all, Mr. Turner was first, with admirable plants of Claudiana, Evening Star, Acme, Delicatum, Modestum, and Crimson Pet. It would be impossible, we think, to bring more perfect plants than those exhibited on this occasion. Messrs. Dobson & Son were second, Mr. Bailey third, Messrs. Fraser fourth, and Mrs. Hodgson had an extra prize.

In Spotted Pelargoniums, Mr. Turner was also first. His plants were Mr. Marnock, Conspicuum, Guillaume Severyns, Bertie, Bracelet, Beadsman, Rembrandt, King of Purples, and Osiris. Mr. Dobson second, Messrs. Fraser third.

Azaleas were not so good as in May, nor was this to be expected; but some very fine plants were staged, especially those of Mr. Turner's. They were, as usual, a mass of bloom, and admirably arranged. Centurion, Lateritia, Petuniefiora, Illustris nova, Stanleyana, Gledanesii, Gem, Symmetry, and Sir C. Napier were the plants; and although I fancied they looked as if they had been kept back a little too long, yet they were very fine. Messrs. Veitch & Son held the second place; their plants were certainly fine. Magnificent, Iveryana, Coronata, Holfordi, Apollo, Barclayana, and Perryana were the best. One plant had unfortunately been left too long without water, and during the early part of the day drooped very much.

In the Amateur's class, Mr. Whitbread, gardener to H.

Colyer, Esq., of Dartford, was first with *Reine des Belges*, *Striata formosissima*, *Juliana*, *Extramii*, *Consolation*, *Chelsoni*, *Gledstanesii formosa*, *Conqueror*, and *Stanleyana*.

In the class of six Azaleas, sent out since 1857, Mr. Turner was again first. His plants were *Etoile de Gand*, *Kinghorni*, *Chameleon*, *Magnet*, *Président de Clèves*, *Comte de Hainault*. I have before spoken of all these varieties, but *Etoile de Gand* was superior to anything I have yet seen in the same way; the individual flowers were so fine, and the marking so very constant. In a few years more, when these new varieties come to be large plants and push aside the older ones, their effect in collections will be very striking.

Roses were shown both in pots and as out blooms, the former by Messrs. Lane and Wm. Paul, but not in such good condition as in May. Mr. Lane's celebrated Paul Ricaut, *Baronne Prevost*, *Coupe d'Hébé*, *Elise Mercœur*, *Madame Plantier*, *Souvenir de la Reine d'Angleterre*, and *Queen*. Some fine boxes of bloom were sent by Messrs. Paul & Son, of Cheshunt, Mr. Wm. Paul, Mr. C. Turner, of Slough, and the Rev. F. W. Radclyffe, of Rushton. No prize was offered for them. Is the Society too poor? or will it never learn that these are the sort of things to encourage? Some of the blooms were exceedingly fine, but there was no means of comparing them. One box was up in the conservatory, and the other a long way down in the arcades—in fact, in the Miscellaneous class there seemed inextricable confusion. The exhibitors were puzzled, the Judges were puzzled, and I am sure the public were puzzled. What "third prize" meant no one knew. Seeing it on a box of Roses, one naturally looked to see what had first, but that was not to be found.

I thought Mr. Turner's the freshest-looking of the stand show. There were such fine blooms of *Senateur Vaise*, *Général Jacqueminot*, *Comtesse de Chabillant*, *Vicomtesse de Cazes*, *Madame Furtado*, *Bacchus*, *Eugène Appert*, *Madam Bray*, *Madam Rivers*, and *Amiral Gravina*. There were in the Messrs. Pauls' stand some new Roses, of which more presently.

Pinks were exhibited by Messrs. Turner, Bragg, and Williams, but here again no prizes were offered, being only "garden things!" Mr. Turner's stand, not as fine as usual, comprised *Elcio*, *Adonis*, *Victory*, *Colchester*, *Cardinal*, *Mr. Hobbs*, *Attraction*, *Mrs. Kingsford (Jeana)*, *New Criterion*, *Pride of Colchester*, *Princess Alice*, *Helen*, *Minnie*, *Annie*, *Unique*, and some seedlings.

Mr. Shenton, of Hendon, had a very good box of Pansies; and Mr. Salter, of Hammersmith, two fine boxes of Pæonies, very showy and varied in their colours.

Two collections of Calceolarias were shown. Mr. Bousic, gardener to Lord Taunton, had well-grown and bloomed plants of *Monarch*, *Lady C. Laacelles*, *Lily*, *Dewdrop*, and *Dr. Livingstone*, and received first prize, though his flowers somewhat lacked variety, being nearly all shades of yellow, spotted with brown, &c. Mr. Burley was second: his plants were thinly bloomed and too formally tied, though the variety in them was greater. They were *Lady Havelock*, *Angustifolia superba*, *Prince of Wales*, *Little Dorrit*, and *King of Prussia*.

Seedling florists' flowers, &c., were sent in in goodly numbers. So fine a bank of seedling Pelargoniums I never saw, but the arrangement was very bad; they were put up so closely and so high, that it was impossible almost to get at anything to see it properly. My notes were taken under these difficulties, nor do I yet know how they stood before the Floral Committee; for when I went again to look at them at three o'clock, there were no cards attached. *Canopus* (Beck's), is a beautiful rose colour, with clear white throat; a decided improvement on *Rose Celestial*. *Monitor* (Forster's), splendid spot, a purplish-crimson ground with very large, intense spot. *Royalty* (Forster's), a beautiful purple, clear white throat, and a decided novelty. *Belle of the Ball* (Forster's), is a beautiful painted flower, in the style of *Princetta*, with intense black upper petals, edged with fiery crimson. *Censor* (Forster's), a purplish-crimson; well-shaped flower. *Illuminator* (Forster's), a Lord-Clyde style of flower, of fine shape and size. *Regina Formosa* (Beck's), a beautiful rosy crimson. *Ferrens* (Beck's), fine, smooth, round, scarlet flower. *Prince Albert* (Hoyle's), a very large flower, but somewhat rough. I was particularly struck with the advance made by Mr. Nye, Miss Forster's gardener, as he has got out of that cupped strain which used to spoil his flowers. Mr. Hoyle was a little behind his usual place.

A fine *Petunia*, *Flower of the Day*, in the way of *Madam Ferguson*, was shown by Mr. Holland, gardener to G. W. Peake, Esq., Springrove. It is regularly marked on each petal,

or segment of the flower, and with a much broader and brighter stripe than *Msdam Ferguson*. This has passed into the hands of Mr. B. S. Williams, of Paradise Nursery.

A very dwarf bedding Calceolaria, called *Golden Dwarf*, was exhibited by Mr. Watson, of the New Zealand Nursery, St. Albans, and is likely to prove an acquisition; as is also a fine *Delphinium*, called *Bicolor grandiflorum*, exhibited by Messrs. Downie, Laird, & Laing, and said by them to come true from seed.

Some interesting seedling Roses of English origin were shown, opening up the question whether we cannot rival our French friends. I know it is said that mildew will beat us, but surely it will be worth trying. Messrs. Paul & Son had a very nice and well-shaped H.P. Rose, apparently of the Lord Raglan type, with a shade of colour in it somewhat of the dark Bourbon Rose, such as *George Peabody*, &c. I hope to see more of this yet. Mr. Paul, jun., informed me that it came out of the same bed of seedlings as *Beauty of Waltham*. Mr. William Paul had *Brilliant*, a Bourbon Rose, an improvement on *Sir J. Paxton*, being higher in colour than that favourite flower. As an autumn climbing Rose it is a very desirable variety, and a branch of it shown at the same time clearly marks it as very vigorous. Then there was *Multiflora*, a very free-blooming seedling of *Général Jacqueminot*, and, like its parent, too thin but pretty; *Robusta*, a rosy crimson, as good as many of the French novelties (?); and "*Wee Pet*," small and somewhat rough. These are all interesting, as showing an advance into ground hitherto untrdden.

Messrs. Veitch exhibited *Mimulus cupreus*, fully confirming the opinion formed of it last year. The plants had been grown in the open air, and had been taken up and put into pans: they were consequently much deeper in colour and very dwarf. I think it will be a very useful plant. Then they had *Nolana lanceolata*, a hardy annual, with blue *Convolvulus*-looking flowers, and likely to be useful for vase-culture.

Messrs. E. G. Henderson & Son sent plants of their *Zonale Geraniums*—*Mrs. Pollock*, *Sunset*, *Gold Leaf*, *Mrs. Milford*, *Glowworm*, *Gold Pheasant*, and some seedlings, amongst which I detected, I fancy, *Lucy Grieve*, an improvement on *Sunset*.

The growls that have been for some time sounding deep in the breast of the great public, have at last burst forth in a peal of thunder from the *Times*, suggesting an answer to the question, Are not the gardens a complete failure? Mr. Eyles, however, is not the person on whom the blame rests—he cannot do impossibilities; but I should not be at all surprised if this be not among the things which are tending to stop us in the extreme length to which the bedding-out system is running. The gardens will look well when everybody is out of town; and as to the "broken bottle" style, who can say a word for it except those *dilettanti* who want to play at gardening? These are matters which will occupy the public mind now that the ball is fairly set moving, and I hope with beneficial results to horticulture generally.—D., Deal.

## FRUIT.

ALTHOUGH the show of fruit, taken as a whole, was scarcely so fine as we have seen at the same period in previous years, yet many of the specimens were very good, particularly the Pines, Peaches, and Nectarines, and some of the Grapes, which, however, in general, were not fully ripe.

To no part of the Exhibition, if we except the dinner-table decorations, did the visitors crowd more constantly, and in none did they manifest a greater interest or linger longer than in the fruit show. Indeed, many persons had to content themselves with a mere glimpse, near approach to the tables being almost an impossibility—a gratifying evidence to the lover of fruits that the twofold claim of his favourites for utility and beauty combined is not neglected for the simply ornamental in leaves and flowers.

In Pines, the first prize for the best Cayenne was withheld, and the second was taken by Mr. Bailey, gardener to T. T. Drake, Esq., of Shardeloes; this was the only exhibition in Class A.

In the open class for any other kind, Mr. Froud, gardener to R. Fothergill, Esq., Aberdare, took the first prize with a very handsome *Queen*, weighing 5 lbs. 2 ozs.; and Mr. Barnes, of Bicton, was second with an excellent *Queen*, weighing 4 lbs. 1 oz. The third was taken by Mr. Speed, gardener to Sir E. Walker, Bury Hill, Mansfield, with a well-grown *White Providence*, weighing 7 lbs. 6 ozs.

Of Black Grapes there was a large display, the Black Hamburgh being the sort exhibited almost to the exclusion of every other. Many of the bunches were badly coloured, and others had the bloom rubbed off by bad packing, whilst the fruit of a few, evidently new exhibitors, was set up in a very unskilful manner. In one instance the bunches rested on a thin blue paper similar to that used by grocers, which had a very bad effect.

Mr. A. Henderson, of Trentham, exhibited three magnificent bunches, the berries being large and regular and covered with a fine bloom. These gained the first prize; and from the same exhibitor were three more fine, well-coloured bunches, which would have also merited a prize if more than one could have been taken in a class by the same person. Mr. Clement, of East Barnet, came in second, his fruit being also very fine, even, and well coloured; whilst the third award was given to Mr. Wortley, gardener to Admiral the Hon. P. Cary, Norwood; his bunches, though not so large as the others, were very good, and the individual berries were large. All the above were Black Hamburghs, and good specimens of the same variety were also exhibited by Messrs. Tillyard, Stanmore Priory; Fleming, of Cliveden; and Robson, of Linton Park, Staplehurst. There were several other exhibitors in the same class, but the bunches though in some cases of good size were either badly coloured, irregular, or with the bloom rubbed off.

In the next class, White Muscats, the first prize was awarded to Mr. Horwood, gardener to G. H. Turnbull, Esq., Bromley, for three fine, well-shouldered bunches of Muscat of Alexandria, and he also exhibited a 12 lb. basket, but the berries though fine were unripe. The second prize was taken by Mr. Standish with the same kind, grown in the vineries mentioned at page 51, the berries being large and fine. Mr. Embery came in third; both the bunches and the individual berries were large but not so regular as in the other two. Fine bunches were also exhibited by Mr. Clement. Those from Mr. Peed, Mr. Mecklenright, and Mr. Moylan were likewise good, but the berries were not perfectly ripe. Mr. D. Thomson, of Archerfield, N.B., showed Archerfield Early Muscat, a new form of the Muscat of Alexandria, but which is six weeks earlier than that variety. It was a large, broad-shouldered, and ovate-shaped bunch remarkably well set; the berries of good size and perfectly ripe. It unfortunately arrived too late, otherwise there is no doubt it would have received some very special notice from the Judges.

In the class for any other White Grape, Mr. Wortley, Norwood, came in first for Diamond Drop, a pale-coloured Grape, with a light brown tinge next the sun. Mr. Alderson was second with Royal Muscadine; and Mr. Edwards, gardener to Lady Langdale, Eyewood, took the third prize with Royal Muscadine.

Peaches were exhibited by Mr. Henderson, of Trentham, Mr. Durrant, and Mr. Boston, who were respectively first, second, and third; those from the former were large and beautifully-coloured specimens of the Royal George, whilst Mr. Durrant's exhibition consisted of the Bellegarde, three out of the six fruits being well-coloured, the remainder not equally good.

In Nectarines Mr. Allen, gardener to J. B. Glegg, Esq., Withington Hall, was first with a dish of beautifully-coloured Elrue; and Mr. Henderson, of Trentham, obtained the second prize for Violette Hâtive, which was also very fine; indeed, there was very little difference in the merit of the two exhibitions. Mr. Horwood likewise exhibited a very good dish of the same kind, but not so well coloured; and that from Mr. Moylan, though the fruit was well grown and some of it properly coloured, was not sufficiently ripe.

In the class for Cherries, the only dishes exhibited were Black Tartarian from Mr. Henderson, of Trentham, and May Duke from Mr. Fleming, of Cliveden, who were respectively first and second.

Strawberries, in single dishes. The successful competitors in this class were Mr. Smith, of Twickenham, who exhibited a dish of very handsome fruit of Sir Charles Napier, which took the first prize; Mr. Widdowson, and Mr. Park, of Retford.

In the next class, three dishes, Mr. R. Smith, Twickenham, was first with Sir C. Napier, British Queen, and Empress Eugénie, the former being large and very fine; and Mr. Widdowson, who had also very good fruit, second.

The first prize for green-fleshed Melons was given to Mr. Meredith, for a hybrid Cashmere; and the second to Mr. MacLaren, for Golden Perfection, both being good specimens. In scarlet-fleshed, Kaile's Scarlet-fleshed, from Mr. Kaile, gardener to Earl Lovelace, Ripley, was first; and Turner's Scarlet Gem, from Mr. Meredith, second.

Vines in pots were well represented by Mr. Smith, of Syon,

who exhibited two pots of the Black Hamburgh, forming a wide arch covered with fruit, and for which a first prize was awarded. Mr. Hutt, gardener to Miss Burdett Coutts, came in second with Sweetwater and Black Hamburgh; the only other competitor was C. W. Alderson, Langley Lane, South Lambeth, who exhibited two plants thickly hung with bunches, but which were disqualified by the Judges, it having been found that the Vines were not *bona fide* grown in pots. The plants were remarkably well grown and luxuriant; the bunches large and very numerous; whilst the pots were unusually small for the size of the Vines. All these circumstances excited suspicion; and, on turning a plant out of its pot, it was found that a shoot had been introduced through the hole in the bottom, and, though some adventitious roots had been formed, the Vines had evidently been nourished by the parent plant, the connection with which had been severed a short time previous to the Exhibition.

The prompt detection which this discreditible expedient met with, will, it is to be hoped, deter others from imitating the example, should there indeed be any so inclined.

In the Miscellaneous class, Mr. Standish obtained a first prize for some fine bunches of Ingram's Hardy Prolific Muscat, a just recognition of its merits as one of our best new varieties. Dr. Trouncer came second for Black Hamburghs, grown on the roof of a house in Mount Street, Grosvenor Square, and which under the circumstances in which they were produced were very good. These were arranged as a dinner-table decoration. A similar award was made to Mr. Lunt, Greenock, for a dish of Moorpark Apricots; also to Mr. Henderson, Trentham, for Elton Cherries. Mr. R. Smith, of Twickenham, exhibited some pots of Sir Charles Napier Strawberry. Mr. Ross, Newbury, a dish of White Marseilles Figs; and Mr. Kaile, Raspberries in pots, all of whom received third prizes.

Mr. Hall, gardener to Captain Tyrell, Fordhook, Ealing, exhibited three dishes of Apples, two of them being the Bess Pool, the other French Crab, all of them sound and firm. From Mr. Smith, of Chertsey, came three rather small bunches of the Golden Hamburgh Grape; and from J. Luscombe, Esq., Combe Royal, Devon, a dish of Limes grown on a south wall without glass or artificial heat, and with merely protection—the protection of a reed covering at night and in very severe weather.

#### HORTICULTURAL IMPLEMENTS, &c.

THE show of these differed little in its general character from that on May 21st, of which it was for the most part merely a repetition, there being with but few exceptions the same exhibitors and the same articles, with only a slight increase in their numbers.

This speaks very little for the enterprise of the manufacturers whom the Society has invited to come forward, and who have thus lost a good opportunity which might have turned greatly to their advantage. That the visitors evinced but little interest in this "exhibition" cannot be wondered at—it was a failure. Horticulture, it is true, requires no massive engines working with giant strength and unerring certainty, impressing the beholder by their movements with a feeling of awe—no complicated machinery that the breaking of a thread or the touch of an infant's hand will stop. And that the public should crowd to these cannot be a matter of surprise; but when we find at the International Exhibition every machine, no matter what its purpose, receives its share of public attention, we are forced to the conclusion that it is not from lack of interest on the part of the public, but from the paucity of the display and the familiar nature of the articles shown that so little attention was paid to this part of the Society's Exhibition.

Three kinds of boilers were exhibited—the tubular ones of Ormson and Weeks, and Monro's cannon form of several sizes, of both wrought and cast iron. Messrs. Weeks also exhibited their large heating pedestal and cast-iron furnace-doors, made to slide backwards and forwards so as to obviate the objection of warping with the heat, which hinged doors are almost sure to do.

Mr. Ormson likewise exhibited furnace-doors of admirable construction. They are faced next the fire with firebrick, so that no loss of heat may take place in consequence of the conduction of the metal, and instead of sliding they are provided with brass rollers which run on a bright case-hardened rod; friction is thus reduced to a minimum, and they can, consequently, be moved with almost a touch. From the same exhibitor there was also an improved stop-valve, the shutter of which was drawn backwards or forwards by a screw working in a kind of female screw on the face.

In addition to the boilers, Mr. Jones had a heating coil with an ornamental round case; single, double, and triple valves for hot-water apparatus; a number of excellent cast-iron vases, and a flower-pot stand of the same material.

Mowing-machines were exhibited by Messrs. J. B. Brown and Co., of Cannon Street, who also had garden chairs, and some handsome cast-iron vases; Green, of Leeds; Ransome and Sims, of Ipswich; and Ferrabee & Co., of Stroud.

Amies & Barford's rollers were again shown, as well as Banks' tree-protectors, pendant basket, and galvanised Verbena-pegs; Nixey's water-tubs, and Read's garden syringes and engines.

Messrs. Barr & Sugden exhibited some pretty flower-pot covers for hiding common garden-pots in drawing-rooms; they are made of card of various colours, and are coated with gelatine to prevent injury from moisture. Also flower and fruit gatherers including Gmelin's patent, which, from grasping the fruit between two Indianrubber discs, cannot bruise. They had in addition rustic terra cotta flower-pots, triple flower-vases, and Yeates' improved zinc tallies.

From Mr. W. Thomson, of Dalkeith, came his newly-invented hot-air ventilator, described at page 195; from Mr. W. P. Ayres, a panel in cement for conservatory-tubs; from Mr. Cullingford, garden netting of various kinds; wooden flower-sticks, tallies, and labels, from Mr. F. A. Haage, of Erfurt, which were remarkably cheap; and lastly, seed-protectors, wire archways, flower-stands, and baskets, from Mr. Reynolds, of New Compton Street. There was also a model of Cranston's conservatory, with a sash showing the mode in which ventilation is effected.

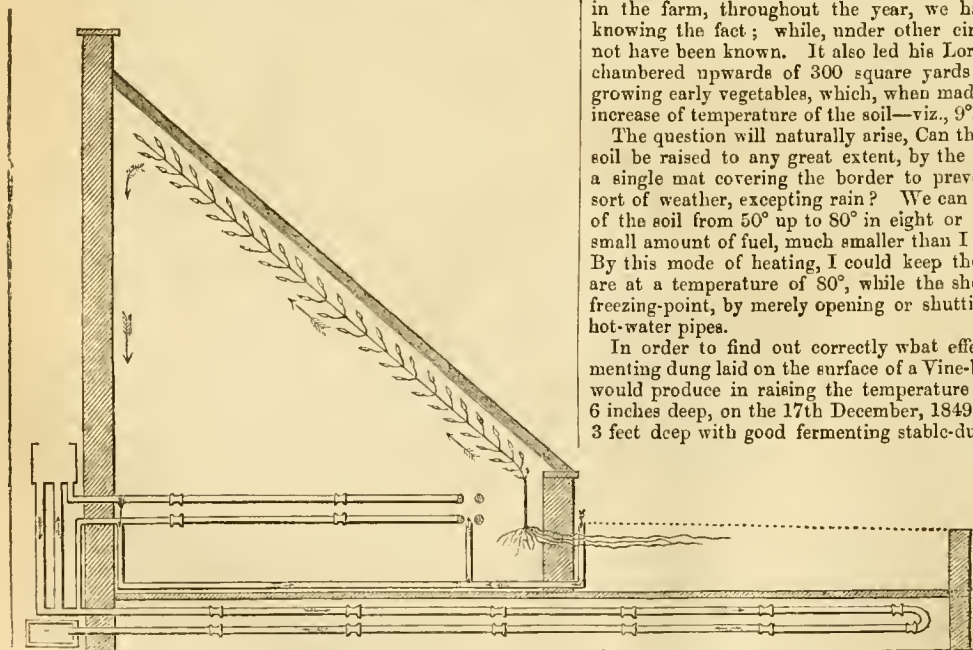
Nearly all the articles exhibited were commended either on this or on the former occasion.

### IMAGINARY FORMS IN FERN STEMS.

I FEAR that I uselessly occupied your time and space in asking in which Fern the "sacred monogram" was imagined. I have since learned that the words used were "the initials of Jesus Christ printed there black as with ink." I have recently cut several roots of the Pteris, keeping the inside or grooved side of the stem uppermost, and making a sloping cut from right to left, and have occasionally, with the eye of faith, seen the letters "J. C." It is more like two J's back to back, but a speck near the top of the letter J can be fancied as making it into a C.—M. D. P.

### VINES AND VINE-BORDERS.

MUCH has been spoken and written on the formation of Vine-borders, and the application of heat to them; and it may appear



presumption in me to attempt to give anything new. This, however, I do not attempt to do. But still, I cannot help thinking that we have much to learn on these subjects, which shall be my apology for occupying your pages. I think nearly, if not quite, all are agreed that it is advantageous to have the temperature of the soil where the roots of the plants are growing, approximating somewhat to that in which the shoots are, especially in cold damp climates, and in early forcing. We know that in the pot-culture of plants, generally speaking, they succeed best when the roots are in advance of the stem, or in a medium, where the shoots can be supplied from the root, with the food suitable for the perfecting of the whole plant: if this be correct, which my experience leads me to think is the case, it follows that the general treatment of the Vine hitherto has not been that which it ought to be; this would appear true, from the different modes that have been adopted to increase the temperature of the soil. The natural habit of the Vine, and our own reason, leads us to conclude that it is seldom treated as it ought to be. True, good Grapes have been, and will be, grown without any artificial heat to the soil; but I think this no reason why those same Vines might not have been better, had the temperature of the soil been higher than it was.

Having to erect new vineries here, the drawing below is the plan which was adopted—it being the desire of my employer to heat the soil by some means or other, he being led to do so from his observations on the temperature of the soil when in India. To do so by means of hot dung thrown under brick arches was objectionable, from the amount of labour required to keep up anything like a steady heat. To cover the surface with dung was still more objectionable, from its unsightliness, its bad effects on the border, and its being opposed to the well-known laws of the conduction and radiation of caloric.

We were led to adopt the Caithness pavement, which is 2 inches thick, and in pieces from 3 feet to 4 feet square; also moderately cheap. With this was constructed a chamber, 2 feet 6 inches high, with 9-inch brick pillars supporting the pavement, and heated with hot-water pipes from the same boiler which heats the houses. We have found it to exceed our most sanguine expectations. In the first place, we have a thorough drainage, and the roots cannot by any means get into the bad soil below; but the most important fact is, that the temperature of the soil in the chamber at 2 feet deep, is, at all times, 9° higher than that of a border of the same aspect, not chambered. When the frost has penetrated into the latter 9 inches, it has only reached 2 inches in the chambered border—that is, without any artificial heat being applied. The increase of 9° was quite unlooked for, when the border was chambered; but being supplied with soil-thermometers, for the purpose of ascertaining the temperature of the soil in various parts in the garden, and in the farm, throughout the year, we had an opportunity of knowing the fact; while, under other circumstances, it might not have been known. It also led his Lordship to cause to be chambered upwards of 300 square yards of wall-borders, for growing early vegetables, which, when made, indicated the same increase of temperature of the soil—viz., 9°.

The question will naturally arise, Can the temperature of the soil be raised to any great extent, by the hot-water pipes, with a single mat covering the border to prevent radiation in any sort of weather, excepting rain? We can raise the temperature of the soil from 50° up to 80° in eight or ten days, with a very small amount of fuel, much smaller than I could have imagined. By this mode of heating, I could keep the soil where the roots are at a temperature of 80°, while the shoots would be at the freezing-point, by merely opening or shutting the valve of the hot-water pipes.

In order to find out correctly what effect a quantity of fermenting dung laid on the surface of a Vine-border not chambered would produce in raising the temperature of the soil at 1 foot 6 inches deep, on the 17th December, 1849 I covered the border 3 feet deep with good fermenting stable-dung and leaves, turn-

ing it occasionally and adding to it. When the dung was put on, the temperature of the soil was 40°; on the 17th January, 1850, it was 42°; 17th February, 53°; 17th March, 53°; 17th April, 53°; 17th May, 58°. Until the end of March the temperature of the dung was from 70° to 90°, when it fell gradually until the end of May, when it was taken off. On the 17th of June, by the heat of the sun, it had risen to 60°; July 17th, 63°. While that quantity of dung raised the temperature of

the soil 13°, the chambered border stood till the 17th February (when the hot water was let on), at 49°, only 4° lower than the unchambered border with all the dung. From this it would appear that the dung has little effect in heating the soil. It only prevents radiation; and a slight covering has nearly the same effect as a greater thickness of fermenting dung. This I have proved by experiments I have made.—A. SHEAREE, *Gardener to the Marquis of Tweeddale, Yester.*

STOVE PLANTS.



1. *Thibaudia macrantha.* 2. *Pleione lagenaria.*

**THIBAUDIA MACRANTHA** (Large-flowered *Thibaudia*).—*Nat. Ord.*, *Vacciniaceae. Linn.*, *Octandria Monogynia*.—A beautiful, but rather straggling evergreen stove shrub, with entire, smooth leaves on short thick footstalks. The flowers are extra-axillary, two or three together; the stalks thickened upwards, and coloured red; they are large, upwards of 2 inches long, and an inch in diameter, pendent, with a small pale yellow calyx and flask-shaped five-angled porcelain-like corolla, contracted at the mouth, with the narrow segments of the limb reflexed, and the stamens and style protruded; the colour is "china white, yellow at the base and apex," the spaces between the angles marked with numerous distinct wavy red lines, generally taking the shape of the letter V. It is stated to be of easy cultivation, and to have flowered when not more than 2 feet high. Mr. Smith, of Kew, suggests that it will probably succeed in a close warm greenhouse. From Kola mountain, Moulmein. Introduced by Mr. T. Lobb, collector for Messrs. Veitch, of Exeter and Chelsea. Flowers in winter.

**PLEIONE LAGENARIA** (Bottle *Pleione*).—*Nat. Ord.*, *Orchidaceae. Linn.*, *Gynandria Monandria*.—A beautiful little epiphytal stove plant, with flask-shaped pseudo-bulbs and lovely flowers issuing from a bract, which is hooded, acute,

and much tapered at the base. The sepals and petals, which are linear-lanceolate and acute, are of a pretty rosy lilac colour, as is the exterior of the rounded, entire, emarginate, rolled-in lip, the inner surface of which at the margin is streaked with carmine on a white ground, and towards the centre is yellow, marked with five crested lines. From the Alps of India. Introduced by Messrs. Veitch's collector, Mr. T. Lobb, in 1849. Flowers in autumn. "The secret of their successful cultivation in England lies in keeping them cool and dry when at rest, and forcing them with heat, moisture, and bright light, as long as they are inclined to grow."—(*Gardeners' Magazine of Botany.*)

### COCOA-NUT FIBRE REFUSE FOR DRAINAGE.

I HAVE used this with the greatest satisfaction in many ways, but would safely recommend it as a safe material for drainage. Plants evidently delight in it from its being filled with roots at every change in repotting. This circumstance, as it appears to me, gives it a decided advantage over moss or potsherds, as their effects are simply mechanical; whereas the fibre seems from some peculiar quality to promote the growth of the roots, and, as a natural consequence, increased vigour in the plant.

I watch the use of the fibre with much interest, and am trying some experiments, of which I hope to send you a favourable account.—JONQUIL.

### BOUGAINVILLEA GLABRA AT THE EARL OF SEFTON'S.

WE have a fine plant of this most magnificent flower in full perfection. It has been in full beauty for the last three weeks, and will continue so for some time to come, which leads me to believe that its flowering will soon be as much a matter of certainty as any other stove plant; and when better known, it will doubtless become a universal favourite.

There cannot be too much said in favour of this beautiful plant, as its colour forms quite an acquisition to our stoves; and I am of opinion that it is too little known, and its culture too much neglected at present.

The plant here seems quite at home, growing in a Cucumber-house, which has a span roof 30 feet by 12 feet, standing east and west or thereabouts. The pot in which this *Bougainvillea* is growing is plunged in a small border at the west end of the house, there being no door at that end.

In 1861, a small plant sent here in January, then no more than 6 inches high, had, by the end of November, completely covered the whole of the house, and from that time it received little or no water at the root, with the exception of a slight syringing now and then until the middle of March; and since then it has had a good supply of water, as the temperature of the house has been kept much higher.

The compost this plant is growing in here is two parts peat and one part of loam, with a little silver sand.—W. B., *Croxeth Gardens, Liverpool.*

### MR. R. S. YATES' NURSERY, SALE, NEAR MANCHESTER.

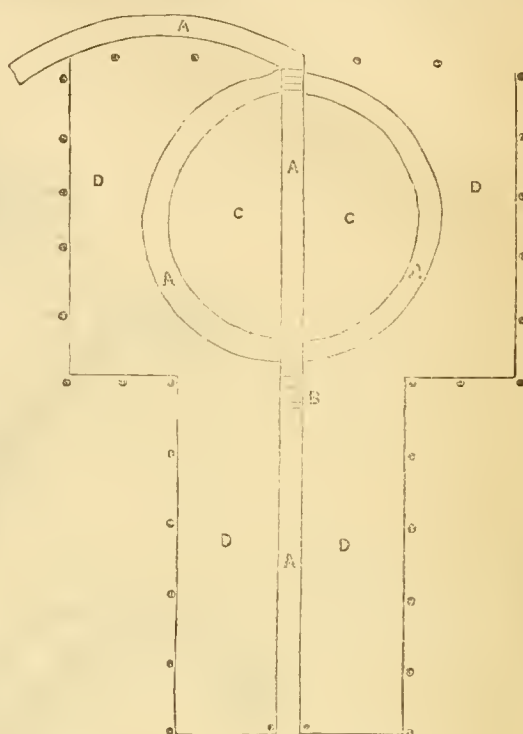
A REPORT having reached me that Mr. Yates had a fine show of *Rhododendrons* and hardy *Azaleas* in bloom, I was tempted to take a trip over to see. I was induced also to go there to inspect his hardy evergreen coniferous and other kinds of trees and shrubs, for the purpose of examining them to report the effects of the ever-to-be-remembered hard frost of 1860-61, and to note how such trees and shrubs, if any, had recovered from that severe ordeal, or had stood it uninjured.

Entering the gate there is a carriage drive, and on each side broad borders planted with specimen ornamental evergreens. Here I missed the fine *Deodars* and *Araucarias* that I observed there in 1859. Only two had escaped, all the rest were quite dead; and on the lawn in front of the house the noble specimen of *Deodar Cedar* was quite dead also. This dead tree is still standing. It is upwards of 20 feet high, with a trunk 9 inches in diameter; but, alas! not even the lowest branches had a green leaf alive. It was left standing in the hope that it would grow again from the root; but so far there is no such appearance. The *Variegated Hollies*, some of them 12 feet high, are very much injured, but they are pushing again pretty well; but it will take several years before they entirely recover. Amidst all this desolation there is some comfort that all kinds of evergreens are not destroyed. The green *Hollies*, of which there are many hundreds of fine specimens, are very little worse. The following were not injured in the least:—*Cupressus Lawsoniana*, (many hundreds of this very beautiful tree planted in long avenues have not even a leaf browned), I consider the best of the genus both on account of its perfect hardihood, and elegant habit. *Wellingtonia gigantea*, *Picea Nordmanniana*, *P. nobilis* (in cone), *P. pinsapo*, *Pinus Benthiana*, *P. insignis*, *P. Sabina*, *P. excelsa*, *P. cembra*, *Thuja borealis*, *T. gigantea*, *Thuja aurea*, and some others of less note. Most of these are planted on each side of a broad grass walk or lawn kept beautifully

mown. Any lover of beautiful rare hardy trees and shrubs would enjoy, as I did, the sight of so many specimens growing freely on each side of this smooth grass walk.

At the far end of this walk there is a turn round on the right hand, which leads to the *Rhododendron-tent*, which is of this form.

By entering at the south end the visitor has the opportunity of walking up the ascent to the top of the mound, and



A Walks.  
B Steps ascending the Mount.  
C The Mount.  
D Borders.

then the full view of the bloom of *Rhododendrons* is displayed before him. Every plant was full of flower, excepting a few of the later kinds. The show was truly splendid. The blooms were protected by a covering of Britain's three-fold netting, which shaded them from the sun, kept the bees out, and sheltered them from heavy rains and strong winds. Mr. Yates remarked that this netting was better than any other covering he had tried, the wind having less hold of it than either canvass or tiffany. As a summer protection for greenhouse plants such a tent is invaluable. He states, also, that with care in taking it down off the framework and putting it away quite dry in a dry room, it would last many years. He thus it of great service in protecting the rather tender varieties from frost.

The varieties in bloom had been selected with great care, the very best or most showy only being admitted into this tent. To hold so many the tent is necessarily large. Where the mound is, it is much wider and more lofty than the avenue. The following are such as struck me as being particularly good:—

Let the reader understand that the collection under shelter contained a goodly number of the best hardy *Azaleas* as well as *Rhododendrons*. The bright yellows of this tribe supplied a colour which the *Rhododendron* family does not contain.

*Album elegans*, fine white, suffused with flesh colour.  
*Atro-sanguineum*, very dark; free to bloom.  
*Blandyanum*, bright crimson; fine form, good truss.  
*Brayanum*, rosy crimson; excellent.  
*Cadmus*, dark and fine; a new variety.  
*Elegantissima*, lovely flesh colour, splendid trusses.  
*Fastuosum plenum*, a double variety, purplish-lilac; extra well bloomed.

*John Waterer*, brilliant carmine; fine form.

*Juba*, fine crimson, thickly marked with dark spots, fine compact truss, and excellent in form and substance. I consider this the finest dark variety in the collection.

Mrs. John Waterer, rosy crimson; very fine.

Pardoloton, purple shaded with crimson.

Seedling, a white variety, edged partially with light pink; very good.

Schillerii, purple, with dark chocolate spot; new, and very fine.

Van Dyck, dark crimson; very good, almost as good as Jubæ.

I might have swelled this list to a great extent, but the rest were either well-known sorts, or not in flower sufficiently to enable one to judge of their merits.

Leaving reluctantly this beautiful floral scene, I passed by several ranges of turf-pits covered with glass. These pits now are filled with Strawberries ripening fast their fruit. The plants had been grown in pots in the usual way. When the pits were emptied of their winter occupants they were filled with a slightly-fermenting material on which a sufficient thickness of soil was placed. Then the Strawberry plants were turned out of their pots, and planted in rows across the pit to flower and fruit. This practice is a successful one. The fruit, from being near the glass and on fine days fully exposed, swells up very large, and ripens well. There is always a danger when Strawberries are forced in vinerys or Peach-houses of their harbouring and feeding that enemy, the red spider; but by growing them in pits, as they are grown here, that pest is avoided.

I found Mr. Yates busy planting-out his large collection of Gladioli; they are grown in pots first in frames, and as soon as all danger from frost is over they are planted in a fresh loamy soil freely manured with hotbed dung. Mr. Yates is a great lover of these gay summer and autumn flowers, so much so that he plants them all out with his own hands. He declared to me that he valued them so highly that he would not trust any one but himself to plant them out.

From him I wended my way to the Orchid-houses, where I had a rich treat, so many Orchids were in flower. I noticed especially *Dendrobium Devonianum*, two plants grown in baskets with seventeen and fifteen long spikes of their delicately beautiful flowers, all expanded together; *Cattleya lobata*, a fine plant with thirty-five large flowers; *Burlingtonia venusta*, eleven spikes; *Calanthe veratrifolia*, seventeen spikes; *Odontoglossum citrosimum*, two fine spikes; *Dendrobium tridenum*, two pots, ten spikes; *Lælia cinnabarina*, four spikes, holding twenty flowers, very large and fine; *Dendrobium nobile*, two large plants 3 feet across, with innumerable blooms. The East Indian species are full of spikes, but not yet in bloom, excepting two species of *Saccolabium*—namely, *Saccolabium guttatum* and *S. retusum*, which were in fine bloom. I find Mr. Yates grows all the epiphytal Orchidæ in nothing but sphagnum moss well drained, and well they thrive in it.

I could not help noticing what large numbers here are grown of some species, especially *Coleogyne cristata*. There are thirty large pots filled with this plant alone. Of *Calanthe vestita*, upwards of a hundred pots, and many others in proportionate numbers. I was informed they were grown chiefly for bouquets in early spring.

In the stove I observed a remarkable specimen of *Caladium bicolor splendens*. I measured one leaf, it was 23 inches long and 15½ inches broad. There also was a nice specimen of *Coleus Verschaffeltii*, which, being grown in a full light and close to the glass, was the densest dark-coloured that I have ever seen. There was not a particle of green visible. If this plant proves hardy enough for the open air it will banish the *Perilla* from our ribbon-borders. I also noticed an old bulbous plant seldom seen now, named *Zephyranthes rosea*. The pot was full of bulbs, and had nearly a dozen large rosy-coloured flowers expanded.

From the houses I wandered into the Fern-valley. The denizens here have grown into large specimens. Many hardy exotics, such as *Osmunda spectabilis*, *O. cinnamomea*, *O. interrupta*, *Struthiopteris pensylvanica*, *Onoclea sensibilis*, and others, have been added to the collection, and are now thriving well. I saw, also, several plants of that singularly beautiful hardy Fern, the *Lastrea filix-mas multifida*, with fronds 2 feet and upwards long, every pinna being elegantly tasselled. In the Fern-house adjoining the inmates have made great progress; the plants seem quite at home.

I remember when I was here some two years ago, I noted a method of making specimens of evergreen Hollies by planting them out in rows as far small plants, a great distance from each other, giving each a quantity of good manure to encourage rapid growth. Or viewing them now I find they have made, as I prognosticated, great progress. They are now very handsome, shapely plants, from 2½ feet to 3 feet high, furnished with

branches down to the ground. I should think there is nearly half an acre of them. Such a method is worthy of imitation by any nurseryman that has space for them. T. APPELBY.

### "IT FOLLOWS THAT THE CAT MUST STAY AT HOME."—SHAKESPEARE.

I AM pleased that the Press has taken up the question as to the policy of destroying small birds. Since the severe winter of 1860, the numbers have considerably fallen off. Poison and schoolboys destroy many, but the birds have other enemies than poisoners and schoolboys.

I have watched the nests in my garden for these last three weeks, and have counted seven nests that the old birds have been taken off, or the young birds destroyed, by cats. In addition to the destruction of small birds, the mischief the cats do in the garden is immense.

I consider that with their nocturnal squallings, and the injury they do, the cats are the greatest pests in this country. Surely it is not unreasonable to require the owners of such vermin to keep them at home. A goodly increase in the revenue may be made by taxing cats.—A LOVER OF FLOWERS AND BIRDS.

### UTILITY OF SMALL BIRDS.

IN several of the public prints, especially in the *Times*, there have lately appeared very interesting letters on the destruction of small birds; and I would ask your numerous readers, country gentlemen, farmers, and others, to think this matter coolly over, and consider if there is not a great necessity for the preservation of these small birds, from the simple fact that where they have been exterminated, as in France, there has been such an inroad of caterpillars that they have been compelled to legislate for their preservation.

Let us look at the case of the House Sparrow, perhaps the most destructive to the cereal crops of all the feathered race. Now, Bewick in his "British Birds" says, "It has been observed that a single pair of Sparrows during the time they are feeding their young will destroy about 4000 caterpillars weekly; they likewise feed their young with butterflies and other winged insects, each of which, if not destroyed in this manner, would be productive of several hundreds of caterpillars."

In "White's Selbourne," in a note the Editor says, "A young Sparrow which I picked up in my garden, and placed in a cage for the purpose of ascertaining what food would be brought to it by its parents, was almost wholly fed on cockchafer."

Lastly, I will quote Dr. Stanley, the late Bishop of Norwich, who states that "Sparrows feed their young thirty-six times in an hour, which, calculating at the rate of fourteen hours a-day in the long days of spring and summer, gives 3500 times per week; a number corroborated on the authority of another writer, who calculated the number of caterpillars destroyed in a week to be about 3400."

I would add, supposing the Sparrow does much mischief in the harvest, which may be prevented by a few live scarers, does not this bird pay back a good percentage in the destruction of grubs and insects?—J. L. P., *Edgbaston*.

THE FAIRCHILD SERMON.—The old church at St. James's Aldgate, on Whit-Tuesday evening wore a charming aspect, which was certainly not due to its architectural pretensions, nor to its ornate condition, for it is terribly out of repair. The charm lay in the pleasant smiling faces of the girls and boys who filled the pews, and in the bouquets of flowers which they carried in their hands. They listened with fixed attention while the Rector (the Rev. W. Meynell Whittmore) discoursed, according to annual custom, on a topic allied to "flowers." His text was Isaiah lxi. 11, and his subject was "Beauty of Character, as illustrated by Floral References." The preacher duly admired a nosegay which some kind young friend had placed in the pulpit, and requested his audience to notice how beautiful are the flowers which God has so bountifully scattered over the earth; and then he bade them learn, (1.) that in every station of life it was quite possible for them to show beauty of character; but he was careful to state that mere external beauty must not be always regarded as an index of the state of the heart; for (2.) a pretty face often hides a disagreeable and injurious disposition.

Then he went on to describe (3.) how fragrant is the memory of a beautiful character, like crushed and dried Rose-leaves, which preserve their pleasant odour; and (4.) he assured his youthful hearers that, by Divine assistance, they would be able to produce spiritual beauty in other hearts, even under most unfavourable circumstances. A pennyworth of seed would insure many pretty flowers, and a penny tract might change a spiritual desert into a garden of the Lord. The assurance rests on promises such as the text. This delightful promise not only encourages our own efforts, but opens a glorious prospect of the whole world, filled and fragrant with the "beauty of holiness."—(*City Press*.)

### AIR-ROOTS ON VINES.

I QUITE coincide with Mr. Fish in considering that those roots are the effects of an over-moist and stagnant atmosphere. By this I do not mean to say that the vine in question has not been properly aired, but what I mean is, that there is an absence of air-circulation, which is necessary to prevent roots protruding from the stems of Vines growing in a high temperature and stagnant atmosphere. Every practical gardener knows that ventilation can only be properly effected by having the front sashes to open either by a crank or by sliding right and left as in the old-fashioned Vine-houses. In such houses aired on his principle I never have seen air-roots appear, and I have in my own experience commenced forcing at the new year. Nor did we then disapprove of moisture, for these houses were engined at least once a-day and occasionally twice, as was formerly the practice. Although I do not use so much water now, I do not at all disapprove of humidity if not accompanied by defective ventilation.

I have of late seen some of my neighbours' houses literally full of these roots, and as raneid inside as a dunghill. Now, this is entirely the result of bad ventilation. Opening ventilators at the top and front of the house is all that is wanted to prevent air-roots.—J. REID.

### A PLEA FOR SPERGULA SAGINOIDES.

NOTWITHSTANDING the up-hill work that the first suggestor of this valuable adjunct to our gardens had in bringing it before the public, it is fast gaining a reputation for itself; and, if I am not deceived, the day is gradually approaching when *Spergula* will be hailed for small places and geometric gardens as an indispensable article. With me, *S. saginoides* has far surpassed my most sanguine expectations, and, where the soil is suitable, I should recommend it in preference to *pilifera*, as it preserves its bright green hue through all vicissitudes of damp, frost, or drought; and, if I mistake not, its constitutional properties enable it better to withstand the vicissitudes of an English winter, for with me it has withstood the last two winters unhurt, whilst *pilifera* has died at the rate of 30 per cent. Soil and situation, of course, have much to do with this, and experience has taught me to pause ere I recommend either the one or the other for any particular soil; in fact, I believe no one from reading a description of any soil can unhesitatingly recommend either plant, and, if any one could, I should receive the testimony in such an ungracious manner that I might be taken for one of those who look upon the recommendation as an intrusion, though I value the introduction as a boon to English gardens.

What I recommend is, that those who intend to adopt *Spergula* turf should choose a small piece of ground—a fair sample of the whole. Upon this plant out a little of each sort; let it remain a summer and a winter, and then will they be able to judge from the results which is the more suitable to the soil.

Such a process, of course, would only be necessary where it is in contemplation to use *Spergula* extensively. Far better will it be to advance thus cautiously than to run the risk of a failure of any magnitude; one defeat of any extent will do more in giving the plant a bad name, than its advocates could remove in twelve months by writing.

It is not from any fear which I have that *Spergula* turf will not answer that I suggest this caution; but it arises from a desire to see it receiving from those who intend to use it a fair and impartial trial.

I confess that at first it was foreign to all my notions of utility, and it was not till I had tested its merits that I banished

those preconceived opinions for one more deserving and favourable.

A few seedlings of *saginoides* raised and planted out by me last May twelvemonth, have made a charming piece of turf; and some of them now measure 5 inches across, and present to the feet a soft, verdant turf. The more I beat it the better it seems to enjoy itself; in fact, no amount of wear will ever hurt it, and if it were possible I should have no hesitation in planting the whole of White Hawk Down with *S. saginoides*, and then permitting the whole of the rifle volunteers to exercise upon it next Easter Monday, for *S. saginoides* would benefit from such a thorough trampling.

To keep it assiduously weeded and continually rolled in the earlier stages of its growth is highly important, and a neglect of the latter is fatal to the natural habit of the plant.

The one grave and only objection that has at all times been raised against it I am very pleased to see is removed—I allude to the numerous small white flowers. The remarks which they drew from the writer who penned the notice of Messrs. Carter's nursery in these pages a week or two since, show that they are easily removed at pleasure. I have refrained from giving an opinion upon this point, but I never doubted the practicability of it; and I hail with pleasure this, to me, new piece of information, and I would advise those who still retain their old ideas upon *Spergula* turf to visit the above nursery, or some other spot where it is grown as it should be. An indifferently managed piece of turf, under the charge of individuals who, perhaps, still retain a spice of prejudice against it, is not the place to go and draw your conclusions.

It is not to be expected that *Spergula* will meet with a general reception in large places, because its adaptation for geometric purposes totally unfits it for the other, as it fails to harmonise with surrounding objects if used upon pleasure grounds of large extent; but for villa-garden verges, and where well-defined margins are required, or where grass will not do well, *Spergula* will, with careful management, effect the desired end.—J. C. CLARKE, *Wakehurst Place*.

### BEAUTY AND UTILITY COMBINED.

"A Vine-clad home—sun-light without,  
Smile-light within."

THREE years ago I asked you the same question as a "SUBSCRIBER." I built of stone a corridor 36 feet long, 6½ feet wide, 7 feet high in front, and 11 feet at back, due south aspect, forming a garden entrance, and means of communication between the drawing-room and inner hall. At your suggestion I planted in a narrow border at back *Camellias* alternating with choice climbers, the border being kept filled with plants flowering, in pots, from the greenhouse. In front were planted thirteen Vines for shade and beauty. The Vines which were left to Mr. Rivers for selection (the seven first have turned out A1), are—Black Hamburg, Black Prince, Trentham Black, Muscat St. Lawrence, Chasselas Vibert, Champion Hamburg, Prolific Sweetwater, White Malvasia, Royal Muscadine, and Madeira Muscat. They were planted in an outside border (partly under the gravel walk), in good turfy loam with a slight mixture of mortar rubbish. Nothing can exceed the health and luxuriance of the Vines, which having been for two years very slightly cropped, are this year allowed to bear as they will. The promise of fruit is very great, the bunches being both numerous and fine. They will be very much thinned, but I purpose to allow them all to stand.

This corridor is in every way beautiful, always a pleasant object from the drawing-room, one window of which looks down it, and is, summer and winter, a pleasant lounge. There is ample ventilation from the lights in front, which are glazed with large sheets of ordinary glass, the roof is formed of Hartley's rolled plate. Two inches against the wall are found ample to carry off the heated air. In winter a small moveable stove of Brown and Green's answers to keep out the frost, and is removed in the early spring. The flowers keep in bloom much longer than in the greenhouse, and remain longer on the plant. Altogether, your suggestion has proved a success, for which I am much obliged.

Whilst I am writing, may I offer a few remarks on economy of fuel? I have built at various times a greenhouse 33 feet by 12 feet (7 feet in front, 12 feet at back), opening into which at one end is a small stove, to correspond with a smoking-room at

the other. Also, a propagating-house, 25 feet by 11 feet, and a cool-house adjoining. The first three have furnaces (with but small fireplaces), built of firebrick with fireclay joints, surrounded by a mass of brickwork enclosed in a chamber within the house. In the greenhouse both the fire and the flue for the greater part of the distance are below the level of the floor, in a chamber with gratings. In the stove and propagating-house the fire and flues are aboveground. In all cases they are fired from potting-shed or enclosures outside. The fires in the severest weather can be left for twelve hours, on account of the great mass of heated brickwork, and the amount of air admitted round the flues can be very easily regulated. In general, the warmer the flues the greater the quantity of air admitted, except at night, when the object is more to warm than to ventilate. We find that a little small coal with the cinders from the house answers all our needs, and during the past mild winter we have lighted the greenhouse fire but twice, as by leaving the door of the stove open, and with the aid of the kitchen which runs up the back wall, we find heat enough to keep the frost out when not excessive.

The experience of many years has taught me that in small houses a flue with air-chamber is far better than hot water alone. In large houses both are of importance. I consider my little stove first-rate; the stand is built of stone slabs forming a large air-chamber, within which are the fireplace and flue. Narrow slits in the stone admit the air into the stove, previously admitted to the air-chamber, through holes round the fire; the stove is consequently charged with currents of fresh warmed air perfectly under control. The propagating-house and cool-house adjoining are partly underground; but the fireplace and flue in the former are above the floor and under the stands. The chimney-stack of this just keeps the frost at bay in the cool-house during the severest weather, so that things standing a few degrees of dry frost are safe enough.

The air-chamber round the fireplace prevents them ever getting very cold, or cold at all if a small fire is lighted once in twenty-four hours, so that the heat is quickly gained and easily kept up. I find that the free circulation of air caused by this plan aids very much in keeping the plants in health.

As a bit of garden news, I may say that we found last year many self-sown seedlings of bedding-plants—*Salvias*, *Calceolarias*, *Geraniums*, and *Verbenas* especially; some of which, in addition to robustness, seem to promise well, especially a scarlet *Salvia*, with petals, that if laid on the petals of *Sutton's Scarlet Geranium*, cannot be distinguished from it; and a seedling from *Calceolaria aurca floribunda*, seemingly more dwarf, with rather darker flowers (in great profusion), and a darker foliage. I think in exceptional years these self-sown seedlings might be kept with advantage.—L.

## THE INTERNATIONAL EXHIBITION.

(Continued from page 196.)

2011. TRUSS, T. S., C.E., 53, *Gracechurch Street, E.C.*—Patent Pipe Joints for Hot-water Apparatus, Gas, and Water Mains, &c. These are constructed so as to be water-tight without the usual tedious method of caulking, and are stated to be easily made in a few minutes, and capable of sustaining any required amount of pressure. They can be readily disconnected at any time to allow of alteration or removal, and remade without injury to any of the parts. The pipes are cast with a bead at each end upon which the ring of elastic packing (Indiarubber or, in the case of hot-water pipes, woollen felt), is placed when the ends of the pipes are brought near together. The iron band formed in three or more segments with two interior grooves corresponding with the beads on the pipes is then placed around the packing and drawn together by means of screw-bolts and nuts, thus making the joint upon the tops of the beads. According to the width of the band and the interior grooves the joint is more or less elastic, resembling in action a ball-and-socket joint, and is thus specially adapted to gas and water mains which are liable to deflection, for which purpose they are in use, varying from 2 inches to 4 feet in diameter.

2393. MOORE, J., 81, *Fleet Street*.—Patent ventilators. These are of very simple construction, consisting of glass louvres which can be opened more or less at will by pulling a cord or working a screw. The best proof of their efficiency is the fact of their adoption in nearly all public offices, and it would be well if they were found more frequently in dwelling-houses, especially those in which the top-sashes of windows are fixed. In such cases the

only outlet for the escape of the vitiated air is by the chimney, for even if the lower sash of a window is thrown up the heated air, by reason of its less specific gravity, cannot pass downwards, and it remains to mix with the purer air. Besides, in winter when the atmosphere of living-rooms is more liable to become impure than at any other time, windows cannot be opened without admitting much more air than is either desirable or pleasant. By the use of this simple ventilator, however, the bad air can be drawn off without danger of draughts and without involving any alteration in the construction of the window. The invention may also be applied to conservatories.

—COALBROOKDALE CO.—The chairs shown by this Company are of cast-iron bronzed, very handsome in design, and of solid construction. The bottom of each chair is of oak. They would suit extremely well for placing in entrance-halls and on raised terraces in gardens. A very good scraper is also exhibited; it is oblong in form and consists of strips of iron set on edge, whilst at each end there is a stiff brush for more effectually freeing the sides of the boots from mud. It would answer well for conservatories or villa entrances. Its cost is about a guinea.

2330. PERKINS, A. M., 6, *Francis Street, Regent's Square*.—Hot-water apparatus for warming buildings, drying, and laundry purposes. This is what is known as Perkins' high-pressure system, and consists of a coil of small pipes placed in a furnace and connected with other pipes for circulation. No space being left in the pipes for the water to expand into steam, it becomes heated far beyond the boiling-point of water, exercising an enormous pressure. However well the plan may answer for drying purposes, pipes heated to such an extent are not desirable for garden structures, nor altogether safe where constant attention cannot be given.

2411. RIDDELL, 155, *Cheapside*.—Slow combustion boiler. This essentially consists in two upright wrought-iron cylinders of different diameters inserted within each other, and welded together, the base resting on a bed of firebrick. The intermediate space is occupied by water, the centre of the inner cylinder by the fire; and the cavity between the water and the outer iron casing serves as a flue for conducting the smoke towards the chimney. Air is admitted to the fire by a regulating-door at the bottom of the outer case, and fuel is supplied from the top which can be closed nearly air-tight, so that the gases resulting from combustion may not escape otherwise than by the flue.

It is adapted for heating small conservatories, entrance-halls, &c., and is said to require very little attention. The smallest size, it is stated, will burn twelve hours, and heat 80 feet of 4-inch pipe, at an expense of 3*d.*; and that a larger boiler, on the same construction, will, during the same time, heat 350 feet for 8*d.*

2441. PULHAM, J., *Broxbourne*.—Terra cotta "Ferdelabrum." This has a neat appearance, and would be suitable for situations where small fountains or similar decorations could with propriety be introduced. The outline of the base is that of a square with semicircles turned on a portion of each of the sides; the stage above this is composed of intersecting circles, and then follow a number of basins diminishing in size to the top, which is surmounted by a boy and shell. Ferns or flowers may be planted in these basins, or the whole may be used as a fountain, the water dropping from basin to basin, as shown in another part of the building.

2370. BEAGLE & Co., 71, *Cannon St. West*.—Ventilators. The distinctive feature of these consists in the front of the ventilator, which is fixed, being closely perforated for a certain distance, then quite close for an equal distance, and so on alternately; over this a plate with corresponding openings is made to slide backwards and forwards. When it is desired to admit air, the openings of the two plates are made to coincide; if the contrary is desired, the perforations are completely covered by the close portions of the slider.

In our last week's report, it should have been stated that in Kistell's patent labels, exhibited by Nixey, the name is enamelled and hermetically embodied with the cast-iron.

ALOE ABOUT TO BLOOM.—In the conservatory of the Royal Horticultural Society may be seen the rare event of an Aloe coming into flower. As Fellows will remember, this is the plant which is said to flower only once in 100 years, and although this, like other exaggerations, is only half true, still the long period of its life which elapses before it flowers, and the very

rare occasions on which it has done so in this country, render the specimen in the conservatory, now about to flower, an exceedingly interesting object. It has been presented to the Society by Mr. Nash, of Bury House, Edmonton, who has had it in his family for nearly half a century, and until this year it has never flowered. Two years ago a companion plant, which had been in possession of his family for the same period, at last flowered. The present plant is sending up a splendid spike, which has been advancing at the rate of about 4 inches every day, and may be expected to burst its sheath in the course of this month.—(*Royal Horticultural Society's Proceedings.*)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

EVERY vacant piece of ground should now be well filled-up with Broccoli, Cabbages, Kales, and Winter Greens. *Asparagus*, this is a good time to apply salt to the beds, about one pound to a square yard is sufficient. If this stimulant is applied now, it will assist the roots to lay up a good store of organised matter for another season. The good effects of this kind of treatment will be perceived in the autumn by the plants retaining their green colour longer than others not so treated, and in the spring by increased size and productiveness, evidently showing that the longer the functions of the plants can be kept in action by the application of stimulants, the greater the amount of organised matter that will be stored up for the ensuing season. *Broad Beans*, continue to top them as they advance, and keep them well gathered as they become fit for table. *Celery*, the trenches for the main crops should now be prepared. For this purpose the spaces between the rows of Peas are very suitable; the shade from the Peas will be beneficial to the Celery in its earliest stages, and the Peas will be entirely removed by the time they are likely to be injurious. *Dwarf Kidney Beans*, another sowing may be got-in for succession, and the advancing crops, both of these and Scarlet Runners, well thinned-out; keep the soil about them well forked-up and pulverised. Experience goes far to prove that the fork is the best instrument that can be used amongst all wide open crops. *Tomatoes*, see that they are well thinned-out and nailed to the walls or fences.

### FLOWER GARDEN.

Examine all newly-planted things, and see that the soil is well closed around their stems. Use the hoe where requisite to break the surface crust. Attend to pegging and tying. Fill up all vacancies where there is a deficiency of stock. Annuals may be sown for that purpose. Roses may be budded, taking eyes from those trees which have been forced. The regulation, as far as is necessary, of wild creepers, such as Clematis, Honeysuckles, Hops, &c, about shrubberies should be at once attended to. The rambling and irregular growth of shrubs to be pruned, and evergreens may now be layered. Tie-up whatever may require it. Pipe and lay Pinks and Carnations. Stick Sweet Peas and Convolvulses. Thin hardy annuals. Pot Chrysanthemums as they require, and put in more cuttings. Propagate herbaceous plants that are difficult of increase by divisions of the roots. If little besidea Daisies are growing on the lawn, they should be mown in the middle of the day when the flowers are fully expanded.

### FRUIT GARDEN.

Lay-in the shoots of Apricot and other wall trees while the wood is pliable. We have seldom seen so fine a development of wood on espalier trees. Advantage may be taken of the circumstance to lay in an extra quantity, with a view to the ultimate removal of old unsightly wood. Stop and nail-in Vines. Thin Raspberry-suckers.

### STOVE.

We must here repeat the advice so frequently given—to keep up by all means a sufficient amount of atmospheric moisture, increasing it with the increase of heat and light, and accompanied with a gentle motion of the atmosphere. Springe freely twice or thrice a-day, and give morning air freely. Some of the Orchids will now require a little assistance in the way of topping-up, and a watchful eye must be kept for insects. The *Barkeria spectabilis*, the *Lycastes*, the *Odontoglossum grande*, *Epidendrum Skinneri*, &c., will enjoy the greenhouse temperature without fire.

### GREENHOUSE AND CONSERVATORY.

Many plants will now be growing vigorously, and should be shifted as soon as they require more pot-room. Attention to be

given daily to watering, syringing, stopping, shading, and turning them to the light, and to allowing each sufficient space to develop its increasing size and beauty. It is only by such attentions that they can be expected to do well and give satisfaction. The general stock of greenhouse plants may now be readily increased by cuttings. A lot of the best Scarlet Geraniums should be selected for blooming in the winter. These should be grown rapidly, and frequently stopped. Towards August they will become rather pot-bound; they must not, however, be shifted, but merely hardened in a very exposed situation until the end of September, in order to get them sturdy and very short-jointed. Where Orange trees are kept in-doors, give abundance of air night and day, wash them frequently with the engine, using clean water, and damp the paths and floor often. Such of the Heaths and New Holland plants as are making their growth should be duly encouraged by frequent syringings and waterings, and liberal airings. *Cinerarias* and herbaceous *Calceolarias* that are now going out of bloom, and are not required for seeding, should be planted out on some good light soil in a cool shady situation, where they may remain for a couple of months, to be parted and potted for next year's blooming. The plan is useful if it is desirable to retain the stock of any good sorts; but plants from seeds sown now will grow more freely and produce finer specimens under treatment common to both. The Balsams to be sprinkled overhead morning and evening in fine weather; when the last shift is given, they may be potted deeper as they emit roots from the stem. Although the Balsam is a thirsty subject, it requires a good drainage, as the least stagnation of water will rot the stem.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

WEATHER very uncertain, and work regulated accordingly. Rained pretty well on the 11th, and poured on the 12th without intermission, giving us abundance of moisture without any help from the water-pail. A poor look-out, though, for those who have commenced hay-making. Besides staking Peas, sowing Turnips, thinning plants, the work has been of a routine character, such as planting, weeding walks, making sticks, washing pots. In fact, we had been so busy outside, that we needed a day or two in the sheds, as a kind of change and rest, and to get things ready for the fine days. After this the pot-washing always comes in as a stop-gap, as one of my rules is, never to allow a plant to be put in an old pot before it has been well scrubbed and dried. Even such a thing as this needs looking after; for though strict orders are given to this effect, many men will give them a dry rub, and so use them, and that for no reason but because they will not give themselves the trouble to see if they are properly clean, or just have as much objection to wet their fingers as a cat has to wet her paws, if such wetting can be avoided.

### FRUIT GARDEN.

Put a net over a bed of Strawberries just coming in, to keep the birds from them, though there are yet plenty under glass. Went over the Gooseberries again with soot and lime, where a few caterpillars had appeared. Commenced a second time with caterpillar and black fly on Cherries out of doors, using the fingers for the former, and a little tobacco water for the latter, intending to syringe heavily with lime and laurel water when the weather changes, and then with clear water to take away all marks from the fruit. I forgot to say that we pretty well finished strawing and littering between the Strawberry-beds, as it is very annoying to have a particle of grit or mud on such fruit. The liming and sooting have pretty well driven off slugs and ants, the latter of which are very trying at times. The straw used, ehichly, had been employed to thatch the exposed sides of brick pits during winter, which is more secure, neat, and every way better than dung-linings, when much heat is not required. The rest consisted of long litter from the stables well shaken, and the rains it has received will so wash it, that it will be quite clean for the fruit to lie upon. We have used short grass for the purpose, but we like the litter best, as in heavy rains the grass is apt to cling to the fruit, and, generally, there is no end to the crop of Daisies that come on the ground. "What an old-fashioned foggy you must be! Why not use lines, or boards, or tiles?" Well, we have done so, and find, on the whole, nothing superior to the straw. In some weathers the tiles, for example, will suck the fruit until it is as dry and flavourless as a stick. No doubt they are an improvement on doing nothing. In

vineries regulated shoots, thinned Grapes, and attended to Melons, Figs, &c.; and in the orchard-house took off a great quantity of fruit, and still, we fear, left them thick enough. All the fruit taken off, as well as what shoots were too numerous, were bruised with a mallet, some laurel leaves added, and boiling water poured over them, to make laurel or weak prussic acid tea; this, well reduced, will be used to give a good syringing. The fruit, when small, Peaches especially, make fine tarts, but we never found anybody that cared much for Nectarines when so used. Several cooks have told me that though they look well and taste well, they never could get rid of a certain grittiness in them. Speaking of this reminds me that one of the most delightful tarts I ever tasted was made of the thinnings of Grapes, when less than the smallest Peas; in fact, not larger than small shot. Hardly any one could make them out. They are very nice themselves, and also when a few small Gooseberries are added to them. When of this size there is nothing uneconomical in their use. When the berries are as large as Peas and onwards, there is little of the economical in their use, for there is no end to the sugar they require, and still the cry would be "more."

#### FLOWER DEPARTMENT.

In these wet days a good many plants of Begonias, Camellias, Fuchsias, &c., have been examined and shifted. Balsams had a large shift into blooming-pots, and been placed under a frame with abundance of air and a mild bottom heat. Tender annuals have been potted. Scarlet Geraniums have also been potted for late summer and autumn blooming. Those intended for winter should have an open space, and be allowed to bear no flowers. Nipped the points from Chrysanthemums for the last time, or nearly so, intending to pot and train as soon as possible. It is a good plan to pot a few *Salvia fulgens*, &c., now, and also yellow *Calceolarias*, &c. Plant them out in rich soil, and raise and pot in September for winter and spring blooming. We have broken the back of our bedding now; but still there is a good deal of making-up and finishing, especially edgings of beds and baskets, when the weather will permit. We are longer in doing this work, not only because there is much to do, but from the necessity of securing all plants almost as soon as planted. Before now, I have had the pleasure to see one half of a bed all broken, and the other half nowhere, being all carried off by the wind. We use, for supporting, chiefly spruce and larch twigs and branches. The spruce requires to lie long enough to get rid of all its leaves. Some rough spruce sticks, or branchy twigs, we have had for at least five years, as the resin preserves them. These do not look pretty at all in the beds, though there is a degree of pleasure in seeing them nicely arranged; but there is little of the ugly about them when you know the purpose they serve. No straight whittled sticks could ever have the same effect. The shoots after the first tying generally look after themselves, as they get interlaced among the smaller branches and twigs; and, by the time the beds and borders are in their glory, there is nothing seen of the braces and stays that keep them in their place. I may also mention what I consider another improvement this season. Mats are dear, and rubbishy into the bargain; and, in tying, some pieces are sure to be blowing about. This season I have used balls of small cord. The ball is put into a small flower-pot, and is always beside the tyer; and, after a little practice so as not to waste by cutting off more ends than is necessary to form the knot, I am convinced that the twine will not cost half what the tying with matting did.—R. F.

#### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the "Journal of Horticulture, &c.,"* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

ONION CROP DESTROYED (*T. E. C.*).—The decay in the hulbs is caused by

the grub of the onion fly (*Anthomyia ceparum*). You will find a full description of it, and a drawing of the parent in "The Cottage Gardener's Dictionary." The female inserts her eggs within the leaf-sheaths of the Onion, close to the ground. She continues to lay her eggs from May to September, producing several broods during that period. The latest brood remains in the pupa state through the winter, so that all old-decaying store Onions should be burnt up as spring advances. The best preventive of this grub is to sprinkle gas-lime between the rows of seedling Onions, its fumes being offensive to the fly. It may be well, also, to try spreading powdered charcoal among them in a similar way, for the fly is said to deposit her eggs in this powder as readily as in the Onion plants.

INSECTS (*F. S., Muddersfield*).—The specimens you enclosed were of the snake millipede (*Julus terrestris*). We incline to the opinion that they are not the originators of the mischief. A wound is made by slugs or other cause, and then the millipede feeds on the decaying part. There is no application we know of that would destroy the millipede without including the destruction of the plants. If you resolve to extirpate the millipedes you must pare and burn the top 6 inches of the surface of your garden.

PEAR SHOOTS AND PEACH LEAVES BLIGHTED (*O. V. J.*).—They are both suffering from one, or both, of two causes—sudden severe cold and the roots being in a wet or ungenial soil. Peach trees on an open wall, even with the most favourable soil, are liable to that thickening of the young shoots and blistering of the leaves. Our climate is so very different from that of the Peach's native country, that except in warm spots the trees are liable to these attacks.

SEEDLING GLOXINIAS (*A. S.*).—Keep them in the hotbed the whole summer, and first transplant them in tens or twelves round the sides of No. 48-pots, and keep them growing in heat as long as they are green. Then dry them, and next February put them singly into 60-sized pots, and probably they will flower next summer; but you were two months too late in sowing them this spring, and that time can only be made up by good treatment. Of course you have them growing in a very sandy peat.

HARDY EXOTIC FERNS (*Fern-grower*).—We shall publish very soon a small volume on the cultivation of exotic Ferns, stove, greenhouse, and hardy.

DESTROYING HARD-HEADS (*W. Lewes*).—This weed, *Centaurea nigra*, is very tenacious of life, and one of the most troublesome that could have invaded your meadow. There is no way of extirpating it but by the Dock-iron to take it up by the roots, and the scythe to mow down the leaves as fast as they appear.

MOWING MACHINES (*P. B.*).—We believe that the silent movement answers. We cannot recommend one in preference to the others, for they all mow well if properly managed.

PEACH AND NECTARINE BLOSSOMS UNFERTILE (*A Subscriber, Z.*).—It is just possible your fruit blossom was defective, though it seemed to set; but as it did set, we think it very likely that after a period of dull weather, a bright day came, and the roots from being cut in autumn had not been sufficiently watered. A slight shade in such circumstances for a few hours would have been desirable.

VENTILATORS (*Dorset*).—We do not like your ventilating-boards fixed between the sashes, as they will obstruct the light. Why not make 15 inches or 18 inches of your hipped roof to open as a ventilator, and 1 foot at the posts in front the same way for front air? and you may then place the sashes close to each other and fix them. The only other thing desirable would be a few holes at the bottom of the back wall to insure most thorough ventilation. We have not a doubt then of the Aprieots doing well, more especially if you open the doors likewise, and the angle above them in extra hot days. There is no other peculiarity between them and Peaches except needing more air. We have no doubt the north border in your kitchen garden would do for Filberts, the bushes are not particular. We shall publish a paper before the autumn on their culture. Such a border would also be very useful for late small fruit, as Gooseberries, Currants, Raspberries, and Strawberries.

CORBEA SCANDENS SEEDLINGS (*R. J. B.*).—The *Corbea* is a beautiful thing, but just, because it is strong-growing and easy of cultivation, it is not met with so often as it ought to be. If you put your plants in good fibry loam and a little leaf mould, into 12-inch or 15-inch pots, and treat them plentifully with water when dry, they will run a long space during the summer, and reward you with their large bell-flowers from August and onwards. If these pots stand on the soil, the plants will need but little water in winter to keep them green; if they stand on a shelf or stage, they will need more. In spring the plants may be pruned pretty freely to the main shoots, leaving a few buds of those that will dangle this autumn, and the fresh shoots produced will bloom all the summer and autumn if the pots are top-dressed and manure water given. If planted out in a small border, the plant will pretty well take care of itself. The plant is either annual biennial, or perennial, just as you choose to treat it. Expose it to frost the first winter, and it will be an annual; do so or neglect it the second winter, and it will be biennial; treat it kindly, keep it from frost, and it is likely to live quite as long as yourself. One or more stout iron or wire rods are as good as anything for fastening it to.

INSECTS IN GREENHOUSE (*A Suffolk Subscriber*).—We found no insects on the leaves. The Begonia leaves were quite healthy. On small leaves were signs of where thrips had been, and on the Fuchsia leaves were marks as if made by thrips and red spider. We would advise you to smoke the house with shag tobacco, taking care that the smoke is presented cool, and syringe well with sulphur water or laurel water next day. You may place the plants in any small, close case to be smoked. Use the syringa afterwards freely, and if you could daub the walls with sulphur, and keep a moist atmosphere, we think your plants will soon be all right. We regret you are so soon depressed. There is no good gardening by chance work. It demands constant, unintermitting attention. Were there no difficulties, there would be no charms in success. If you dislike any of the above modes, sponge the leaves with weak glue or size water.

FUCHSIA SPECTABILIS CULTURE (*Subscriber since 1856*).—There is not the slightest difference required for the treatment of *Fuchsia spectabilis* from that of all the family. In 1838-9 and 1840 nine out of ten growers were in the same fix with *Fuchsia fulgens*, and it is on record that some of the best gardeners considered *Fuchsia fulgens* as perfectly beyond their art twenty-four years back. Since then *spectabilis* has been exactly in the same category, and even at this day some of the exhibitors believe it to be un-cultivable; but rest it as you would *fulgens*, and grow it the same way as any other *Fuchsia* and you will succeed.

**AMERICAN PLANT LEAVES CURLING AND DYING** (*R. R., Hammersmith*).—We have seen many thousands of all sorts of Rhododendrons, and all other American plants going to ruin exactly as yours are going, and if yours are going from the same cause the sooner you let them go and have done with them, the sooner you will get rid of one great trouble which you would never be able to overcome entirely. What we have seen was the effect of unmitigated chalk, and chalk will never allow a Rhododendron to do much good on it, not even if all the good gardeners had nothing more to do than to attend to them. But at Hammersmith and with Wimbledon peat you can hardly be exposed to much chalk, unless it be in the water, and you have, at the very least, given your Rhododendrons ten times too much water this season, and yet we should not be the least surprised to find, on proper examination, that the plants are having the young leaves scorched for want of water. At all even's, the decay of the young leaves is the effect of a perfect want of action in the roots. The roots may have been poisoned by chalk water or soot water, or half killed for want of water, or else the plants are exposed to some poisonous gas in the air from some sort of manufactory, shaft, or furnace. To ascertain how it is, take up three of the plants from the three widest-off points of the beds or borders, and see if the original peat you had with the roots is not as dry as Lundyfoot snuff. If those original balls became even half dry about the time of planting, all the water in the Thames would not save them as you served them. The only means of getting over the difficulty would be to lift every one of the plants, and to steep the balls for a whole night in the nearest pond or some other water; then to replant them; and give one good watering with a rosed watering-pot, then muleh the bed and only water once in three weeks. If the cause is from chalk, chalk water, or furnace work, you cannot cultivate the plants successfully unless you can remove the injurious agency.

**CUTTINGS OF VERBENAS, &c.** (*A Twelve Years' Subscriber*).—Were we in your case we would not keep one of those stock plants over the winter. Now, we would prepare a nice, rich, light border for them, and plant them out and treat them just as you would do those in a bed. They will be easier kept healthy and vigorous than if kept in any pots. About the beginning of August take off cuttings and insert them in pots in a hand-light kept shaded from the sun. We would prefer striking in soil in the hand-light. When struck pot them separately and pot again in a size larger in October—say in small 60's first, and 54's or small 48's afterwards. Use light sandy loam and a little peat. These will keep well over the winter with little trouble, and from these you may propagate freely in spring, as spring-struck plants generally flourish best. Those struck and potted in autumn would, however, cover a large space. For want of room we keep a dozen or a score in a 48-sized pot over the winter. The best compost for *Cinerarias* is rich sandy loam, such as loam from the roadside two parts, and the other part of sand, leaf mould, and rotten dung, with some little bits of Charcoal. *Calcæolaria* much the same. More depends on coolness and airiness in winter than compost.

**CLEAR LIQUID MANURE** (*Jonquil*).—It is best to be used clear for two reasons—first, because the muddy, or merely mechanically suspended portion, cakes over the surface of the soil and prevents the air penetrating; and secondly, such muddy portion renders the surface unsightly.

**NAMES OF PLANTS** (*A Subscriber of four years*).—Some *Brassia*, probably maculata, but the flowers were much damaged, and badly packed. *Cercis siliquastrum*. (*H. R. P.*).—The Hornbeam, *Carpinus betulus*. (*J. O., Salop*).—1, *Kerria japonica*; 2, *Symphoricarpos racemosa*; 3, *Polygonatum multiflorum*; 4, *Calycanthus floridus*. (*S. W., Upton*).—2, *Salisburia adiantifolia*. The other specimens are insufficient. (*John Stephenson, Cavendish*).—1, *Blechnum spicant*; 2, *Lastrea dilatata*; 3, *Thalictrum aquilegifolium*; 4, *Lastrea filix-mas*. (*J. B., Chorley*).—*Habenaria bifolia*. (*Filix-femina, Gloucester*).—Certainly not a *Blechnum* but a *Nephrolepis*, and apparently a vigorous growth of *N. tuberosa*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

JUNE 26th and 27th. SUFFOLK (Woodbridge). *Sec.*, Mr. J. Loder, jun. Entries close June 5th.  
 JULY 3rd. PRESCOT. *Sec.*, Mr. James Beesley. Entries close June 21st.  
 JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. *Secs.*, G. Newton and J. Wade. Entries close June 21st.  
 SEPTEMBER 9th. WOSLEY AND ARMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.  
 DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### NORTH HANTS AGRICULTURAL SOCIETY'S POULTRY SHOW.—JUNE 12TH.

It is impossible to deny that the poultry question has to struggle with great difficulties in agricultural districts. Those that have adopted it find their account in doing so; but the shows do not increase as they have done where they have depended for support on towns. We, nevertheless, think the importance of the question is gradually forcing itself on the public, and properly-compiled statistics would astonish many who now despise it.

Poultry should be as much part of farm stock as cattle; but while no pains are spared to secure the best breeds of the latter, and to give them the food best adapted for growth or for fattening, the unhappy fowls must take their chance in all particulars, and when failure is the result of neglect or inattention, it is at once asserted that success is impossible. We suppose a certain time must elapse before a radical change takes place, and prejudice is overcome. We also suppose there are necessary fluctuations. Marketable poultry has been dearer and scarcer for

the last three years than for any similar period in the last quarter of a century. Those who breed in towns and the suburbs find no innumerable difficulties in rearing early chickens, yet they have often to encounter every disadvantage.

In speaking of these matters we refer only to that which we know to be true, and we should fail in our mission if we did not mention them. Hundreds of thousands of fowls within the last three months have realised from £3 to £4 per dozen. They are still doing so. We have often been told in answer to this, that people have sent up chickens to London on the strength of such statements, and have received but sorry returns. This is true, but it is because the chickens did not possess the necessary qualities to insure the best price. Early poultry like early fruit and vegetables, will command a great price; but it is on the condition it shall be as nearly perfect as may be. Peaches and Grapes in May would be unsaleable if unripe, although quotations and accounts might show that good specimens were realising large prices. They would not the less be what they were represented to be, but they would lack the elements of success. Just so, to insure the prices we have named, chickens must not only be young, but they must be perfect as to fatness and delicacy. It is almost impossible to rear very large numbers of chickens when space is limited, and for that reason every advantage would seem to be on the side of those who occupy large tracts of land, and can conveniently spread their stock.

These considerations always cause us to hail the addition of a poultry show to an agricultural meeting with great satisfaction. It seems a move in the right direction, and we congratulate this Committee on having made a beginning. Everything favoured it except the weather. Of that we can only say it alternated between hurricane, storm, and pelting rain all day; yet with this drawback the tent in which the poultry was exhibited was full the moment the Show opened to the public. We will now speak of the classes.

There were fifteen pens of good *Dorkings*. First and second went to Mr. Griggs, of Romford, but they were hard run by Mrs. Pettat and Mr. H. H. Allen. It was a most excellent class, and the birds were shown in very good condition.

*Cochins* were very good. This will be evident when we say the first prize went to Mrs. Henry Fookes, and the second to Major Hassard. Mrs. St. John and Mr. Peters well deserved their high commendations.

There were fourteen pens of *Game*, and, with one exception, all were shown strictly according to rule. Mr. Dupe's first-prize Duckwing Cock is a large and good bird. Miss Wyndham took second prize. There was here no fault in matching legs or hens, but some of the cocks could have spared a little more comb. Either they were dubbed too early, or were not cut closely enough.

It was a good show of *Polands*, but they are strong in Hampshire. Mrs. Pettat took the first, Mr. T. P. Edwards the second prize.

Fourteen pens of *Hamburghs* made a goodly show, and six of them figured in the prize list. Mr. Brown, of Chard, was first; and Mrs. Pettat second.

*Turkeys* were very good, Mr. H. Matthews and Mr. W. Manfield were first and second with first-rate birds. The Rev. T. Stevens, of St. Andrew's College, Bradford, showed a single cock of rare merit.

Two well-known names tried for the first prize for *Geese*, Mr. W. Manfield secured it with a pen of White. Mrs. H. Fookes well deserved the second awarded to her pen of Grey ones.

There was no class for *Spanish*; if there had been, the pen shown as extra stock by Mr. Thomas Lyne, of Reading, would have been very hard to beat.

The Show was held in a convenient, and, fortunately, a water-proof tent. The excellent pens of Mr. Cooke, of Colchester, were used.

If the present attempt was intended as a seeler, it was eminently successful in everything but the weather.

If the counties of Hampshire, Berkshire, and Wiltshire were combined to compete for an extended prize list, we think that they would not only succeed in making a large Show, but they would do good in bringing together those concerned in the pursuit. Wokingham is a considerable poultry market, and inquiry there would convince any one that the prices we have named are things of weekly occurrence at this season of the year. Salisbury sends many thousands of chickens to London, but they are capable of great improvement; and it is more than probable that without any increase of outlay, at least 20 per

cent. might be added to the value of its consignments. Much of the light soil of Hampshire is admirably adapted for poultry; its contiguity to London, and its railway accommodation should make it a competitor for some of the many thousands spent by the metropolis on the delicacy of which we have treated.

Mr. Downes was a most able, painstaking, and courteous Secretary.

**DORKING.**—First and Second, G. Griggs, Romford. Highly Commended, H. H. Allen, Evelyn House, Liphook; Mrs. St. John, Oakley Cottage, Basingstoke. Commended, Mrs. Pettat, Ashe Rectory.

**COCHIN-CHINA.**—First, Mrs. H. Cooke, Whitechurch, Blandford. Second, Major F. C. Hassard, Hulsea, Cosham, Portsmouth. Highly Commended, A. Peters, Priory, Fratton, Portsmouth; Mrs. St. John, Oakley Cottage.

**GAME.**—First, S. Dupe, Evercreech, Bath. Second, Miss C. L. Wyndham, Sutton Mandeville, Salisbury. Highly Commended, D. Tubb, Basingstoke; S. Dupe, Evercreech, Bath.

**POLAND.**—First, Mrs. Pettat, Ashe Rectory. Second, T. P. Edwards, Lyndhurst. Highly Commended, G. Ray, Ivy Cottage, Lyndhurst.

**HAMBURG.**—First, T. L. Brown, Chardley Green, Chard. Second, Mrs. Pettat, Ashe Rectory. Commended, Mrs. Pettat; W. Manfield, Jun., Dorchester; J. Cooke, Maitland Cottage, Colchester.

**TUNKEYS.**—First, H. Matthews, Sherborne St. John. Second, W. Manfield, Jun., Dorchester. Highly Commended, Rev. T. Stevens, St. Andrew's College, Bradford. Commended, Mrs. P. Warren, Worthing House.

**GESE.**—First, W. Manfield, Jun., Dorchester. Second, Mrs. H. Fookes, Whitehuch, Blandford.

Mr. Baily, of London, was the Judge.

## DO BEES VARY IN DIFFERENT PARTS OF GREAT BRITAIN?

ARE LIGURIANS LARGER THAN COMMON BEES?

MR. DARWIN'S query as to whether there is any sensible variation in the size of bees kept in different localities, would probably be answered in the affirmative by nine out of every ten of our rustic bee-keepers. During the many years that I have kept bees I have purchased a great number of swarms from cottagers, and have, in almost every instance, been assured that they were "a very fine sort," remarkable for being in some cases "larger," and in others "smaller" than usual, but invariably recommended as possessing every possible good quality. A somewhat similar opinion was expressed in my hearing last autumn by a clergyman who resides about a mile from me. He prided himself not a little upon possessing a stock of bees which he had brought from Cornwall, and which he considered infinitely superior to any in Devonshire. Upon my pointing out that the queens of his old stock and second swarm had been hybridised by my Ligurian drones, he really appeared somewhat chagrined at this stain in the purity of his Cornish breed.

The same idea is countenanced in the following quotation from Rees' "Encyclopædia," article "Bee," which I find in the appendix to the English translation of Huber's invaluable work:—"The cultivation of the common honey bee, in the warmer countries of Europe, being an object of the utmost consequence to the farmer, every means that ingenuity could devise to improve the breed and management of these profitable creatures has been adopted, and with success. They distinguish three kinds or varieties of the common bee (*Apis mellifica*). The first is large and of a deep brown colour; the second is smaller and blackish; those of the third sort, called the 'little Flemings,' or 'little Hollanders,' are much smaller than either, and of a fine glossy yellow colour. It is the latter that is very generally cultivated on the continent at this time." If it were not that "the little Flemings" are stated to be "much smaller" than the others, I should have deemed them identical with the newly-introduced Ligurian bee. This latter is, however, certainly not smaller than the black species; but, on the contrary, I believe them (in common with nearly every one who has observed them), to be slightly longer than the ordinary British bee.

Although the notion of there being different sorts of the common honey bee is so widely and generally diffused, it may, I think, be fairly classed among what are generally termed "vulgar errors." After many years' observation of bees in numberless apiaries in this and the adjoining counties, as well as in a midland district (Warwickshire), I have come to the conclusion that there is really no substantial difference in bees of the common species (*Apis mellifica*). There are, undoubtedly, accidental variations in size and colour, but these are often to be found in as marked a degree in different bees of the same hive, as in those of apiaries hundreds of miles distant from each other. The question of size might, it appears to me, be most readily determined by careful measurement of the cells of combs fabricated in distant localities, for if these are all the same size we may safely conclude that the bees themselves do not differ in

this respect. I have already satisfied myself that the cells made by *Apis Ligustica*, are identical in every way with those fabricated by *Apis mellifica*, and this seems to decide the point that the bees of both species must be of the same diameter. I have, however, long entertained the idea that the breeding-cells of the former may be slightly longer than those of the latter, and that therefore the sealed brood-combs may be thicker in order to afford room for the full development of the insect. If this should, indeed, be the case, it will confirm most indisputably the impression that the Italians are really longer than the ordinary species.—A DEVONSHIRE BEE-KEEPER.

P.S.—Since writing the above I have measured the thickness of sealed brood-combs (the combs in both cases being nearly new), of *Apis mellifica* and *Apis Ligustica*. The result is, as I anticipated, that the latter is very slightly thicker than the former, thus confirming my impression that the Ligurian bee is rather longer than the ordinary species.

Bees certainly vary in size, probably from two causes. First, There seems certainly to be found in various counties a species of hive bee less in size, and different in shape, and darker in colour, than the most common are. Secondly, Bees which have been bred in old stocks of seven or ten years standing, become smaller and more puny as the cells are lessened, in some degree, by a thickening in the interior, from being continued brood cells for too long a period.

As to the difference of the tempers of bees, I have found that proceed from being too roughly handled, and also from their being placed too far from the usual haunts of their owners, many of whom visit them less frequently than they ought, and thus the bees become wilder.

A gentleman who saw my bees last week informed me that his father had kept bees for a great many years in Suffolk, and that his bees were of a much smaller sort than those of some of his neighbours, and also that it was a well-known fact these alluded to were considered quite a novelty.

Respecting wild bees in certain forests in Nottinghamshire, mentioned by Mr. Darwin, being smaller than the hive bees, there are several species of small bees, nearly all solitary, which frequent Sherwood Forest, and most of these are smaller than hive bees. For an account of these I refer him to Mr. Frederick Smith's excellent work on "Hymenoptera," lately published, or to that learned book published nearly sixty years ago, by that venerable entomologist, the Rev. J. Kirby, entitled "Monographia Apium Angliæ," in which two publications Mr. Darwin will find nearly a hundred species of wild bees.

The common Boinatrices of a larger sort, are scarce in all the forests, because they are eaten when in a dormant state by the field, or rather forest, mice, which abound in all large woods. Many of the smaller species of wild bees are propagated by eggs (or larvæ), so that they are not noticed by the mice.

I should rather guess that the grey or light-coloured bees mentioned by Mr. Lowe in this Journal, may have a very newly-hatched swarm, which differ considerably, and are often of a leaden colour, but change afterwards.

There is one fact quite apparent, that hive bees differ in colour a good deal, and the smaller they are in general their colour is darker.—H. W. NEWMAN, *Hillside, Cheltenham*.

P.S.—When at Dieppe some years ago, I observed no difference in the size of the hive bees to those in England, and as to the Boinatrices, I found the same species, about seven or eight varieties, precisely the same as in England. Bees of all sorts are abundant all through Normandy. I never was far south in France.

## COMPARATIVE MERITS OF LIGURIAN BEES—SWARMING IN A STORM.

SOME time ago some remarks of mine were inserted in THE JOURNAL OF HORTICULTURE as to the inoffensiveness of the Ligurian breed, and while my experience for some time after the receipt of them, and especially after their journey from Devonshire (thanks to Mr. Woodbury's most expert packing), was the same as that of your correspondent Mr. Shearer, yet I am bound to say, on a more lengthened acquaintance, I must endorse the testimony of the American apiarians, and of your correspondent at Wolverhampton, "J. E. B.," that they are generally, and especially during the swarming season, much more prone to attack than the common black bee. When forming an artificial swarm,

about three weeks since, I found, as did "J. E. B.," that they made a "dead set" at my hands and fingers, and though my hands were defended by three thicknesses of leather gloves, I discovered how much I had calculated without my host as to what protection would be sufficient; for the gloves were found full of stings, and my flesh by no means scathless. I also find they will attack persons in the neighbourhood of the hives without any provocation whatever. I have since had two natural swarms from them, and being from home, they were obliged to be hived by whoever could be procured—different individuals, old cottage bee-keepers in both cases who have taken hundreds of swarms; both were well stung in doing it. One of them said, "If that's a sample of the foreigners we shan't stand no chance in case of an invasion." The other pronounced them "the most vicious animals he'd ever meddled with in the shape o' bees." Still, prolonged acquaintance only confirms my opinion as to their general superiority over the black race, especially their fecundity, which the fact of my having obtained one artificial and two natural swarms from one stock this season, all four doing well (and there is every prospect of as many more, from the state of the parent hive), abundantly proves. A little extra care will be more than a match for a trifling display of ferocity.

A rare thing occurred on Monday—a very wet, boisterous day here. A hive of common bees threw off a fine swarm in the very midst of a hailstorm, accompanied by a torrent of rain which had lasted half an hour when they began to swarm, and continued at least that time after. The hive had been quietly working a super without any symptom of swarming previously. G. F. B., *Colney Hatch*.

### BEES DESERTING THEIR HIVES.

THE case of your correspondent, Mr. Farebrother, is very singular, but nevertheless most disheartening, although from his statement it does appear an isolated instance. I have myself noticed the same decadency in this part, but no wholesale instance has been brought under my observation for some years past.

About ten years since I purchased a couple of strong stocks in the spring of the year, being desirous of tenanting a new bench made on an improved principle, and was in great expectation of eclipsing everybody in this part. Having another bench which I had contrived at the end of a coach-house to work through the wood, and which pointed full south, giving me an excellent opportunity of operating behind them; but I suppose I despised it because not grand enough. However, I was taught not to be deceived by appearances; for things went on charmingly for a few months in my new bench, but in the autumn I noticed both swarms and old stocks thereon gradually diminishing, whilst my other bees were proceeding vigorously. At first I condemned the construction of my idol, then I fastened on the ventilator, and threw open the doors behind and before. Presently I conjectured it was something about the wood with which the bench had been constructed; and after fruitlessly searching about for a cause, in complete vexation and utter despair of ever doing any good with this new domicile or its tenants, I ultimately found the bench literally swarmed with the wax moth.

Thought leads to investigation, and away I went to the old bench from whence I had translated the two stocks in the spring, and ascertained that the stocks there were infested with these plagues. At once I set to work with my own establishment; but ere the following spring arrived I found my enemy had made such ravages and gained such a footing that hardly a bee was there; not as in the case of damp, where lots of putrid bees are found on the floor-boards, but downright desertion. There was in each hive honey tolerably plentiful, and in one instance a queen remaining with a few forlorn bees. I, therefore, removed the hives altogether; and those which were worth it, cleaned out the combs, washed the interior and painted the exterior, and sent to the rightabout what I conceived to be the originator of all the mischief. But it occurred to me I had not vanquished my enemy—that he might be lurking in the bench waiting for an opportunity to commence again his work of devastation; and since I found my simple-constructed bench had far exceeded my expectation, and having an instinctive horror that a similar calamity might again befall me, I abandoned the idea of ever adapting it again for a bee-house, and I suspect that the moth has something to do with Mr. Farebrother's complaint.

Mr. Payne, in his "Bee-keeping for the Many," says that moths are by far the worst enemies bees have to contend with;

and with this opinion I quite coincide, because they proceed so stealthily to their work that, before the bee-master becomes aware of the danger, these little vagabonds have insinuated themselves into every part of the hive. Payne also says "Watch carefully for the moths." Huber, I think, speaks of the *Spbynx atropos* (death's-head moth), and says they will harass the bees without mercy till they leave their habitation. One writer, I believe Huish, says, in a hive infested with moths the floor-board is marked with small red particles of wax.

Mr. Farebrother's case exactly corresponds with my own; and as it is one of great importance to the bee-keeping community at large, perhaps we shall be favoured with the experience of those interested in the subject. Our friend from Mount Radford is the very person to unravel this mystery, I should like to have his notions on the subject.—BAR-HIVE.

### TOLLING OR TITHING BEES.

I SHOULD be glad if any of your correspondents would inform us whether this custom prevails anywhere in the present day. Nearly three centuries since it seems the profit of bees was watched pretty closely by the lords of manors, and I dare say more so by the clergy of the day, as the following extracts will show.

"*Warmingham, Manor Elton,\* Temp. 12th Elizabeth.*—William Stanway hath taken up to his own use 2 Swarms of Bees, and had the benefit of one Swarm for five or Six Years, not making them known to the Bailiff. Witness, William Bateman."

In and from the time of Queen Bess, and for many years subsequently, it appears to have been customary for lords of manors to receive advantages from the bees within their manors; but I cannot discover to what extent they were tolled, whether after the same ratio as the clergy levied their vicarage tiends.

Honey and wax were, it seems, titheable at common right (Toller, 124), the honey by measure or weight, and the wax by weight; but no tithes were payable for the tenth swarm of bees, because they were considered *fera natura* (Langford Case, 1 Rolles Abrid. 651, Pl. 15; Barfoot v. Norton; Croke in the time of Charles, 559; 1 Eagle and Younge's Tithes Cases, 399). A modus of a hen called a "loak hen," in lieu of tithes of honey, &c., was established (Burslem v. Spencer, 2 Eagle and Younge, 65). A modus of one penny for a swarm of bees (Smithson v. Dodson), of two pence for every hive of bees in lieu of tithes of honey and wax (Gould v. Pearce, 1 Eagle & Younge, 806), and of two pence in lieu of all tithes of bees, honey, and wax were established (Reynall v. Wells, 1 Eagle & Younge, 808).

I have seen in some of our parish churches terriers, which are large black boards with legibly written letters, placed generally in the church, giving a scale of titheable articles, and amongst other things "a tithe on bees." I am, therefore, desirous of ascertaining whether such a custom is now known to exist; and, if on record, whether the tithes were originally conceded by the monks to the lords or barons, or whether the lords or lords feudal surrendered their tiends to the monks. It was not very likely, from the rapacious character of the latter, they would without compulsion part with either their prerogative or their chattels, without being compelled (as I suspect they were), at the dissolution of the monasteries; and, perhaps, at this period their property in tithes was indiscriminately distributed to laymen as well as to ministers of the reformed religion.—E. W. JONES, *Nantwich, Cheshire*.

\* Six miles N.E. of Crewe. The principal proprietor the Right Hon. Lord Crewe.

### OUR LETTER BOX.

GAME COCKS FOR EXHIBITION (*A Notice*).—It is absolutely necessary for adult Game cocks to be dubbed before they are exhibited. Failing it, they are disqualified. Chickens may be shown undubbed, but it is a disadvantage.

CHARACTERISTICS OF PURE AYLESBURY DUCKS (*Old Deer*).—Large size, especially breadth. Large head and bill. The latter should be long and broad. The colour of it a very delicate French white. The plumage should be entirely white. Yellow bill or any mixture of plumage are positive disqualifications. Short narrow bills and small size arise either from a cross or from degeneracy.

SUPPORTING A SPANISH COCK'S COMB (*Ignoramus*).—In our opinion if the comb has not been disfigured by the means used to make it erect, it should not be considered a disadvantage. We do not, indeed, know how it is to be discovered. There was no process by which the old lop-comb of the Spanish cock could be made upright. The means that have been most successfully used are silver wires supporting it on each side, running through the top, and fastened to the thick base. These leave no marks.

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	JUNE 24—30, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.		Sun Sets.		Moon Rises and Sets		Moon's Age.		Clock before Sun.		Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.		m.	h.	m.	h.	m.	h.	m.	h.	m.	s.	
24	Tu	Portulaca Gilliesii.	29.827—29.777	deg. deg. 77—62	S.W.	.10	45	af 3	19	af 8	30	1	27	2	1	175		
25	W	Melaleucas.	29.795—29.618	63—41	S.W.	.15	45	3	19	8	10	2	23	2	14	176		
26	Th	Metrosideros robusta.	29.625—29.595	75—44	S.W.	.05	46	3	19	8	57	2	29	2	27	177		
27	F	Swainsonia galegifolia. [1838.	29.741—29.666	80—44	N.	.03	46	3	19	8	Sets	●	2	40	178			
28	S	QUEEN VICTORIA CORONATION,	29.813—29.687	79—55	W.	.16	47	3	19	8	54	a 8	1	2	52	179		
29	SUN	2 SUNDAY AFTER TRINITY.	29.812—29.688	72—45	N.W.	—	47	3	19	8	20	9	2	3	4	180		
30	M	Godia pubescens, &c.	30.050—29.957	69—43	N.W.	—	48	3	18	8	40	9	3	3	17	181		

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 73.2° and 49.8° respectively. The greatest heat, 93°, occurred on the 27th, in 1826; and the lowest cold, 34°, on the 24th in 1859. During the period 147 days were fine, and on 98 rain fell.

“EYES AND NO EYES.”



WHEN a child I was much pleased with a tale I read in a book called “Evenings at Home,” the title of which was “Eyes and no Eyes.” As some of your readers may not have met with it, I may say it represented two lads having taken the same walk: one on returning declaring he had found it a dull part of the country, and had seen nothing to interest him, the other having been delighted with his

walk, and having collected a budget of facts and specimens.

Ever since that time I have tried to educate my naturally-inferior powers of observation, and have been inclined to envy those who appear to see everything without effort. Lately I have been impressed with the idea that many of these quick observers are not equally apt to draw correct deductions from what they see, and that a remark indicating a quick perception is often followed by one showing that no just inference has been drawn from the fact observed.

I think if we were anxious for mutual improvement—that is, as anxious to impart knowledge as to gain it, these two classes, the observers and the reasoners, might render more assistance to each other. Suppose each of your readers were to carry a small memorandum-book, and when they met with any fact new to them, or for which they did not know how to account, they were to make a note of it, and, when opportunity served, send such notes to you, how useful such a proceeding would prove.

A note in my own pocket-book, “Value of Geese,” has caused you to be troubled with this communication. Have not many of your readers heard the remark from many intelligent farmers, “Oh, I hate geese. Nasty things, they dirty the grass, and eat all the best of the herbage.” A very different estimate of their value has been forced upon me. Some years since a home field of rich pasture had turned into it for the first time a flock of geese. I soon after remarked that a space increasing in size around the stable-yard was divested of Buttercups; and from its rich green appearance presented a striking contrast to the rest of the field, it struck me immediately that a goose-common was always green. Watching the geese, I saw them pull up the Buttercups and eat the roots, leaving the stalks on the grass. Having mentioned this to many farmers, I have never met with one who knew it before, though some have said they always thought geese healthy things amongst stock. The destruction of so acrid a plant as Ranunculus acris must be desirable in a cow pasture, as it takes the room of good grasses, in addition to being itself injurious.

No. 65.—VOL. III., NEW SERIES.

So much for note No. 1. Here is a second. “Why do I so often find wood pigeons in an orchard quite close to a village?” They appear to be attracted by the Pilewort, *Ficaria ranunculoides*, growing under a hedge, as they have evidently been feeding on its roots. Perhaps this is known to every one, but as it is new to me I mention it, not caring that it exposes my previous ignorance.

Here is another note—a single word, “Toad.” This reminds me of an observation I made the other day. In a large house devoted to Cucumbers a number of toads had been placed to eat the woodlice. I saw one running past a toad which struck at it with its singular tongue. Though I have seen numbers taken, this was the first time I observed a toad fail to swallow one when it attempted to do so; my surprise was much increased on finding the insect dead. How was this? Was the stroke sufficient, or is there some power possessed by toads of killing instantaneously the insects on which they prey? Does this account for their feeding on wasps and bees without inconvenience to themselves?

Will some of your clever correspondents, able to impart information on this subject, help me with answers to these questions?—J. R. PEARSON, *Chilwell*.

EXAMPLES OF FLOWER-BEDS.—No. 1.

(WITH COLOURED PLAN.)

[MR. FISH in his description of Linton Park, published in Vol. XXIII. of our first series, gave particulars of the large central bed in its terrace garden. Of that with some slight alteration we now furnish a coloured plan, and at our request Mr. Robson has furnished the following notes:—]

“The design here given, the one that was adopted in 1859, is not put forth as the best that could be made. On the contrary, I think that both before that time, and also since, we have had prettier patterns; but it must not be understood by any means that much intricacy can be introduced into figures intersecting each other, and planted with bedding things that it is advisable not to meddle much with after planting time; but the space being large, more figuring may be given when judiciously planted than is shown in the present drawing, and still a clear outline be kept of every part, groundwork as well. This can only be accomplished by limiting the planting to such things as require little or no after-attention, and which, by keeping a uniform height, the same design started with is the same at the end of the season—even when looked at obliquely or almost horizontally. This, it is needless to say, is not the case when one class of plants overtops another, and consequently hides from view those behind it. These conditions disqualify many of the most popular ornaments of the parterre, and the plants that I have hitherto used in this way, both before and since the accompanying design was in existence, are only increased by the additions of Variegated Geraniums (white and yellow edged), *Perilla nankinensis*, and once or twice *Verbena pulchella* as a ground; but it is much less applicable that way than *Lobelia*, being so disposed to invade its neighbour's territory. I may, however, say that plants suited to a striped border are available here,

No. 717.—VOL. XXVIII., OLD SERIES.

provided always that they be all of equal height at all periods of the season; and I may here state that I have not found anything more really useful for single lines, edgings, or stringwork than *Alyssum variegatum*. A scroll of this plant formed a pretty feature on a part of the groundwork of last year's design. *Perilla* is also very well adapted for that purpose, and this season we have it worked into extensive use in this bed as well as in others.

"In reference to the planting of the bed in question, in 1859, it is only fair to the readers of the Journal to point out where improvements could be made, by mentioning the results as well as the reason which led to the adoption of the plants indicated.

"*Trentham Rose Geranium* in the ventre oval. This being a stronger grower than the surrounding plants became a little taller towards the end of the season. It was, however, adopted in consequence of not having a sufficient quantity of the kind intended.

"*Verbena Ariosto* in the two large scrolls, deep plum colour, throws the flower well up to the top, and is less rambling than most Verbenas, though more so than *V. Purple King*.

"*Lobelia speciosa*, blue; very good.

"*Trentham Rose Geranium* in the two three-striped beds was Tom Thumb Geranium in 1859.

"*Calceolaria*, yellow kinds, matching the Geranium in height.

"*Lobelia speciosa*, blue, in the two three-striped beds was *Verbena Purple King* in 1859.

"The groundwork was intended to have been entirely *Alyssum variegatum*; but lack of plants led to a white *Verbena* being partly substituted, the *Alyssum* being planted by the edges of everything, and the central space filled in with a white *Verbena*. But there is no comparison between the one and the other: the *Alyssum* being so much the whiter, besides commencing its duties as a white plant at once, and continuing so up to the time of the frost killing it; whereas the *Verbena* is only really showy when in flower, and even then it is less effective than the *Alyssum*.

"To the lovers of flower gardening who delight in a yearly change—and who is there that does not?—the style of which the accompanying sketch is an example affords an endless opportunity for change, as figures differing from each other may be introduced each year, and it is possible the number of plants suitable may also be increased; but with those we have an excellent result may be obtained. The only thing I have to caution the inexperienced in such matters against is not to attempt too much, and avoid all complicated figures. The double scroll of the present example is quite as intricate as can be made to distinctly show itself; only its great size enables that to be done. Generally speaking, simple circles look as well as any form; and it may, perhaps, afford the student in such matters some guide to say that the design we have adopted this season (1862), is entirely composed of circles and parts of circles. A large six-lobed figure of rather more than semicircles meeting, with a circle in the middle of all, forms the central compartment, which, taken as a whole, is larger than No. 1 of the accompanying plan. Surrounding this are twelve circles of three different sizes, the outer edge being composed of twenty half-circles or scollops with their convex sides inward. The easy simplicity of the design will, I believe, tell as advantageously as anything we have yet had. All the circles, scollops, and the bed itself are edged with *Perilla*, which in this season made to form the stringwork to the whole. *Calceolaria Aurea Floribunda*, *Verbenas Purple King* and *Pulehella*, and *Geraniums Tom Thumb*, *Christina*, *Golden Circle*, and a white-edged one called *Shottishan Pet*, are the plants used; *Lobelia* and *Alyssum* being in this bed dispensed with this time, simply because they have on former years been so extensively used that a change was necessary.

"Of the winter management of large beds like the one in question descriptions have at times been given in these pages, and at a future period a more explicit article on the subject and illustration may appear; but anything short of a coloured plan fails to convey a true idea of what may be done in this way. Those, however, of our readers who have seen the embroidery at the Horticultural Gardens, Kensington, with its coloured gravels, &c., may have a just conception of the effect; only in our case, the work being simply done to give effect in the dull winter months, it is not always so accurately executed. Lines of pebbles or broken stones of uniform size are adopted for the outline of the different figures, which in this case may be as elaborate as the taste of the designer may suggest; for in the

commanding position it is placed all its parts can be distinctly seen. Colouring matter an inch thick is then put on; and I believe we have on one occasion begun and finished the bed in one day, and this in November, so that the labour is not a serious affair. But as this may possibly be treated of in detail hereafter, it is needless saying more now."

## SUMMER PROPAGATION FOR THE FLOWER GARDEN.

No sooner one meal is over in the kitchen and out of it than they begin to prepare for the next. And it is the same in every human employment. In shows and seasons, seeding or sowing, such above all others is the case; and then it follows as the best thing one could do, or all of us could attempt, would be to begin to propagate or prepare for the next season, and prepare for it too in a different way, and with different materials if they can be had. But a man who does not do the best with what he has is not entitled to his share in the different ways or to different materials from what he already possesses; or, at all events, the man is not the man "for a' that" who does not try and make both ends meet if it took the twelve months to do it.

Before I finished my planting-out last week, I began putting in Rose-cuttings of *Géant des Batailles* and two or three more like it for bedding purposes, as they say. There seems to be almost a universal desire that Hybrid Perpetual Roses could be so bedded as to harmonise more than most Roses can be made to do with the bulk of the bedding stuff.

I recollect very well when Mr. Rivers "let out" the first *Géant*, he had an ordinary Frenchman to send out with it—Lafitte, or some such named Rose, after a banker of Paris—and both were to be bedders, but Lafitte I could not manage at all as such, while the *Géant* did better than any Rose I ever tried out of the *Chinas* and *Teas*; worked upon what stock so ever, it would not bed one-half so evenly and of such uniform bloom, and two-year-old plants of it were the best. But then the soil was very bad for Roses, being on the chalk and so impregnated with that as to ruin every Rose on the Dog Rose stock in three years.

Last year the most telling bedding new Rose was *Reynolds Hole*; it is quite a lady's colour for a bright bed of rose-coloured Roses; and this season Mr. William Paul's *Multiflora* bedder is just the gentleman's style of bedder—a bold, bouncing, high crimson in a rosy shade all over.

Now, although I am content to plod on with *Géant des Batailles*, I mean to be in real earnest in advising all men and most women not to buy one morsel of these splendid bedding Roses for bedding purposes except they be on their own roots. For any other purpose than the bedding, people may have them on *Manetti* and welcome for aught that I care, after having so carefully warned the unwary from paying through the nose for such Roses.

But about the way to strike them. Why, there is no end to the ways of striking Roses; but most things will easily root from now to the middle of August. Roses have two natures, as it were: they can be made to strike from cuttings as fast and as readily as Tom Thumbs in bottom heat partially confined in the height of summer, and they will remain in the open ground from October cuttings to the end of the following April, and then be not more rooted than you can now have them in one month from bottom heat. I have no bottom heat, however, for my Rose cuttings for bedding, nor do I think I would adopt it now if I could, for this reason—it would take up more of my time than would pay the cost of buying Roses on their own roots from a nursery; but gardeners, now that their beds are filled, have more time than a pilgrim like me—at least, I used to have plenty of time and to spare for cuttings when I was in harness.

The quickest way to strike a bargain, or a parcel of cuttings, is always the best way: and a mild moist bottom heat in a close cold pit that was lately, is the very best way to strike Rose cuttings in June, July, and August; but whether it is the best way earlier or later in the season depends on circumstances. What is the best way for one man to strike his cuttings from the end of August to the last of May might be the worst plan for another to attempt. But we are all on the same level in that respect from the 10th of June to the 20th of August most certainly: therefore, those of us who can spare the time to have a daily look after Rose cuttings in heat ought to have them in heat if they can afford to make a very slight hotbed inside some-

thing or somewhere which could be covered with sashes, or even with hand-glasses.

I have seen Roses struck under hand-lights, on and between the "hills" of ridged-out Cucumbers forty years ago, when there were no Perpetual or Hybrid Perpetual Roses to be had. The way that is best for me at present is a cold pit in which bedding plants were all the winter. I had the pots plunged all the winter in one-third very fine screened coal ashes, and two-thirds of the cocoa-nut refuse to lessen the need of much watering; and in this very stuff I find that all manner of cuttings will root easier than by any other means within my reach, and here I have put in the Rose cuttings. I daubed the inside of the lights with a wash of common whitewash with a whitewash-brush to lessen the need for shading; but in very sunny days I put on a mat in the middle of the day. There is no more over the cuttings than the common lights of the pit—three in that division; and a hundred kinds of softwooded shrubs, such as Honeysuckles, Weigelas, Deutzias, Philadelphias, Forsythias, Lantanas, Bouvardias, Veronicas, and all such plants, will now strike in this pit with one-tenth of the attendance and care of a dung hotbed in the spring, and all may be done just like the Roses. A slight watering at the first, and a little damping with a very fine rose of an evening are all they need.

Then in the open air I have begun with that lovely rose-coloured new Dianthus called *Hybridus multiflorus*: this is a lovely Hybrid Perpetual bloomer, and there is no end of it for cut flowers; but, like Roses, it is not a very fit plant for bedding, only for the mixed border. After it Captain Trevor Clarke's Indian Pinks, the single and the double, both of the very highest style of "Indian Pinks" as they are called. Last year I had these to cut more like barley harvest than flowers, to give away for rooms and nosegays. They all came with me from cuttings, free as willows, under a common garden-pot; the first ten days any pot will do, after that I have a set of pots with the bottoms of them broken out all but a slight rim, and over the bottom I put a loose square of glass, and that is all. No hand-glasses were ever more lucky in hitting-off cuttings.

But there are two plants in particular of which one can hardly get too many, and now is the best time of all the year round to put in and get up a stock of them. I allude to *Aubrietia purpurea*, and to the variegated *Arabis alpina*. The *Aubrietia* grows here about Kingston and Surbiton just like a weed, and is one mass of bloom with every one who has it from the middle of April to near the end of May, and the variegated *Arabis* is the very best edging plant after *Cerastium*, if it is not better than it. But there were many odds against it for the last two seasons about London. It was unfortunately propagated in the spring of the year, when it was natural for it to have been in flower; and the consequence was a hungry set of skeleton plants, which would neither grow kindly nor could be pushed. June and July, and hand-lights or pots upside down, are the right way for it, and for *Aubrietia* to make florid and flourishing growth; but the variegated *Arabis* does very well from November cuttings entirely in the open air. I did not lose one from a batch I put in about that time; but June and July cuttings of it, to be finally planted about the end of October, have made by far the finest plants with me.

Then there are the Pentstemons and the Phloxes, which do exactly alike in June, July, and August, from cuttings got from any parts of the plants, provided they are not of the flowering portions; and if you turn a pot over a batch of either on a light border as I do, you will have plants which never had any forcing or fuss, and which will bloom the next season finer than some plants can do, till you do them yourself afresh after losing two years expecting they would come round to the proper pitch. But just like the spring-struck *Arabis*, and like the foolish notion of taking any cuttings from the flowering branches of such kinds, you never can get a kindly plant of Phlox or Pentstemon if they come out of pent-up and stewing propagation; you only get the strain or the breed, and so much vexation for a huck-penny, if the propagation has not been as simple as I say, or, indeed, more simple still—say from bottom shoots next the soil where they are just beginning to root, and that is, perhaps, the best of all ways for a poor man, or a man that is not so.

Where is there a more drawing-room plant than *Centaurea candidissima*? with candle-light it is a silver ornament without being frosted in any room in the house, and there is not one plant in the catalogue that will do better for turning out in summer. If I were a duke I would have the third or the fourth

row of my best ribbon-border planted with it from one end to the other, even if the border followed the carriage drive from the London Lodge to the front door, if only to show them what a duke could do. In the third row would be my two-year-old plants; and if they were three years full I would have them in the fourth row, and after that cut them up in pieces for propagation, except a dozen or so, which I would keep for vases on the terraces wherever I could find a back of green to the view. These would soon be of the size of big Pine Apple plants, and I would have the centre twisted out as for Pine Apples, of all the first main heads, or divisions of each plant, till it assumed the appearance of a plant of "hen-and-chickens" fashion. Then four of such splendid form, and such silver-like things, I would winter in the front gallery, or even in the front hall, if I had no gallery for stately and stately plants like this. The rest of my *Candidissimas* I would winter with my Punches and Tom Thumbs, just as I did last winter without any notions of the duke about them at all. In the spring I sliced off some of the side shoots, or half-suckers, as a gardener might sever a smooth-leaved Cayenne Pine plant, stuck them in the everlasting cocoa stuff, and they rooted as fast as Yuccas or Pine Apples; but now in June is the time to hit them on the head and get them by the hundreds, twist out the heart of the centre of so many plants, and the side shoots soon come thickly. Slip these off Pink-ping fashion, put them in like Heath cuttings and treat them as such for the first fourteen days, then into bottom heat with them; and before the middle of next August just begin to think how you are to winter so many of them; but they will do with Tom Thumbs of the same age in the same soil, and with the same treatment from first to last. Last year the poor man's turn came first, and, of course, he is at it, or about setting to it already; and were it not for fear of tempting him beyond his means, I would explain the twisting-out of the heart-bud of a Pine Apple.

Have you seen the new shrubby *Mimulus*, after the way of *Diplacus californicus*, and the new *Calceolaria* I mentioned from the Exotic at the May show, which was the old but long-lost *plantaginea*, the very best of all the wild ones to cross with viscosissima and those in that section for a race of genuine bedders, as I can tell, having worked that plant just thirty years since come next August, and yet being lost for twenty-six years it is now the newest of the lot? D. BEATON.

#### TREATMENT OF HARDWOODED GREENHOUSE PLANTS IN SUMMER AND AUTUMN.

I SHOULD be glad if you would give, in one of your next Numbers, a few simple hints about the best way of managing some hardwooded plants out of doors during the summer and autumn that have flowered the previous spring in a greenhouse. I mean such plants as *Camellias*, *Azaleas*, *Acacia armata*, *Coronilla*, *Genista fragrans*, &c.

I am proposing to place mine under a north wall about 7 feet high, the pots plunged to the brim in sifted coal ashes, without any protection overhead. In such a situation, to what extent would they be likely to require watering in continued dry weather? Would they be likely to need a supply in such case as often as every other day?—COUNTRY CURATE.

[Repeatedly instructions have been given on the above subject; but every one thinks that, however special or general these instructions are, they cannot be quite suitable to his or her case; and, no doubt, in writing general directions we often recommend processes which many readers may not have the means of carrying out. In the present case, we shall suppose that the inquirer has little or no glass for such plants except his greenhouse; and besides having such plants in bloom in winter, early spring, and early summer, he wishes to get them out of doors in summer and autumn, in order to have some more temporary flowering plants to make the house gay in the summer and autumn months. We have little faith in the indiscriminate turning-out of plants, when finished flowering, to be plunged in ashes against a north wall, and kept there until taken into the house at the approach of winter, so far as free and early flowering is concerned. We have more confidence in such plants as *Camellias* doing well in a north aspect, if kept there all the year round, and the plants protected from severe frost and the flower-buds from wet. No protection overhead in summer forms a part, however, of our correspondent's case, and thus we must keep in mind; though an awning of glass, or even of

calico, or lace netting, or frigi domo would be useful alike for moderating the force of the sun's rays, and the lashing of heavy showers, with plenty of air, however, all round.

The first thing, then, necessary to high success, is the setting aside one end of the house, or a part of it, as a growing department, the other end being kept to flowering plants—that is, so that the plants at that part of the end may be kept closer and in a moister atmosphere than the general collection, and that to this part plants shall be brought as soon as they are cleared of their fading flowers, which process, too, will have the tendency to bring on the different plants in succession. Keeping this in mind, we will take the plants in the order mentioned.

1st, *Camellias*.—When done flowering remove all faded flowers, take the plant or plants to the place or end spoken of. Keep it closer by giving less air. Use the syringe freely to cause the shoots to elongate, giving no more water at the root than to keep them moderately moist. If the branches are open and thin, or the head too tall, you may now prune back pretty freely; but if much cutting is required, that ought to be general, as the old stems will not break regularly if some young shoots are left to carry on the running. Otherwise the stems will break as freely as a large Portugal or common Laurel when it is rather severely pruned-in. When such cutting-in is resorted to the stems must be kept more than ordinarily moist by dousing them often and lightly. When the young shoots are 3 inches or 4 inches long, either after such cutting or otherwise is the best time to examine the roots, drainage, &c., and to give a larger pot when necessary, though *Camellias* will flourish long in the same pot if of a fair size, and helped by a fresh top-dressing and manure waterings every year. Fresh sandy loam one part, and a third part of peat, sweet leaf mould, and sand, grow them well; but extra care must be bestowed on the drainage. When in this position the plants will be better if shaded from the brightest sun. As soon as the young shoots are formed more air and light should be admitted, and in a fortnight or so afterwards the plants may be moved to the north side of the wall you speak of, choosing a dull day for the operation, that no severe check be experienced. We will suppose this takes place in June and onwards. According as the plants are thus gradually forwarded will they form flower-buds, and come into bloom in succession in winter and spring. In such a position, as but little sun will ever play on the pots, we would prefer setting each pot on a slate to plunging them in ashes. There is more likelihood of the roots being saturated when so plunged than suffering from dryness by the pots being exposed. If for saving a little watering you prefer the ashes, we would recommend setting the pot on two bricks, leaving an open space between them to let the water pass freely.

Here they might want water once a week in dull weather, and perhaps every day when the atmosphere was dry and the sun powerful. A syringing in the evening after hot days will refresh them. Such plants should have the pots scrubbed, a dusting of fresh compost placed on the surface of the ball, and the plants be placed in the conservatory or greenhouse by the first week of October.

2nd, *Azaleas*.—These want a similar but still a rather more particular treatment. The routine of management will be much the same, only old plants do not bear cutting-in so freely. If when after being kept rather close and moist the young shoots come away freely, care should be taken to see that they are nearly of equal strength, as the extra strong will rob the rest, and will most likely not be ripened enough to form flower-buds at their points. If the point is nipped out when these are 3 inches or so in length, two or three will be produced instead of the one strong shoot; and thus the young growth on the plants will be equalised in strength, and there will be every likelihood of securing a good regular bloom. The tenderer kinds of *Azaleas*, with a longer continuance of the growing period as recommended for the *Camellia*, will do with out-door treatment in summer; but they would be more sure if kept under glass for most of the season. When by such means the young wood is regular, and some 2 inches or 3 inches in length, the syringing must be gradually discontinued, and the plants moved to where there will be more light and air, so that the growing process may be so far arrested and the ripening process encouraged; as before flower-buds in their incipency begin to form, which is known by the hardening of the points, the mere elongating process must be arrested. When thus treated for three weeks or so the *Azaleas* will be safe enough at first in front of the *Rhododendrons*, as they will not need so much shade as they; but a sprinkling

several times a-day with the syringe, if at all dry and hot, will do them good. The plunging in the ashes we would in this position thoroughly avoid, unless the pot stood on two bricks, with a space between them below the main hole in the bottom of the pot, as anything like stagnant moisture is ruinous to *Azaleas*. Large plants in large pots will need no repotting for years if the drainage is all right, and top-dressings of very old sweet cowdung, mixed with peat and sand, and weak cool manure-waterings when making fresh wood and swelling their flower-buds, are given to them. When shifting into larger pots is necessary, sandy heath mould is the best compost, and a little very sweet and old leaf mould may be added. For small houses the shifts from one pot to another should not be large. For some of the stronger kinds a little sandy loam may be added. As a general rule it will be safest to use sandy heath soil, and assist by surfacings or manure-waterings. If when placed in the closer shady end of the house there are thrips or fly on them, they had better be smoked, or taken out of doors and well syringed at one time with weak tobacco water, and at another time with very weak glue or size water. In neither case should the syringings be allowed to get into the soil. A piece of cloth of some kind should cover the soil to prevent it.

As said above, when the shoots are browning and hardening, from elongation being arrested, will be the time to place them in front of the *Camellias*, in the manner already stated. By the middle of August it would be desirable to give them more sun, by moving them still farther from the *Camellias*, or placing them in another situation where they could get a good portion of the morning and evening sun. In this case, provided such a preventive to seaking as the bricks is resorted to, the plunging the pots in ashes will be an advantage, as the roots will be kept healthy and cool, whilst the tops are exposed to a thoroughly ripening heat. The plants should be cleaned, washed, &c., and housed by the middle of October.

3rd, *Acacia armata*.—This plant, when young, thrives best in sandy peat and loam; when old and established, it does best in stiffish loam with a little rotten dung. It flowers one season on the wood made and ripened in the last. If this wood is made at all regular, and fairly exposed to sun and air, there can be little doubt of success following. The plant has one great enemy—a little white scale, and when once it gets ahead, so as to encrust the small leaves, cure and deliverance are hopeless. The only cure is to stump the plant in, leaving nothing but the main stem and some of the larger branches, or at least bits of them, and then to scrub the stems with a lather of soft soap and tobacco water, the latter not too strong, and leaving it on for twenty-four hours. Wash all off with a sponge and warm water; take the plant out of the pot; remove a portion of the surface soil; replace in a similar-sized pot, using fresh compost only for 2 inches or 3 inches at the top, so as to get rid of the insects and their eggs, and treat as the *Camellias* until fresh shoots are coming all over, when you can decide at once on the shape of the future plant. This will suit another inquirer, whose plant can only be cultivated pleasingly by first undergoing such a process. If a few of these insects are appearing on the plant of a "COUNTRY CURATE," he had better dip the plant in a weak solution of gum water, allow it to stand dry and in the shade for a couple of days and nights, and then shake it well; pull dry hands through the branches, and then syringe it freely all through and round with water at 100°. The plant may be kept in the house a few days after this; but, in general, it will be safe out of doors from June to the middle of October. The shady place will suit it best, but it will enjoy exposure to the full sun in September; and, if at all warm, a copious watering every day. Ashes, or a sod laid against the pot, will keep the roots next the pot exposed to the sun from being scorched-up; in fact, the shady place became essential for many plants from the greenhouse in summer—not so much because the sun was hurtful to their leaves and branches, quite the reverse, for the want of flowering was often owing to want of sunlight; but just because we clever gardeners chose to forget that the tenderest roots in their natural soil are never, or rarely exposed to the parching, burning heat of a red pot exposed to direct sunlight. So far then, when such plants as *Azaleas*, *Heaths*, and *Epacris* are placed in the sun, some modification of our correspondent's covering for the pots is of far more importance than the mere saving of watering; waterlogging, however, must be avoided.

4th, *Coronilla* and *Genista*.—I need say little of these. If it is necessary to prune them in much, treat the old plants much the same as pruned-in *Camellias*, until the young shoots are

4 inches or 5 inches long. If not pruned-in much the plants will make and ripen their wood sufficiently out of doors after June. The great thing is to cut away all decayed flowers, stop any too-rampant shoot; syringe them well several times with soap water and clean water alternately, using the former at night and the latter in the morning. A little sulphur water may go with the soap water, or you may have both in Gishurst Compound, using one ounce to two gallons. The object of this washing is to clear away and keep away every vestige and egg of the red spider, which dearly likes to nibble them, and especially the beautiful yellow *Cytisus*. For young plants a little heath soil may be used with the sandy loam, but as they get established they do best in sandy loam with a little leaf mould. The free use of the syringe in summer is a first necessity for securing fine plants in winter and spring. They do best when protected from the midday sun in summer, and when the pot is not exposed plunging is less needed. They should be housed before the end of October.

So much for a few minutes of success. I regret I cannot follow them up with simple directions as to how often such plants need watering. Were it possible, one charm in gardening would be dissolved—that which proceeds from the care and attention our favourites constantly require, inasmuch as we soon cease to appreciate a right the greatest blessings, if they involve no care or anxiety on our part. We can do no more than tell our correspondent, just to treat his plants in the liquid way, as wise people treat themselves—that is, give them water when they are thirsty, and at no other time.—R. FISU.]

#### HARDY RHODODENDRONS IN POTS— COCOA-NUT FIBRE REFUSE FOR PEAT.

IN answer to "H. B." we have to observe that the Rhododendrons would be better out of pots (in peat) all the summer, and to the very day in winter when you house or frame them for forcing or early flowering—the only reason we know of for potting them at all. About having them in the cocoa-nut fibre refuse, if any kind of Rhododendron, Heath, or Kalmia, or any other of those kinds of plants needing peat soil is once established in a pot, and the ball is full of roots, it will never do to thrust it suddenly, or by slow degrees, into a mass or bed of the refuse; for this is as loose as a heap of moss, and a heap or bed of it is always as damp as moss just taken out of water and squeezed. Then when a ball of peat needs watering, and is watered in a heap of the refuse, the water elips past the peat on all sides and runs into the refuse; in ten days the ball is as dry as tinder, and no more watering would wet it again, until it is taken up and put into something which will hold water till the ball is most thoroughly soaked. We were consulted about the Ferns and other plants which are now in the International Exhibition, growing in the cocoa-nut fibre refuse. They were bought of the Messrs. Jackson, of Kingston. The whole of the peat or other earth—or say the whole of the balls, having been shaken from the roots as much as could be done, they were set in the refuse and then placed in the Exhibition. All that was done in less than twenty hours, which was giving the plants no chance at all; yet they took to the refuse at once, and they had very little, or indeed no attendance for the first three weeks—perhaps none yet. The way to have done them is this—they should have been partially shaken out of the balls at the beginning of April, then well watered, and the case or box should have been under glass; they should have had good garden management to the end of the month, and then been sent to the Exhibition.

All the balls of all sorts of plants ought to be partially broken or loosened before putting them into the refuse, and peat balls much more so than compost balls. It has not yet been fully proved that American plants will do entirely in this stuff instead of peat; but we took an opportunity last May to visit the works and the great refuse heaps for the first time, and we found upwards of thirty thousand tons of it as black as bog peat, and naturally heated to 70° at the bottom of the mass, say such as was from eight to twelve years old. We have no doubt whatever but all American plants would do in it as well, if not a vast deal better, than in the best Wimbledon peat; the only care would be to see that the plants had not much peat about the roots at the time of planting, and that the stuff was pressed together as firm as man could make it. The refuse would come much cheaper than peat in some parts of the country, and we can

affirm from our own experience we could have it at seventy miles from London at one-half of the price we used to give for the loam and the peat we annually had from Epping Forest, because all the railroad Boards have agreed to carry it at the same rate as dung in truckloads. A truck carries 4 tons of it, and the Company send it off from Kingston Station at the rate of 30s. a-truck, so that it would be an excellent speculation to some nurserymen far down in the country to have so many truckfuls of it in a season, and then to sell it at the same price as the Company charge here for the small quantities in bags. Our friends, the florists, will find it the best stuff in the world to make composts with. Mr. Wood, our principal stonemason in Kingston, and the oldest and best Auricula grower and fancier thereabouts, told us this season it was "prime stuff" for Auriculae. But we would ask for the black old stuff for all florists' flowers, and use nothing with it but so much pure loam.—D. B.

#### VARIEGATION IN PELARGONIUMS.

Now, Mr. Beaton, what would you have me to say? Make the theory of variegation meet at both ends, eh? Why, both ends are already met, as sure as you met with the "White Lady" at the Crystal Palace Show the other day. Really, it is by far too bad of you to put it about that she "is against all the variegated doctors by hand entirely," when all the while she had neither lot nor part in the matter. Yes, Mr. Beaton, it is all very well for you to throw the burden off your own back; but, mind you, I have my own opinion still.

About these variegated seedlings from Messrs. Downie, Laird, and Laing, Did you say they were better than their parents, or was it that they were whiter? H'm! I thought so—exactly. Alike will always have a tendency to produce alike, and when any difference occurs it is sure to be either better or worse than the parents. I have proved this hundreds of times, and so have you I am sure. Did I understand you to mean, that you would take up this cross of Messrs. Downie, Laird, & Laing's, and follow its fortunes with a sure and certain hope that you will thereby gain a thorough knowledge of the original cause of variegation? Very well, I shall not follow you. The truth of the matter is, pardon me for what I am about to say, I verily believe you are labouring under a grand mistake, endeavouring to solve a primary problem by secondary causes. Indeed you are. I am not at all surprised you have been puzzled to make both ends meet. Why, you never had but one, and that was the wrong one. The seedlings you have mentioned are the very best proofs you possibly could have advanced to illustrate the transmission of the disease, which is a something; but as regards the origin of the disease, why they prove nothing at all. When you and I last had a confab on variegation, I told you I wanted to get Général Pelissier; now I have got it, and a beautifully-marked thing it is. I have also doctored one of my seedlings named after the place I live at, but too near Punch to keep. However, I have now obtained a variegated one from it. I have also got a variegated Ivy-leaf, the Scarlet variety, but I think it inferior to Mangles'; therefore, I will discard it. I believe the Ivy-leaf, from the wiry nature of its stem, is the most difficult to change of all the so-called Scarlet Pelargoniums.—AN OLD SHOWMAN.

#### NEW BOOK.

*The Fruit Manual: containing the Descriptions and Synonymes of the Fruits and Fruit Trees commonly met with in the Gardens and Orchards of Great Britain, with Selected Lists of those most worthy of Cultivation.* By ROBERT HOGG, LL.D., F.L.S. Second Edition. London: Journal of Horticulture and Cottage Gardener Office.

THE rapid sale of the first edition of this useful work has enabled the author to produce another, which is a considerable improvement on its predecessor, inasmuch as the greater part of it has been rewritten and an opportunity afforded of correcting several mistakes that had crept in, and of introducing a great number of varieties that were not recorded in the first edition. Great additions have been made to the number of the Apples, the Grapes, the Plums, and the Strawberries, and all the novelties that have been discovered in the other classes of fruits since the publication of the first edition have been introduced into this. Numerous synonymes have been added, while others have been corrected; and it may be said that this second edition embraces all the pomological information up to the present time.

### FLOWERING SOME SELECTED PLANTS AT A MORE ACCEPTABLE SEASON THAN USUAL.

I will presume that plants in flower are in greater request at or about Christmas than many other periods, more especially some of those beautiful varieties which flower as a rule between June and October, several of which, if flowering at the above festive season, would be vastly more appreciated than when blooming amid all the gaiety of English gardens in summer. I have this as my object, and I will not in these short notes state anything beyond what I have proved, and which cannot be most easily practised by others.

#### VALLOTA PURPUREA.

From June to September are the months in which this exceedingly useful plant flowers; but by the following treatment, than which nothing can be more simple, it has flowered from the first week in November, having two fine five-flowered spikes in perfection on Christmas-day; it is then excellent for standing in rooms, &c. In-doors it is as valuable a plant as any in cultivation, and its value is enhanced fortyfold when in flower as above. To attain this, pot in May, studiously avoid letting the plants get too dry; keep them in a shady place until you find the roots have rambed into the fresh soil a little, then place them out in the open air under a Laurel or other shade, where they are effectually screened from the sun, leaving them in this position until September, when in all probability they will be just showing flower; if not, put them in the full sunshine, slightly diminish their usual allowance of water, and as soon as the spikes are shown replace them in their shady position. Leave them there until you house your greenhouse plants, when they may also be taken in. When required to expand their flowers, give them a moderate temperature—such as the warm end of the greenhouse or the cool end of the stove.

#### THE ORANGE TREE.

It is rather unusual to have this plant in flower on Christmas-day, so I will explain the treatment by which I succeeded in flowering one most profusely at that time.

From the middle of December to the end of January, what better suited to an antique ebony basket on a British winter's day than this poetical plant, imparting the delicious perfume of its ivory-like blossoms through a whole suite of rooms? It should receive the entire treatment of a Camellia, with one exception. Place it in the warmest situation you can command during summer, in the warm corner beneath the south and east wall—in fact, imitate its native climate, accompanied with a suitable amount of air to keep the sun's rays from scorching it. During summer carefully take off all flowers and fruit, should there be such on it. The object chiefly in view should be to obtain a nice growth matured by the end of September to forward the embryo flowers upon the same as much as possible, avoiding everything likely to cause it to grow or move perceptibly until a month before you wish to have it in flower, when you should treat it as you would a white Azalea when forcing it. How exceedingly well our French neighbours do the Orange! I cannot see why they should be so far in advance of us when I consider the warmth obtainable under a south wall in summer. Our object should be to ripen the wood more rather than to make so fine a growth.

#### INTERMEDIATE STOCK.

The use of this, as also of Ten-week and other Stocks in the spring is well known. By a very simple process the Intermediate can be had in flower in perfection during the whole winter, with spikes as fine and plants as large as when out of doors at midsummer. Their usefulness is indisputable as cut flowers for bouquets and house-decoration. Even in the conservatory they are very acceptable in the middle of winter.

They should be sown in February or March, started into showing bloom, whether single or double, in April. The single having been discarded, when properly hardened plant them out in a medium good border about a foot apart, to be eventually properly staked if necessary. As the flower shows during the whole of summer, cut it off. The plant becomes more bushy if those flowering shoots are cut home. In October the plants should be taken up, carefully potted, and placed under a north wall, where they must remain until they recover from the check received, when they can be taken into the greenhouse. I find the Scarlet Intermediate does best.

#### GESNERA LONGIFOLIA.

This useful plant may be had in bloom during the whole of winter. Give it a shift in the spring to induce it to make a nice

growth. I prefer a young plant of two seasons' growth. The pot into which it is shifted should be so sized as to cause it to well fill the pots with roots. Being pot-bound will induce it to show profusely for flower in the autumn. Keep it in an even, moderate temperature until the first flowers open, then give it the smallest shift possible; this will induce the whole of the flowers formed to open well. By the time the last are opening the second pot will become full of roots, and cause a succession of short profusely-flowering joints, which will give you a show in continuation. This plant does best when in flower in the coolest end of the stove, with an occasional syringing. When treated this way, and tied round a hollow plant-trellis, it is a pretty object.

#### IMPATIENS JERDONIE.

This admirable variety of a very singular species can with very trifling trouble be had in flower at Christmas; the principal features of the necessary treatment being not to dry it too hurriedly when it has done flowering, and not to start it quite so early as is usual after rest. When showing for flower place it under a north wall; let it be carefully watered, and while in this position, protected from draughts and heavy rains. When the weather proves too cold, or you conjecture it will be so, return it first to the greenhouse for a week, to be eventually replaced in the stove.

#### POINSETTIA PULCHERRIMA.

This most useful plant flowers at a season too acceptable to require any remarks on that head, yet it may be of use to some readers of this Journal to know, that in preference to the original mode of growing large shapeless plants, it may be easily propagated from the young growth previously to the same showing any signs of flowering. By judicious topping a trio is formed from a single stem. Arising thus from the pot the singularly beautiful bracts upon a plant so grown, some 7 inches high and 12 inches in diameter, have a highly ornamental effect. Single cuttings so grown should be struck in 60-sized pots, and only once shifted into 48's, for flowering. If dwarf plants are required, keep them studiously near the glass as you would young Balsams when you wish to grow them well, and give them the usual amount of air allowed to plants requiring a medium temperature. We cut the last beautiful head of scarlet bracts to enliven a bouquet on the 14th of March. This in a measure is attainable by striking successive cuttings, the latest struck blooming last. I have known it to be in perfection in May.

#### LUCULLA GRATISSIMA.

One of the most elegant fragrant plants in cultivation. It requires no high temperature, indeed a temperate one is just that which suits it. Then why is it not more commonly grown? I am forced to admit that I believe it is absent because its little peculiarities are not better known. Who can remember how it was once shown when the old Chiswick was in its meridian of displays? Does not the veteran Mr. Beaton bear in mind this plant as once shown there? If so, no subject would interest us, the young beginners, more than a full description of the plant, accompanied with his experience in its treatment. Its usual time of flowering is about the same as that of the Vallota, if simply placed upon a pot turned bottom upwards under a north wall immediately after its flower-buds appear. Keep it there until the morning after the thermometer has registered 40° at night. Take it thence into a cool greenhouse; and when the first flower-bud begins to expand remove it into the cool end of the stove, and syringe freely. By this treatment it is possible to have it in flower in December. Among its many peculiarities is its antipathy to the least restraint; but I believe this is easily overcome if the plant is taken into training young. For soil, mixed with the best of maiden loam and sand, it has a great liking to charcoal in small pieces.—W. EARLEY, *Digswell*.

AWARDS TO LAWN-MOWING MACHINES.—Referring to the advertisement in your last publication of awards to Lawn-mowing Machines at the Royal Horticultural Society's Garden, we should wish your readers to know that there were no trials of the various machines exhibited. Our Shanks' Patent Lawn-mowing Machines were sent on the first day for exhibition only, and we intimated this to the Secretary of the Implement Committee. We also more than once distinctly refused on the first day of the Exhibition to allow our machines to be "tried" there on that occasion. We quite share in the very general opinion now entertained among those who have the best opportunities of judging, that these so-called public trials are, from their very nature, mere delusions,

misleading rather than safely directing the public. The practical experience of persons who have used the several machines, and know all about their respective merits or defects, is, as common sense must tell, by far the best and indeed the only safe guide.—J. B. BROWN & Co.

### RAIN, SUNSHINE, AND THE WATERING-POT.

THERE are comparatively few people but are more or less interested in the weather. True, every one is not alike in his wants, but that does not imply that he lacks an interest in it. A brickmaker wants but few rainy days, while such days are the harvest of the street shoeblacks and London cabmen, and in rural districts, millers, whose water power is inadequate to the demands on it, often enough wish for a wet day. But my purpose is not to descant on the requirements of any particular class, but to explain some of the anomalies we often hear of as to the effects of a very wet or a very dry season, on the crops of the same or different districts, and to point out what seems to be the cause of these apparent contradictions. Taking, therefore, one of the most common circumstances, that of grass land, let us see the effects of wet and drought upon it.

It cannot have escaped the notice of most people engaged in husbandry, that after a lengthened period of wet weather grass land very quickly feels the effects of dry weather when it sets in, if even for a limited time, and if it be continued it soon burns up, as the phrase is. Now, there is every reason to believe that this is not owing to any want of moisture below—on the contrary, there is a superabundance of that: hence the apparent puzzle, and examples are common enough. Last year, for instance, presented several cases of this kind. The early part of summer was certainly not deficient of rain. July was wetter than I ever remember that month to have been before, and yet when dry weather did set in, the grass and other herbage soon showed signs of suffering, and I never saw the grounds at the Crystal Palace look so bad before, neither am I aware of ever witnessing any grounds suffering so much since the memorable hot summer of 1826, and that was dry from April up to autumn, with the exception of some few thunder-showers. The cause, therefore, of grass and other herbage so quickly succumbing to drought after a lengthened period of wet, must be sought for from some other source than lack of moisture below; and as the reason most likely occasioning this has a strong analogy to effects produced by artificial watering, the case cannot be without interest to all classes of cultivators of the soil.

We all know that abundance of sunshine is incompatible with frequent and heavy rain: hence, the latter cools the ground below its proper temperature. This is more especially the case in the subsoil, which, being deprived of its heat, is less inviting to the roots of plants, which are at the same time under no necessity to travel so deep for moisture, and consequently confine themselves to the few inches at top. The continued saturation by rain also sours, or in some way renders the subsoil unfit for them. These causes united render the amount of surface mould occupied by the growing crop much smaller than usual, and, consequently, the same effects are produced when dry weather sets in as when a plant is compressed into a pot much too small for it. In common parlance, it burns quickly. This is the reason I give for it, and some other collateral ones might be added; but these are certainly the primary ones. Let us, therefore, compare them with the effects produced by artificial watering, and mark the result.

I remember when but a boy of hearing a disension between two cottagers about watering their Onion-beds. They were both painstaking, good managers, grew very large Gooseberries, and had Tulips, Pinks, and Auriculas that would pass muster very well at a show of the present day. One of these cottagers was watering his Onion-bed with a pail and hand-bowl with more liberality than discretion, and was urging the propriety of the other doing so also, when he was met by the answer, "That if once begun it must be continued, and the ultimate benefit was questionable." Here, then, was a direct elucidation of the problem. "Watering by hand once begun must be continued," and, in a great measure, the lapse of years has not affected this law. The roots of the cottager's Onions that were watered nightly kept near the surface, and were fed by the liquid he supplied them with, and any accidental diminution of their daily food of course distressed them. More recent practice has told us that in crops like the Onion, systematic watering, except in special cases or situations, is bad; and although

I forgot which of the two cottagers produced the better crop in the end, there is reason to believe that the one who did not water had the better. A good depth of sweet, well-pulverised soil will, in general, furnish better and more suitable food for most plants than the contents of the well or pump, and I have traced the roots of Onion to the depth of upwards of 20 inches, and the crop was all that could be wished for. The laws, therefore, to be deduced from this state of things are that mere surface wetting, is of much less consequence to vegetation than a healthy medium for the roots to ramble in, that it rarely happens that established plants suffer much from drought even in a dry season, where there is sufficient depth of healthy soil to support them in; and with this depth of material they are less dependant on the casual wettings the surface may get, and the result of a dry season will be more satisfactory than a wet one, even for such gross-feeding plants as require a great amount of liquid food.

Notwithstanding all the benefits which science has been enabled to confer upon artificial husbandry, there are natural effects which we have but little hopes of imitating. When Nature works on her own account, she is so accommodating as to enable plants grown in an ordinary way to endure double the amount of moisture at one time which she supplies them with in another. The elevated districts of Derbyshire, Westmoreland, and Wales, receive more than double the amount of rain that falls in Norfolk, and yet hay is made, and corn is ripened in both places; certainly not so well in the one as the other, but it is done. Natural outlets are made for the superabundant moisture, and the soil if not more porous, is so arranged as to let the water run off. Corn will ripen under a great amount of rain-fall, and the moralist may find a fit theme for a lengthened article. But the plain, dry facts of the matter that relate to gardening must be confined to less space; and retracing our steps, let us see whether a dry season or a wet one affects us most, and in what way.

I believe it will be generally acknowledged that the dry seasons we have—those, for instance, as only come once in a lifetime, affect but very little the most robust vegetation, such as trees. Now and then we hear of one or more growing under circumstances foreign to its habits succumbing to the continued drought; but these cases are rare, while in very many instances important benefits are derived from dry, hot seasons, the buds are well ripened, and an abundance of bloom of a kind likely to produce fruit the ensuing season is the result. Plants having a more ephemeral existence suffer more; their wants are confined to the current season, and absorbing moisture in greater abundance exhausts the supply sooner, and a more stunted growth follows. It is, therefore, only to such plants that watering by hand is applicable, and this should only be done when absolutely necessary; and such cases will be found much fewer than is generally supposed, and by timing the duty to the periods Nature points out as being the most suitable, a better result will be arrived at. Quarters of Lettuces, Peas, and other things which on dry soils certainly do benefit by copious watering in dry weather, ought to have it administered to them on dull days, or when it rains a little. A good watering at such a time will be more useful than at one of a contrary kind; but be sure to give as much at one time as will reach the bottom of the lowest root. Dribbles wetting the top only keep the roots there to be burnt up by every gleam of sunshine that acts on them; and as we have shown the grass field to burn up with a little dry weather after a wet period, in consequence of its roots deriving their nourishment from near the surface, in like manner vegetables and other things may be taught to do the same, and once their artificial feed is stopped, bad consequences are sure to follow.—J. ROBSON.

GARDENER'S ROYAL BENEVOLENT INSTITUTION.—The Annual Dinner in aid of the funds of this Society will take place on Thursday, the 26th inst., and we hope that the visitors now in the metropolis, in such unusual numbers, will increase the number of those who patronise this excellent Society. It is firmly established, and has received a small share of public support, but not in proportion to the calls made upon it. It is now affording relief to fifty-seven poor persons who would otherwise be lingering out their existence in the workhouse. The Committee announce that the demands for assistance become more numerous year by year, and we would urge those who do not already aid the Society to add their names at once to its subscription list.

## ECONOMY OF FUEL.

I AT once admit the force of your reasoning with respect to the iron jacket, and the advisability of making it of brickwork instead, on the joint score of expense, liability to burn the air, and the more equal combustion insured by the heated brick; but beyond this comes the passage—"No such air should be allowed to pass into the atmosphere of the house." Now, I submit that such an arrangement would constitute a Kiddean furnace, pure and simple. If my memory fails me not, Mr. Beaton, in describing the Kiddean system, likened the furnace to a small flower-pot inverted, with a large one over it, the intervening space constituting the air-chamber. Now, if my proposed plan would not be a literal carrying out of that idea I am mistaken altogether as to the principles of Mr. Kidd's system. Again, with respect to the proposal of Mr. Fish, I cannot see the force of it, as were the air confined, the outer casing must absorb heat from it, and that heat be lost which a current passing through the chamber would carry with it. The task you set me in the latter part of your remarks is indeed a puzzler, and could I accomplish it I should well deserve the title of "ingenious correspondent;" a little might, however, be accomplished in that way by carrying the chamber round the flue as far as the damper. It seems plain to me that a furnace constructed in this way would effect as great an economy as a thing possibly could do; for with a small extra amount of fuel the full advantages of a Kiddean and a hot-water apparatus would be gained from one fire, and that without loss.—M. G. CUNNINGHAM.

[With the exception of a slight error in the printing, we hold to the ideas expressed at page 194. Your prominent idea to save fuel was the iron jacket. We urged reasons why, economically and otherwise, it would not answer, merely from our general knowledge, of course, and not from any particular knowledge of the effects of an iron jacket. We know something of the effects of taking air from red-hot iron among plants, though well moistened by various means beforehand. The case is different when taken from bricks, because at the hottest the outside is never so hot as iron, and plenty of moisture before reaching the plants will neutralise to some extent its unkindly nature. We would not, therefore, exclude the heated air from such a chamber if suitably ameliorated before it entered among tender plants. Mr. Fish, to a limited extent, has recommended such chambers over and round boilers, especially when set in sheds outside of the houses, instead of allowing it to heat the shed or the external atmosphere. In such cases he so far acts on the Polmaise principle as to have one opening from the house into the bottom of the chamber, and an opening at the top of the chamber into the house, so that there is a constant rush of air through the chamber—the cool entering below and the heated coming out at the top. Even then, however, when a damper was freely used, the openings had to be shut at times to prevent unhealthy gases being thrust through the brickwork. When there was plenty of draught given and a more free use of fuel there was no danger in this direction. This plan, however, has nothing of the novel in it; it is merely appropriating so much of the Polmaise or Kiddean idea, though we rather think these plans were adopted before there was much discussion about either. If, however, you substitute the brick for the iron jacket, so as to carry out literally Mr. Kidd's system, where is there any originality? You have also clearly misapprehended the writer in the other idea of a close chamber round the boiler. He evidently acts on the principle that though close confined air is not a perfect non-conductor of caloric, it is one of the best non-conductors, so that where such chambers exist little heat is given out to the earth or brickwork round the boiler. By such means heat is accumulated about the boiler and furnace instead of being freely diffused or conducted to the surrounding medium, be it air, or earth, or brickwork. So far as heat is concerned there might be more economy in throwing it at once from an open secure chamber into the house; but, on the other hand, by concentrating it more round the boiler by a close chamber, there would not be very great difference in this respect, and then there would be the security that no heat would enter the house, except what was fitted for plants to breathe in, instead of an atmosphere kiln-dried and robbed of its oxygen. All these contrivances, however, do not meet the great robber of heat from any system of boiler-heating—that which goes up the chimney to the benefit of the general atmosphere.—R. F.]

## WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from Vol. II., page 68.)

## CRUSTACEA—(continued.)

THE COMMON SHORE CRAB (*Carcinus mænas*).—This is a very common species, and has a shell of somewhat greater breadth than length, covered with minute tubercles. It has four flat triangular teeth on each anterior side. The anterior feet are pretty nearly of equal size, strong and smooth; the claws both toothed. The remaining feet are compressed slightly, especially the last pair, and the terminating joints are, as in the last species, adapted for swimming. The ordinary colour of the common Shore Crab is a blackish green, and a dull red underneath. The colour, however, is by no means constant, the young, indeed, being sometimes entirely white, with a solitary black spot in the centre of the shell.

This creature, as its name implies, may be found on all our shores. It is, in fact, the commonest British species, scores and scores of them may be seen daily on every part of our coast. It is frequently left by the receding tide on sandy beaches, where if alarmed and failing to reach its natural place of refuge, it either hides itself, or endeavours to do so, under a commodious stone, or buries itself entirely in the soft wet sand. For one or two interesting details touching these Crustacea, I shall again avail myself of Professor Bell's able work. "Its food consists principally of the fry of fish, Shrimps, and other Crustacea; but it will also feed upon dead fish, and almost any other animal substance. Indeed, the most common method of taking these Crabs at Poole, where numbers are caught by the fishermen's children, is by tying a mass of the intestines of either a fowl or of any fish to a line, and hanging it over the quay. The Crabs seize upon this bait and are drawn up in considerable numbers. Mr. Hailstone states that they attack Mussels, and that he once saw one carrying about on its claw a Mussel which had closed its shell upon it. They run with considerable rapidity and with an awkward sidelong gait, and they lurk in pools of water left by the tide, partially concealed in the sand, but with the anterior part of the carapace including the eyes exposed, so as to watch for the approach of their small living prey, on which they spring with great activity. They are, however, very timid and wary, and will not move if they discover that they are watched. They simulate death, if disturbed, as completely as do many coleopterous insects."

THE VELVET SWIMMING CRAB (*Portunus puber*).—The shell of this species is about a fourth part broader than its length. The anterior portion is semicircular, and has five strong teeth on either side. The eyes are round and placed on short stalks. The anterior legs are very robust, the claws grooved longitudinally and furnished with strong teeth. The second, third, and fourth pairs of legs are alike, long, grooved, with a slender pointed terminal joint. Whereas the fifth pair has the two last joints considerably flattened. The whole of the legs as well as the shell are covered with a thick shaggy hair, except on the raised portions, which are naked.

The colours of the Velvet Swimming Crab during life are wonderfully bright and showy, but they speedily fade after death. It exhibits a multitude of tints, the prevailing ones being a reddish-brown and a bright blue. It is found in large quantities all along the south-western coast of England, generally lurking among the stones. It is very active and courageous, running away with great speed at the approach of an enemy; but if it finds escape impossible, it turns at bay and exhibits every inclination to decide the question by combat.

THE ARCHED-FRONTED SWIMMING CRAB (*Portunus arcuatus*). The shell of this specimen is four-fifths as long as it is broad, and has the surface grained. The front, as its name signifies, is arched, and the margin on either side of it has five teeth. The anterior feet very strong, with a sharp spine on the wrist. The claws are extremely powerful and furnished with a quantity of teeth. The rest of the feet are slight, the second pair shorter than the third and fourth, and the fifth pair is fringed with long hair. The colour of this Crab is a blackish-brown above; beneath, the hue is much fainter and has a tinge of red. The colour of the legs much paler than that of the body.

The Arched-fronted Swimming Crab may be found in most localities, more commonly, however, on the northern coast than any other. Professor Bell states that he has dredged it in Poole harbour, in the bays of Studland and Swanage, and plentifully at Bognor, all on the south coast. The general character of these animals may be summed up in the Professor's own words:

—“They are active, bold, swimming with agility, and seizing with great sharpness, and pinching severely with their acute claws. They are gregarious like most of their congeners, and I found them extremely abundant at Bognor, where they constantly infest the Prawn-pots, and, as the fishermen believe, keep the Prawns from the bait.”

**THE CLEANSER SWIMMING CRAB (*Portunus depurator*).**—The shell of this Crab is rather more broad than it is long, and the surface very uneven. It has three flat teeth on the front, of which the central one is the longest. On the side margins anteriorly are five triangular teeth. It has very large eyes fixed on short stalks. The first pair of legs, which are rather unequal, are beautifully carved; the wrist furnished on the inner side with a sharp spine; the claws are tuberculated. The second, third, and fourth pairs of legs are long and slender, the last terminating in a very sharp point. The fifth pair is flattened, the margins of the two first joints being ciliated, the terminal joint is flat, smooth, and oval. The young ones are flesh-coloured, but those which have reached maturity are of a light reddish-brown colour. “This, species,” says Professor Bell, “is not unfrequent on our coasts. During some weeks spent at Bangor, near the entrance of Belfast Bay, in the autumn of 1835, I found this to be the most common species of Crab thrown by the waves on the beach.” This latter statement is on the authority of Mr. Ball. Professor Bell himself has “dredged it in Studland Bay, in Dorsetshire,” but did not find it “on the coasts of Sussex and Kent.” He adds, however, on the authority of Mr. Hailstone, that “it is frequently caught at Hastings in the shrimping-net.” It derives its name of Cleanser from the duty it performs of removing impurities from the sea.

**THE MARBLED SWIMMING CRAB (*Portunus marmoratus*).**—The shell of this animal is slightly convex and granulated, smooth and naked. On the front it has three teeth, the central one the longest. On the margin on either side are five teeth, flat, sharp, and triangular. The front feet strong, the claws furnished with tubercles, the movable one being very much curved. The second, third, and fourth pairs of feet are slender and compressed, the last joint being curved and fringed on the under edge with hair. The fifth pair is fringed with hair on both edges, and the last joint is very smooth and oval.

“The colours of this species,” remarks Professor Bell, “are exceedingly varied and beautiful, particularly in the males. Buff, light brown, deeper brown, and brownish-red, are arranged over the carapace in varied, but not always exactly symmetrical patterns. The only way in which these beautiful markings can be preserved is by raising the carapace, taking out the soft parts, and drying the specimens in a shady place in a brisk current of air. If they are put into spirit, the whole of the beauty of the colour is lost. The younger specimens do not possess these markings. They are, as Dr. Leach has observed, of a plain brown colour, and much resemble the fry of *Portunus depurator*, from which they may be easily separated by their more considerable convexity.”

The Marbled Swimming Crab is said to be common enough on the sandy shores of the southern coast of Devon, where it is frequently met with entangled in the nets of the fishermen, or cast up on the shore after a storm, and Professor Bell mentions having procured a specimen at Hastings.—W.

(To be continued.)

## THE AQUATIC PLANT CASE, OR PARLOUR AQUARIUM.

SOME years since Mr. Warington communicated to the Chemical Society the following interesting paper:—

“This communication will consist of a detail of an experimental investigation which has been carried on for nearly the last twelve months, and which appears to illustrate, in a marked degree, that beautiful and wonderful provision which we see everywhere displayed throughout the animal and vegetable kingdoms, whereby their continued existence and stability are so admirably sustained, and by which they are mutually made to subsist, each for the other’s nutriment, and even for its indispensable wants and vital existence. The experiment has reference to the healthy life of fish preserved in a limited and confined portion of water. It was commenced in May, 1843, and the subjects chosen were two small gold fish. These were placed in a glass receiver of about twelve gallons capacity, having a cover of thin muslin stretched over a stout copper wire bent into a circle,

placed over its mouth, so as to exclude as much as possible the sooty dust of the London atmosphere, without, at the same time, impeding the free passage of the atmospheric air. This receiver was about half filled with ordinary spring water, and supplied at the bottom with sand and mud, together with loose stones of limestone tufa from Matlock, and of sandstone; these were arranged so that the fish could get below them if they wished so to do. At the same time that the fish were placed in this miniature pond, if I may so term it, a small plant of the *Vallisneria spiralis* was introduced, its roots being inserted in the mud and sand, and covered by one of the loose stones so as to retain the plant in its position. The *Vallisneria spiralis* is one of those delicate aquatic plants generally selected by the microscopist for the exhibition of the circulation of the sap in plants; it throws out an abundance of long strap-shaped leaves, of about a quarter of an inch in breadth, and from 1 foot to 3 feet in length. These leaves, when the sun shines on them, evolve a continued stream of oxygen gas, which rises in a current of minute bubbles, particularly from any part of the leaf which may have received an injury.

“The materials being thus arranged, all appeared to go on well for a short time, until circumstances occurred which indicated that another and very material agent was required to perfect the adjustment, and which, from my not having thought of it at the time of commencing the experiment, had not been provided against. The circumstances I allude to arose from the decay of the leaves of the *Vallisneria*, which became yellow from having lost their vitality, and began to decompose. This, by accumulation, rendered the water turbid, and caused a growth of mucous or green slimy matter on the surface of the water, and on the sides of the receiver. If this had been allowed to increase, I conceive that the health of the fish must have suffered, and probably their vital functions have been destroyed. The removal of these decaying leaves from the water, therefore, became a point of paramount importance; and, to effect this, I had recourse to a very useful little scavenger, whose beneficial functions have been too much overlooked in the economy of animal life; I mean the water snail, whose natural food is the very green slimy growth or mucus and decaying vegetable matter, which threatened to destroy the object which was wished to be obtained. Five or six of these creatures (the *Limnæa stagnalis*) were consequently introduced, and by their continued and rapid locomotion, and extraordinary voracity, they soon removed the cause of interference and restored the whole to a healthy state: thus perfecting the balance between the animal and vegetable inhabitants, and enabling both to perform their functions with health and energy.

“So luxuriant was the growth of the *Vallisneria* under these circumstances, that by the autumn the one solitary plant that had been originally introduced had thrown out very numerous offshoots and suckers, thus multiplying to the extent of upwards of thirty-five strong plants, and these threw up their long spiral flower-stems in all directions, so that, at one time, more than forty blossoms were counted lying on the surface of the water.

“The fish have been lively, bright in colour, and appear very healthy; and the snails also, judging from the enormous quantity of gelatinous masses of eggs which they have deposited on all parts of the receiver, as well as on the fragments of stone, appear to thrive wonderfully, and besides their functions in sustaining the perfect adjustment of the series, afford a large quantity of food to the fish in the form of the young snails, which are devoured as soon as they exhibit signs of vitality and locomotion, and before their shell has become hardened.

“Thus we have that admirable balance sustained between the animal and vegetable kingdoms, and that in a liquid element. The fish in its respiration consumes the oxygen held in solution by the water as atmospheric air, furnishes carbonic acid, feeds on the insects and young snails, and excretes material well adapted as a rich food to the plant, and well fitted for its luxuriant growth. The plant, by its respiration, consumes the carbonic acid produced by the fish, appropriating the carbon to the construction of its tissues and fibres, and liberates the oxygen in its gaseous state to sustain the healthy functions of the animal life, at the same time that it feeds on the rejected matter which has fulfilled its purposes in the nourishment of the fish and snail, and preserves the water constantly in a clean and healthy condition. While the slimy snail, finding its proper nutriment in the decomposing vegetable matter and minute confervoid growth, prevents their accumulation by removing them, and, by its vital powers, converts what would otherwise act as a

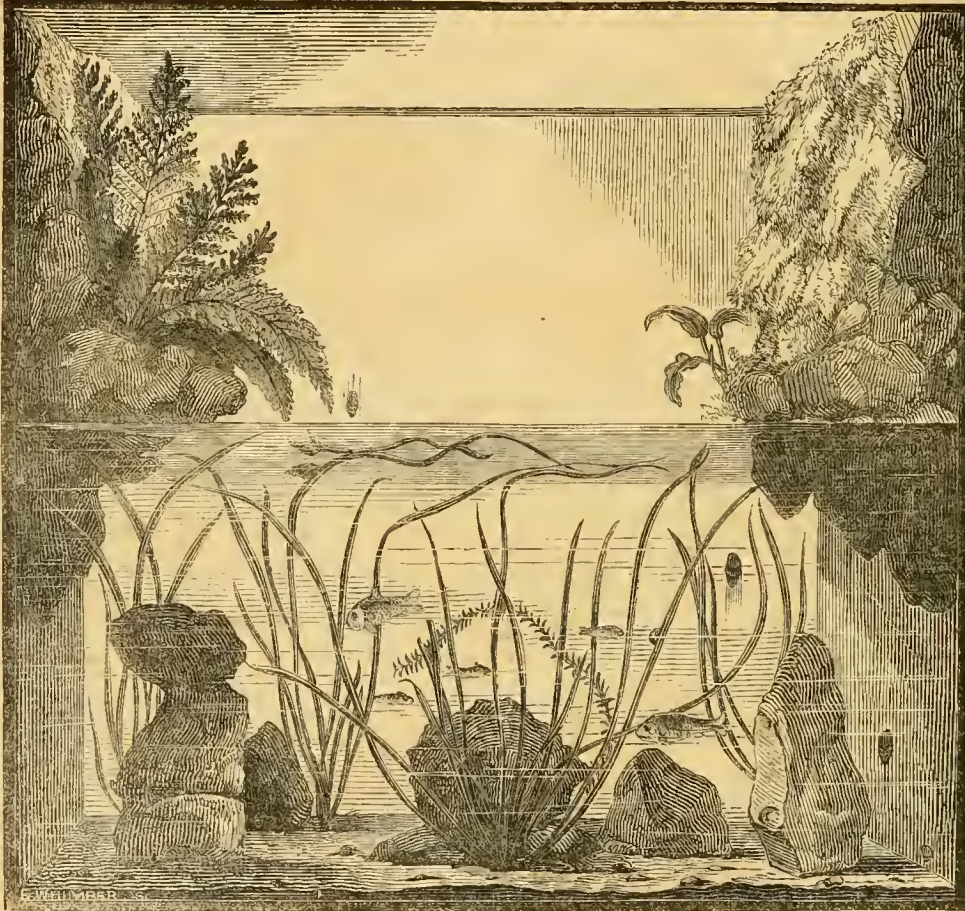
poison into a rich and fruitful nutriment, again to constitute a pabulum for the vegetable growth, while it also acts the important part of a purveyor to its finny neighbours."

In this way is the economy of the animal and vegetable kingdoms wisely and beneficently adjusted, so that the vital functions of each are permanently maintained.

The engraving represents an improvement on the original plan; for the opportunity of presenting it we are indebted to Mr. Warrington, who has also kindly furnished the following additional observations founded on his now more lengthened experience:—

"Since the reading of my paper before the Chemical Society, on March 4, 1850, respecting the miniature aquarium (*Quarterly Journal of the Chemical Society*, iii. 52), I have continued the investigations, introducing other water plants, and also three other varieties of water snail. But the principal alteration has

been the construction of a better form of vessel for holding the water, as I found that the globular form of the glass receiver produced a distortion in the vision of the fish, besides being very inconvenient for observation. I have therefore adopted the form of vessel, of which a sketch is appended, having flat surfaces of plate-glass at the back and front, the bottom and ends being formed of slate, and supplied with a loose plate of glass at the top to keep out dust and soot. To render the whole more ornamental, as it was to stand in a sitting-room, some pieces of tufa, or sandstone, were attached to the ends by means of Roman cement, so as to form ledges and slopes rising from the water line, on which Mosses and Ferns, such as luxuriate in an atmosphere loaded with moisture, could be grown. These materials are set in a stout, angular, zinc framework, and connected with a mixture of white-lead ground in oil, to which about an equal

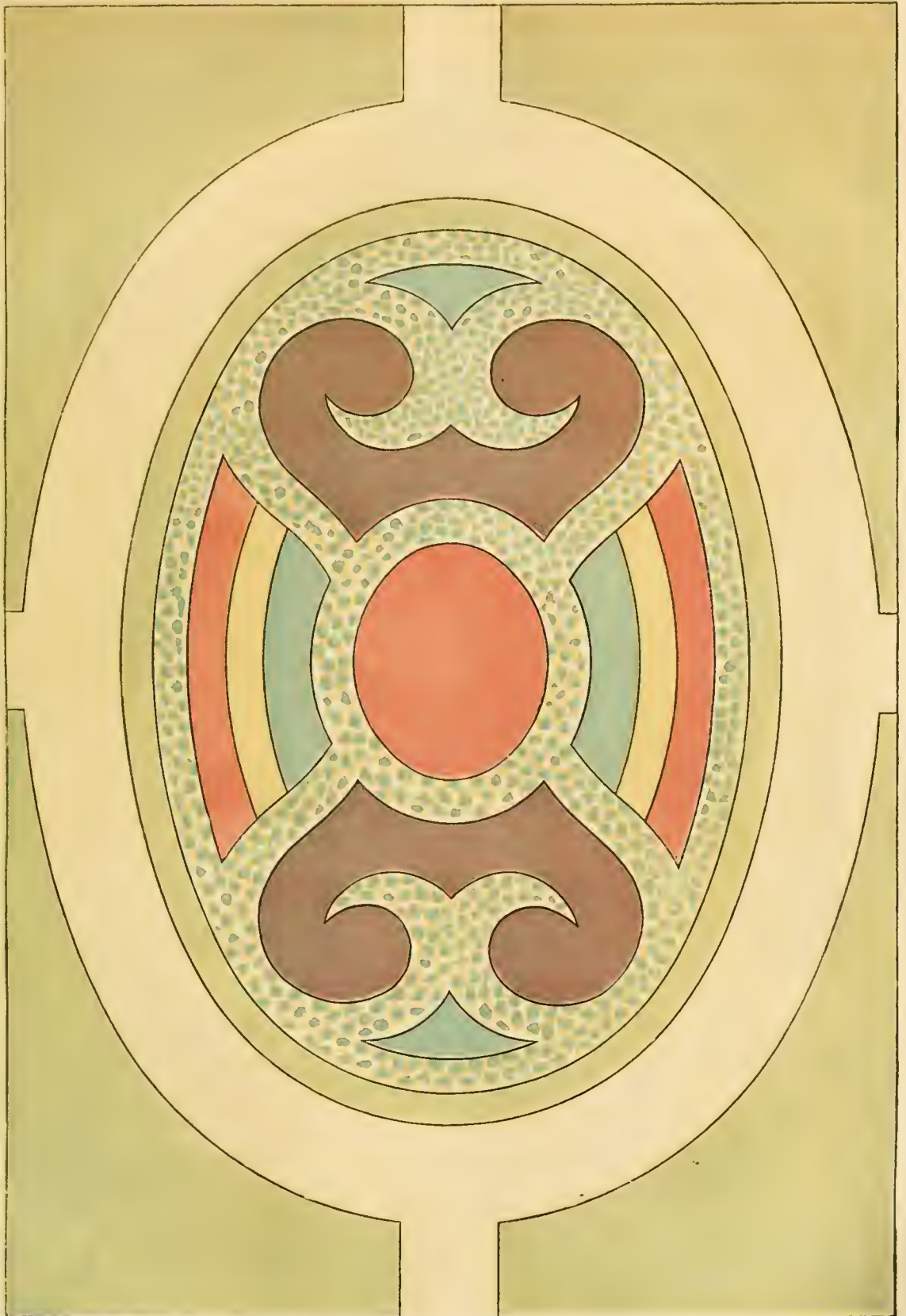


MR. WARRINGTON'S AQUARIUM.

quantity of red-lead is added. This arrangement I have found to answer all my expectations, as it has been going on most flourishingly since January, 1851. The plants consist chiefly of *Hymenophyllum tunbridgense*, and *H. Wilsoni*, *Trichomanes speciosum*, *Blechnum boreale*, *Adiantum capillus-Veneris*, and several Mosses. The whole of the interior can be viewed with the greatest ease, so that the natural habits of its living inhabitants can be watched and accurately noted in every particular.

"The rapid increase in the growth of the *Vallisneria* is very extraordinary. As I have before mentioned, the plants of necessity get the whole of the rejected matter from the fish and snails for their nutriment, and in consequence of this great supply of food their propagation by runners is very rapid, so that I have found it necessary to weed out this vegetable member of the series, and thus prevent it from becoming too extended, as I conceived this would interfere with the health of the fish, inasmuch as there would consequently be more decaying vegetable matter than the snails present could remove. It is true that

this might be remedied by increasing the number of snails which would no doubt effect the object, but the increase in these two members of the arrangement must, in such a case, be continually going on, so that the removal of the plant is the least troublesome course. Thus in the spring of 1850, twenty-eight healthy plants were weeded out; and in the spring of 1851, thirty-five more were removed. The prolific growth of this plant may be further illustrated by the observation made during the last summer, on the rapid elongation of the silky, spiral, flower-stem, which was found by actual measurement to have increased in length 14 inches during twenty-four hours; the total extent was 5 feet, and as soon as the flower expanded itself the growth of the stem ceased altogether. At present I am attempting the same kind of arrangement with a confined portion of sea water, employing some of the green seaweeds as the vegetable members of the circle, and the common wrinkle or wulk to represent the water snails."—(*Gardeners' Magazine of Botany*)





HARDY CONIFERS.

**SAXE-GOTHEA CONSPICUA** (Conspicuous Saxe-Gothæa).—*Nat. Ord.*, Coniferae. *Linn.*, Monœcia Monadelphia.—This plant, which has been named in honour of his Royal Highness the Prince Consort, is a very beautiful, hardy, evergreen tree, growing 30 feet high, and in its foliage and habit of growth, resembling the common Yew tree. It is, in truth, intermediate between the Yew tribe and the coniferous plants, having, as Dr. Lindley has remarked, the male flowers of a Podocarp, the

female of a Dammar, the fruit of a Juniper, and the seed of a Dacrydium. It is described as a tree of beautiful growth, and will, no doubt, rank as one of our most highly-valued hardy evergreen trees affording also a useful timber. It inhabits the Andes of Patagonia, ascending from the summer snow-line to that of perpetual snow, and was introduced in 1819 by Messrs. Veitch, of Exeter and Chelsea.

**FITZ-ROYA PATAGONICA** (Patagonian Fitz-Roya).—*Nat. Ord.*



1. SAXE-GOTHEA CONSPICUA.

2. FITZ-ROYA PATAGONICA.

3. ARAUCARIA COOKII.

Coniferae. *Linn.*, Monœcia Polyandria.—This is a fine hardy evergreen sub-antarctic tree, forming, when young, a graceful evergreen shrub, but growing to a magnificent size (100 feet high, and 8 feet diameter) in its native regions. The leaves of young plants are spreading, linear acute, decussate, with two glaucous lines on the under side. When they become older, the leaves have the character of triangular sessile closely imbricated scales. It is from the Andes of Patagonia, and was introduced

in 1819 by Messrs. Veitch. Dr. Lindley remarks, that "Saxe-Gothæa conspicua, Fitz-Roya patagonica, Libocedrus tetragona, and Podocarpus nubicola, are, no doubt, the four most interesting conifers for this country after Araucaria imbricata, which South America produces." It is injured by severe winters.

**ARAUCARIA COOKII** (Captain Cook's Araucaria).—*Nat. Ord.*, Coniferae. *Linn.*, Diœcia Polyandria.—This is a fine evergreen greenhouse tree, with the general appearance of the well-known

*Araucaria excelsa*, but differing from that in having a more compact habit when old, and in being less rigid and graceful while young, in the scales of the cone having a longer and more reflexed mucro, and in their gibbous, not wedge-shaped form; the scales moreover do not terminate in a hard woody truncated extremity, as in *A. excelsa* and *A. Cunninghamii*, but are wholly surrounded by a thin wing. It is naturally a very tall-growing narrow-branched tree, and has been compared to a factory chimney. A native of New Caledonia, whence it was introduced in 1850 by Mr. C. Moore, Superintendent of the Sydney Botanic Garden, under the MS. name of *A. Simpsonii*.—(*Gardeners' Magazine of Botany*.)

### BOX-EDGING DESTROYED BY SALT.

YOU mistook my question about the Box-edging. It was not that it had been planted in November, but that the edging had been clipped in that month, and was nearly all dead. The gardener said it died from the salt put on the walks that it edged; I said from clipping it in November; as, where the Box had not been clipped, the salt had not affected it.—R. F. S.

[That alters the question, particularly in favour of our view—newly-clipped Box being much less liable to be hurt by salt; and it is on a par, as to sound doctrine, to clip Box, Yew, and Privet in November and December, as to clip Thorn-hedges all over the kingdom in June and July. We have done both ways to a great extent, and both ways answer perfectly, yet both are in direct opposition to scientific rules so-called.]

### THE INTERNATIONAL EXHIBITION.

(Continued from page 221.)

IN the classes devoted to architectural and building contrivances, pottery, and glass, we find an assemblage of articles, such as bricks of various shapes and materials, drain and paving tiles, cements, mouldings, corrugated iron and zinc roofing, and samples of different kinds of horticultural glass, &c.

Messrs. F. & G. Rosher have garden edging-tiles of various designs in terra-cotta and artificial stone, prepared with an indurating solution; the colour of one kind, a dull red, is scarcely to our taste, and in some the design appears too ornate for general purposes.

J. F. Howie, Hurlford Fireclay Works, has a garden vase suitable for small gardens, and remarkably cheap; also a poultry-feeding trough, which will be found useful in preventing waste.

Kilner Brothers have edging-tiles of green and purple glass of the forms seen in our advertising columns, with the addition of a flat-topped kind. The pattern No. 2 is still, in our estimation, the best which has been devised for garden purposes, assorting well with straight lines parallel to walls, and being simple and not overloaded with ornament, on which the eye is apt to dwell instead of on the plants, which should constitute the principal feature in a garden, unless, indeed, this be of a highly architectural character.

Messrs. Minton & Co., Stoke-upon-Trent, show majolica garden seats of a barrel form, malachite and gold, white and orange, crimson and blue, &c.; also costly flower-baskets of the same material.

From Mr. Blashfield, Stamford, comes a large collection of articles in terra-cotta, including busts, vases, and fountains, some of which are of extraordinary size, and, from the ease which has been taken in burning, remarkably fine specimens of this ware. We noticed here a very pretty flower-basket, a Mignonette-box emblematical of the four seasons, and terra-cotta paving-squares, which, as we were informed, being each subjected to a pressure of 25 tons, are nonabsorbent and very durable. Many thousands of these are laid down on Westminster Bridge.

—THE CENTRAL COTTAGE IMPROVEMENT SOCIETY, 37, Arundel Street, which has been instituted with the laudable object of providing better house-accommodation for the labouring classes and improving their existing dwellings, exhibit the models of a pair of cottages which have been erected outside the building, designed more particularly to meet the wants of artisans. They contain four rooms—a sitting-room 12 feet by 10 feet; kitchen 12 feet by 9 feet, fitted-up with oven and boiler-range; and two bedrooms—one 12 feet by 10 feet, the other 12 feet by 9 feet; in addition to which there are a store-closet under the stairs, and a washhouse 8½ feet by 7¼ feet, with copper, fireclay oven,

sink, and dresser. It will thus be seen that these cottages are very commodious and well calculated to meet the wants of the class they are intended for; and, costing about £220 the pair, they would pay a good percentage on the capital invested. The Society has also published designs for four-roomed cottages not quite so large nor provided with the same amount of conveniences, which have been built for from £160 to £180 the pair. A comfortable dwelling with a piece of garden attached is conducive to the morality, health, and industry of its inmates, thus rendering them more valuable members of the community. When a man comes home from his day's labour he requires rest, or at least change of employment, which is a kind of rest; but where the number of rooms is inadequate the family is crowded together in the living apartment, in which at the same time various household operations are being carried on; comfort is destroyed; he cannot profitably occupy either mind or body; he seeks recreation elsewhere, and becomes careless of home. On the other hand, where the labourer has a comfortable dwelling with a piece of ground, he can, after having recruited his strength, amuse himself in his garden, which becomes a savings-bank of labour, paying back good interest in the shape of various articles of necessity and luxury which would either have to be bought or done without.

2387. KEY, E. S., *Sharrington*.—Models of cottages. One of these is similar to that erected in Hyde Park in 1851; the others would, doubtless, answer well for agricultural labourers, costing from £120 to £180 the pair. Some of the bedrooms might be advantageously increased in size; those in No. 3, 9 feet 6 inches by 10 feet, are too small; but one of those in No. 4 is 13 feet by 10 feet, which is very good; but another is only 11 feet by 6 feet: much, however, would depend on the height of the ceiling.

In the iron and general hardware department there is but little of interest in a horticultural point of view. There are several exhibitions of galvanised and painted wire, forming archways for training Roses and other plants upon, seed-protectors, flower-stands, baskets, &c., exhibiting a variety of designs, some of which are very elaborate. Very good specimens of this description of work are shown by Reynolds, of New Compton Street; Geddes, of Manchester; Walker & Clark; Richards and Co., Oxford Street; and Harriet West, Euston Road. Spades and draining-tools, as used in different counties, are also shown in this class by Watkin & Co., Stourbridge.

Among the cutlery and edge-tools, F. Parkes & Co., Birmingham, show their steel forks, which are now largely employed in the London market gardens instead of the spade in preparing the ground for certain crops; also draining tools, spades, and bill-hooks. R. Thomas, of the same town, exhibits axes, hedge-shears, bill-hooks, &c.; M. Eaton, Driffield, hedge-pruning hooks of various forms, one of which has a V-shaped head, with which a branch can be cut by an upward thrust; and Waldrow & Sons, Bellbroughton, scythes as used in different parts of England, in Scotland, and the south of Ireland, only slight differences in the form and dimensions existing between the different kinds. From Gilpin & Co., Cannock, come hoes, Dutch and crane-necked, steel forks, hedge-bills, axes, and edging-irons; and lastly, from Saynor & Cooke, of Sheffield, hedge and edging-shears, parrot-bills, pruning-shears, and garden knives. Among the latter are knives for pruning, budding, and grafting in great variety, and, doubtless, of excellent quality; but what is singular, we did not notice among them a single pruning-knife with a fixed blade—a kind which is more useful and durable than any other where there is much pruning and where strong wood has to be cut out. This is the only exhibition of garden cutlery which we have been able to find in the British portion of the building, unless we dignify by that name two vegetable knives which are to be seen in one of the cases. The excellence of British cutlery for gardening purposes is well known, and it is a matter of regret that this branch of manufacture should not have been brought forward with that prominence which its importance entitles it to.

This subject reminds us of another great shortcoming—the deficiency there is in the display of horticultural tools and implements generally. The spade, for instance, is a tool in the making of which we are excelled by no other nation—it is hardly to be found. Then we have pickaxes and grubbingaxes, and rakes and hoes, the various modifications of the latter peculiarly well adapted for different crops, as well as barrows and baskets for market and other purposes; but these articles are either not shown at all, very partially so, or, like many other things in

this Exhibition, in such a way that no opinion of their merits can be formed. From the examination of such tools foreigners and our own colonists would have derived great advantage; for, having seen the superiority of our implements, they would not be slow in bringing them into use, benefiting themselves by the saving of labour and our manufacturers by an increased demand.

As the fact has not as yet been noticed by the daily Press, we will mention that there has been just added to the Exhibition a case of Japanese silk from Lord James Hay.

To this and the Ailanthus silk, exhibited by M. Guérin-Ménéville in the French department, we shall refer in future reports.  
(To be continued.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

AVOID getting on the ground while in a wet state, clear all the Brassica tribe from dead leaves, and where slugs are very numerous lime the whole of the garden during damp weather. *Cabbage*, sow a good breadth of some dwarf and compact sorts for early Coleworts. *Carrots*, sow a bed of the Horn. Loosen the earth between the main crops where it is battered down hard by the late heavy rains. *Celery*, the earth should be loosened about the plants where it appears crusted. *Endive*, make a full sowing. As soon as the plants are a few inches high mow the top of the leaves off, cutting about one-third of the leaves away. This will stiffen the plant and cause much heart to develop itself, and also enable them to bear transplanting better. *Mushrooms*, this is a good time to make spawn for winter and spring use. After the bricks are made and partially dried, they may be placed in layers in an open shed, with a thin layer of spawn from the old beds which have done bearing, between each course, the whole to be afterwards covered with dung sufficient to keep it moist and warm. *Small Salad*, keep up a succession by repeated sowings in the open ground in a shady spot. *Spinach*, it is necessary to sow once a fortnight, let the weather be what it may, as it so soon runs to seed. *Turnips*, this is a good time for a liberal sowing of the Dutch or Stone sort.

### FLOWER GARDEN.

Pay attention to the stirring of the soil amongst the plants in beds and borders, such attention to be continued until the plants have nearly covered the surface of the beds. Remove all suckers from Rose trees, and keep a sharp look-out after insects, use all means at hand to destroy them. As evergreens have now done shedding their leaves for a while, a general clearance should take place in dressed grounds. As Auriculas are often at this season of the year attacked by the green fly, it is advisable to remove them with a camel-hair brush, keep the plants in the shade, and water them occasionally. As the capsules of seed become of a brownish tint gather them with a stalk. Tie eight or nine together, and let them dry carefully, after which put the heads in small paper bags, and hang them up in a cool, airy place until they are wanted to be sown. The principal part of the blooms of Ranunculuses will now be past their best; as the grass withers the roots should be taken up, for none is more easily excited into growth, and should they emit fibres again the danger of losing them is imminent. Attend carefully to the Dahlias as they grow, and do not neglect tying-up the shoots to stakes, as they are easily broken by the wind, and the plants ruined for the season.

### FRUIT GARDEN.

Those who understand the importance of a thorough ripening of the wood of all wall and espalier trees, will, no doubt, pay attention to the early thinning and training of the branches. It is unreasonable to expect Peach and other wall trees to perfect this process when the young wood is left dangling from the wall until August. The practice to be recommended for Pears at this period is to cut out a few of the watery and luxuriant shoots as a slight thinning, to equalise the light, then to tie down on the old stems, or to nail down a regular supply of the brownest, shortest-jointed, and earliest-made wood, and finally to stop the points of all the remainder left as breastwood. The latter if totally disbudded now would cause the embryo fruit-buds for the next year to burst, whereas, if stopped they will cease to obstruct the light in an unnecessary degree, and will operate as safety-valves for a period. In the early part of August these foreright shoots to be cut back to about 5 inches or 6 inches in length. From that period all the sunlight possible will be wanted to perfect fruit-buds for the ensuing season.

### STOVE.

The prevailing dull weather will render the use of the syriug less frequently necessary. Atmospheric humidity may be sustained by frequently damping the house. Many of the showy specimens coming into bloom here may now be removed to the conservatory or greenhouse. *Clerodendrons*, *Erythrinas*, *Gardenias*, *Ixoras*, *Jasminums*, *Liliums*, *Pergularias*, *Plumbagos*, *Stephanotes*, &c., are of this class. By removing them they will allow more room to the young and remaining stock, and where their beauty will be longer preserved in the more moderate temperature of the conservatory or greenhouse. Many of the basket Orchids will soon be protruding their roots through the moss or soil, and a little additional fibrous peat or moss should be added in due time.

### GREENHOUSE AND CONSERVATORY.

Now is the time to encourage a rapid and sturdy growth in *Corræas*, *Chorozemas*, *Ericas*, *Leschenaultias*, *Pimeleas*, *Polygalas*, &c. A constant stopping of gross shoots will be necessary, in order to equalise the sap, and to encourage the lower parts of the plants liberal shifts to be given during their season of active growth, that the pots may be pretty well filled with roots before the approach of winter, by which stagnation in the soil is most likely to be avoided. The soil for general use to consist of three parts fibrous sandy heath soil in a lumpy state to one part of turfy loam, with a good sprinkling of charcoal. The crocks to be carefully placed to provide various outlets for the water, these to be covered with smaller sizes of pounded crocks, and, finally, the rough of the compost to place the ball on.

### PITS AND FRAMES.

As a guide to select for propagation, let cuttings of all soft-wooded and quick-growing plants be selected of a somewhat firm character, and those from hardwooded plants in rather a young state—that is, the newly-made wood with full-grown leaves and beginning to turn somewhat brown at the base.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

SOWED succession of Peas in hopes of a fine autumn; thinned *Turnips*, and sowed more: the only means for having crisp, sweet bulbs is to sow often, a little at a time, and to use them young. By July and August more breadths may be sown. The Strap-leaved and the American Red Top are the two best that have come in my way. It is no use specifying yellow-fleshed ones, cooks will not use them, and ladies dislike them at table; but amateurs who can dare to be singular have a treat before them in the little yellow Maltese, and some others. Gardeners, if they wish a quiet life, whatever they have besides, should keep a supply of what the artistes of the kitchen chiefly need and like. So far as my experience goes, they would do more with varieties and novelties, if ladies and gentlemen would permit them. A yellow Turnip at many a table, whatever the flavour, would be ranked as among the vandalisms and vulgarisms that were on no account to be approachable. Cleared *Celery*-trenehes of the remains of bedding plants, to get out strong and large plants of the white Incomparable *Celery*, the best and most economical I have met with, the flavour being so sweet; the plants are so compact and dwarf, that 12 inches, or even 10 inches, when late, will be far enough apart, plant from plant in beds holding three or four rows, and then if the plant should be 15 inches in height, you may send 12 inches of that length to table. Last season I do not think I had a single run or hollow head. In gardens of many acres it is all right enough to grow *Celery* some 24 inches to 36 inches in height; but for small gardens as those we chiefly write for, this little, white, crisp Incomparable is the best, as a few square yards will furnish a nice lot for the bread and cheese for supper. Have strong plants of *Tomatoes*, but find we must use the Kiddean system chiefly, and plant them on the ground, training them out like ridge Cucumbers, only keeping them more thin. Attended to herbs of various kinds; pricked out seedlings, and transplanted cuttings of *Sage*, *Tarragon*, &c.; staked Scarlet Runners as the weather would let us get at them without potching the soil.

### FRUIT GARDEN.

Finished strawing and littering *Strauberies*; turned out another lot of forced ones. The first forced are beginning to show bloom again, which will just come in after such late kinds as Elton and Eleanor are gone. Before strawing, put a little

soot and lime close to the rows to start slugs and ants; would have used a little guano for the latter if we had happened to have any, but all such manures cost direct outlay, whilst we obtain the others chiefly by looking after them at flue-and-chimney-sweeping times. Top-dressed Peas and other trees in pots with an inch of decaying horse-droppings; would give a couple of inches to the Vine-borders if we were able to do it, so that the rain should wash it in. There has yet been little occasion for manure-watering, as there has been more from the heavens than was quite agreeable. The earliest Vines have not yet had the whole covering of litter removed from the borders, and a little manual virtue would be washed into them. The late-house has several times, before a shower, had a sprinkling of superphosphate of lime, which I also could use more freely than I do, and which everything seems to like. *Figs* ripening and swelling fast have had a good soaking of farmyard manure, reduced when too strong; the wood thinned and stopped for second crop, and plenty of air given after such watering to prevent any of the Figs damping at the ends.

Fig bushes do capitally in pots if properly attended to, but they generally do best when the gardener allows no one to touch them but himself. If the soil gets waterlogged when the fruit is swelling, or gets suddenly dry for any time, every fruit runs the risk of dropping. I once saw a number of pots partly plunged, well set with fruit swelling kindly; but all at once they dropped, and without any apparent cause, for the leaves showed no distress, and the surface of the pot seemed damp for anything. But on lifting the pot and feeling its weight, ringing its sides, and sticking fingers and stick down into the soil, the cause was too apparent; the bulk of the soil about the roots was dry—the moist surface not only deceived the gardener, but prevented the dry roots raising moisture from the bed in which the pots were plunged. Two or three such visits, and the first crop of Figs will drop to a certainty. With ample drainage, and a little sun, it is hardly possible to injure by overwatering in such circumstances; though, of course, when not needed, extra watering would be labour thrown away.

Figs out of doors, showing well, have been regulated, and some strong shoots stopped. Whatever stopping in their case is needed, however, should be done earlier, as late stopping has a tendency to produce shoots when there is not time nor sun enough to ripen them, and next year such shoots will be destitute of fruit. Stopping much now, too, has a tendency in out-of-door Figs, if shoots are not thrown out, to cause young fruit to show themselves, which, unless in extraordinary seasons, will never come to anything, but will drop in winter. It is quite as well if no fruit shows on the young wood, as none, if protected, can hardly be saved for next season, if larger than Peas at the approach of winter. The great object is to have them not larger than pins' heads; if larger, they should be neatly cut off, and then there may be some young ones that will come from the same joint. I am speaking of north of London and common situations, and not of places in the south of England where the Fig has made itself a native, and bears profusely with little more attention than is necessary for a Currant bush.

Went over *Apricot trees*—a disheartening job, some of the wood poor, and little fruit; the continued wet weather having done more injury to the blossom than even the frost. Hope to get them under glass some day, and before that time have no hope of certainty in our cold place. Even when a crop was obtained in a fine season, it was a rarity to have them thoroughly ripened all through; as the one half would be melting and rich, and the other half greenish and hard. Glass at 2d. per foot, with plenty of ventilation, would give us something like certainty; and, in a few years, would be less cost than bothering with simpler modes of perfection.

The great advantages of glass are, that it secures all the light possible and dryness to the plants when in bloom, to say nothing of a still atmosphere in severe frost. Pretty well finished thinning the fruit of Peaches and Nectarines which, both under glass and exposed, set in many places like ropes of Onions; showing, in the latter case, how much more hardy they are than the Apricot. Those out of doors, however, had less rain when in bloom. Picked caterpillars from Pear trees so infested, and nipped the points of the summer shoots, leaving a number of points untouched to carry on the running, and prevent the starting of fruit-buds.

Removed extra wood from *Cherries*. Nipped the points of what was wanted for fruit next season, and dipped and brushed

with tobacco water where there was any appearance of black fly, and in a day afterwards engaged hard with sulphur and lime water. Netted also, as some of the *Cherries* were changing, and found that all the birds praised as caterpillar-killers were more inclined to take a half-ripened Cherry, or dig their bills into a dozen of the best Strawberries, than rip up leaves to get the gentlemen safely rolled up there. I am not insensible, however, to their merits as insect-destroyers. One of the greatest pests in the garden is the tomtit in the spring, and he looks so knowing and complacent-like at you, that it goes against the grain to knock him over. Let but a dozen of them have free scope in a garden when the buds are moving, and what desolations of bare wood they will leave in their track. But at this season there can be no mistake as to their good service, as the quantities of caterpillars and various kinds of aphids they carry to their young are amazing. Nipped the points of dwarf Pear and Apple trees with the thumb and finger. This is easily done when soft, throws the sap back from fruit-buds, and gives scarcely any check to the tree.

#### FLOWER DEPARTMENT.

Much the same as last week. For hardwooded plants out of doors, see page 229. Potted some old and chiefly young *Fuchsias* into rough loam lightened with road drift and enriched with old cowdung, horse-droppings, and old Mushroom dung, &c. Kept filling up the edgings of flower-borders and beds, and transplanting China Asters and Stocks, which, pricked out as previously advised, and lifted with balls will scarcely know the moving. Finished beds and lines of *Zinnias*, which I hope will do well. When thus pricked out and lifted of a good size they are generally worth looking at. Secured forward *Phloxes*, *Hollyhocks*, *Roses* against pillars, &c., and as we have not been able as yet to mow the whole lawn and get it in order, have got everything passable near the house, and kept a broad swathe by all the walks close cut. This I do not only for neatness, but for ultimate economy. Walks not well kept had better be sown down at once. Nothing gives a bad impression of a place sooner than rough, weedy, dirty walks. To keep them well, is just another word for keeping them economically. To do the latter, and lawn at the sides, no grass or *Daisies* ought to be allowed to seed near them, or picking, salting, or something of that kind must be interminable, and often salting will spoil the finest walks, making them as retentive of moisture as a sponge. When a lawn is so large that to attend to other things it cannot always be shot grass—say until the end of June, it will be found ultimately very economical to keep a good swathe at the sides of the walks mowed regularly.—R. F.

MISTLETOE ON THE MAPLE AND ACACIA.—Mistletoe is growing here on trees not mentioned in your Journal—viz., the *Acer campestre*, or common Maple; and a beautiful specimen is on the common *Acacia*, now looking most luxuriant, and measuring 2 feet in diameter. Locality, three miles from Worcester.—J. M. H.

#### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

GERANIUM AND PELARGONIUM (*Patelin*).—Many minor distinctions have been made, but are not sufficiently invariable to sustain the title of a distinction. The only one we know is that the *Geranium* has no nectary, and the *Pelargonium* has a nectary adherent to the peduncle. It is impossible to answer the query about the pump and hose without more particulars.

WOODLIE IN CUCUMBER-BEDS (*Cranford*).—There is no mode of destroying them without breaking up the beds. Gas lime sprinkled about their haunts will expel them, but it must be frequently renewed and care taken that it does not injure the plants. Two pieces of board or tiles kept about one-eighth of an inch apart form a good trap. Toads kept in the frame will destroy the woodlice.

**ZINC LARVIS (W. H. R.).**—The zinc will become white by oxidising—that is, combining with the oxygen of the air, but it ought not to render the writing illegible. To prevent the oxidising try putting varnish over the face of the label after you have written upon it and the letters have become black.

**HEATING BY GAS (A Lady Gardener).**—For a small greenhouse we have employed a common gas stove with two circles of jets, one circle 12 inches in diameter, and the other circle within it 9 inches in diameter. The pipe, 3 inches in diameter, from the top of the stove, passed along the entire length, gradually rising all the way.

**COCA-NUT FIBRE REFUSE FOR CUTTINGS (Idem).**—As cuttings may be struck even in wet moss, we have little doubt that they would do likewise in cocoa-nut fibre refuse; but we should employ had light loam and half refuse mixed thoroughly together, and passed through a sieve afterwards.

**ORCHIDS AND PLANT-CASES (C. B.).**—You must say what kind of Orchids you want—natives of England or of any particular country abroad; for some stove Orchids, intermediate stove Orchids, greenhouse Orchids, and hardy Orchids can be grown in any good plant-case.

**ZOOLOGICAL GARDENS (J. D. C.).**—We remember Hoel's "Ode to Mr. Vigors" perfectly well. It was not "a satire," but a good humoured jeu d'esprit. Here it is, extracted from "The Comic Annual:"—

"What is your gardening volume?—like old Mawe's?"

Containing rules for cultivating brutes

Like fruits,

Through April, May, or June;

As thus—now rake your lions' manes, and prune

Your tigers' claws;

About the middle of the month, if fair,

Give your chameleons air;

Choose shady walls for owls;

Water your fowls,

And plant your leopards in the sunniest spots;

Earth up your beavers; train your bears to climb;

Thin out your elephants at this time,

And set some early kangaroos in pots;

In some warm shelter'd place

Prepare a hotbed for the boar race,

Leaving them room to swell;

Prick out your porcupines, and blanch your ermine;

Stick out opossums; trim your monkeys well;

And 'destroy all vermin.'"

**SPERGULA PILIFERA**—USE OF OLD TURF (*Darby and Joan*).—As you are so satisfied with the Spergula on your terrace, you are quite right in your idea of flaying off the coarse grass of that piece of ground and laying it all down in Spergula after a good trenching and a winter's frost. But do not burn the rough sods; that is a most wasteful garden plan even if the surface were brick earth. Let the turf be cut rather thicker than for turving; then pile it all up in a heap out behind the shrubs; then let it rot and mellow; and no loam will be better after a while for potting with. The best loam we ever potted with was from a "bank" of surface clay, turf, and shingles, which was thrown up and stood so for eighteen years at Claygate—the exact place where the Claygate Pearmain Apple was found. The clay there is the stiffest in England, but it has mellow loam mellow as corn flour; and it takes just half and half of very rotten cocoa-nut refuse to make it "fine-Apple loam," and fit for most plants when rightly reduced; so you see the value of your rough turf. But if you burn it there will be no more goodness from it than from any burnt common stuff. Pray do not disgrace the 12 feet long and 5 feet wide of your beautiful Spergula by cutting it into little bits of beds with b. by beds in them. Such a piece of perfect Spergula will be of itself the gayest flower-bed you ever saw in the height of summer.

**MOLEWORM (G. P. Yorkshire).**—This is commonly known in England as the Mole. Your name is nearer the Anglo-Saxon name, derived in that language from *Mold*, earth, and *weorpan*, to throw up. The mole lives upon worms and underground insects which it finds near the roots of plants. The only way to destroy moles is by trapping them. You may buy mole-traps of iron at the ironmongers, but one of wood and wire is usually employed. We will give a drawing of this next week.

**FARMING INFORMATION (Intending Farmer).**—There is no such journal as you inquire about. No editor will undertake to teach you farming. Buy our "How to Farm Two Acres and Make the Most of Them" That with our "Poultry-Book for the Many," will give you all the general information you need. As for buying stock, the best guide you could have would be a farmer near where you settle. Make his acquaintance and ask his advice.

**ANTS IN MELON-BEDS (Flax).**—Placing a little guano round the sides of your Melon and Cucumber beds, or watering with weak guano water, an ounce to the gallon, will send all the ants off. We have found quicklime and fresh soot mixed together do much the same thing. Ants threaten to be most mischievous this year; they are seizing the Strawberry-quarters in some places. The tall sucker of the American Blackberry should have its point nipped out, and it will most likely bear plentifully next season.

**GRUB ON CELERY LEAVES (J. C.).**—They are the grubs of the Celery Fly (*Tephritis onopordinis*). Unless very numerous they will not perceptibly injure the plants. Pick off the leaves attacked and destroy them, or the grubs will give birth to flies and the mischief be increased.

**TAR FOR DESTROYING GOOSEBERRY CATERPILLARS (Rebecca).**—Neither Mr. Candlin, at page 194, nor the correspondent in Vol. XX., quoted by him, mentions whether they employed gas or archangel tar. We presume the latter.

**BEAUTY AND UTILITY COMBINED.**—"In your last issue you print a very interesting letter from a correspondent signing himself 'L.' As he appears to be a real lover of gardening, and has succeeded so well with his small stores with chambers surrounding them, perhaps he would not object to show a novice his mode of proceeding, as I cannot understand sufficient from his description to enable me to construct such a system of heating.—B. West, 69, Old Broad Street."

[Will "L." be so kind as to communicate with our correspondent, who adds, that he would not mind travelling thirty or more miles to see the plan adopted by "L."]

**VINES LUXURIANT BUT UNPROFITFUL (R. W. P.).**—We are afraid your surmises as to the roots are right, and, if so, lifting them would be the grand

remedy. This might not be approved of in the case of such fine-looking vines. We are also doubtful if your wood was so well ripened in such circumstances. The first palliative is by saucers, &c., to prevent the waterings soaking the border. The next is to open a drain 4 feet deep in front of it and fill up with rubble. This will secure dryness, and we would advise you next season, in your circumstances, to have short rods on your Vines—say of four to six or more joints on each shoot, instead of spurring back, and then when you have selected your fruit you may prune more and the Vines are in leaf. If we are right as to the causes, until the drains &c., take effect, you will be more sure by the rod-system than by spur-pruning.

**ROSE PRIZES (T. Parsons).**—We have no right to interfere. We never make any reference to the society you mention; but if we did, we should only say if an exhibitor felt aggrieved, he must complain to the committee.

**EARTHING-UP POTATOES (An Amateur).**—It is quite true that Mr. Keane in our Number of June 10th says, "Earth-up Potatoes immediately after rain;" and that in the "Garden Manual" the instructions given are, "Do not earth-up at all, as earthing-up diminishes the crop one-fourth." With the author of the latter we coincide in opinion. You can easily try the experiment; earth-up some of your crop, and I leave some unearthed. The results will show if the labor of earthing-up is not worse than thrown away.

**EPHYGIUM LEUCOGOTRYS (Subscriber, Z.).**—It is a native of the Duppla Hills, in north-eastern Bengal. It is a greenhouse evergreen shrub, flowering in summer, and ripening its clusters of white, wax-like berries in autumn. A soil of equal parts peat, sharp sand, and light loam will suit it.

**RED SPIDER IN VINERY (One in Distress).**—As the Grapes are ripening, you can do no better than keep the path well watered daily, paint the stems with clay and flowers of sulphur paint, sprinkle some of the sulphur on the surface of the borders, and dab some of the sulphur paint on the flue at the end farthest from the fire. If the air of the house is impregnated with the fumes of sulphur, without burning the sulphur, they are fatal to red spider.

**VARIETATED RUMEX (J. Shield).**—Your *Rumex obtusifolius*, a wild British Dock, would be as conspicuous in rockeries and the banks of the wilderness, as *Aloesia macrorrhiza* is in the stores and show-rooms, for it is marked very much on the same model, and we think we have seen the like of it once with Mr. Salter, who, if he has not got it now, would probably give you a collection of fine *Chrysanthemums* for it.

**DOUBLE PANSY (J. T.).**—This is a "Good Gracious" Pansy at last. The very finest Pansy we have ever set an eye upon. Pray communicate some information about how you got it for our register. It looks just as if the Magpie Pansy (the *Torenia*-island-like Pansy), was turned double, and to double the size at one turn. It is as double as the most double *Ranunculus*, and is so heavy that four blooms cost 6d. through the post. Let us know more about it, for it is a very strikingly beautiful flower.

**PRESERVING GRAPE (West House).**—The best of all modes of preserving Grapes as long as possible in an unshrivelled state is to leave the bunches on the Vine, keeping the vine dry and well ventilated. If they must be cut, hang them in a dark, dry, cold closet, suspending them by a string tied to the lowest end of the bunch, as the reversed position keeps the berries as much separated as possible. Mr. Thompson, of Dalkeith, a first authority, cuts off the spur with the bunch, and thrusts the cut end into a thick slice of Mungold Wurtzel; half a small Turnip might do as well. Which plan is adopted they should be looked at almost daily, and each berry cut off by the help of a pair of sharp-pointed scissors immediately any mould appears upon it.

**VINE AND FIO LEAVES BROWN-SPOTTED (A Subscriber, Gt. Staughton).**—If only a few of the leaves are blotched like those you enclose, the damage is occasioned by irregularities in the glass which, acting as lenses, concentrate the rays of the sun and scorch the leaves. The best remedy for this will be to paint over the inside of the glass with a thin mixture of size, whitening, and a little Prussian blue to give an agreeable tone to the colouring. If the blotching of the leaves is general, it is occasioned by the roots being defective; probably occasioned by the excessively rich compost you employed. The remedy in that case will be to remove the compost as much as possible from about the roots, to mix it with an equal proportion of bricklayers' limy rubbish, and refill the border with that mixture.

**NAMES OF PLANTS (G. R. B. Oringham).**—It is the Palmate-leaved Ivy, *Hedera digitata*. (*C. R. Leeds*).—*Franciscea calycina* in a stunted condition. It is a stove plant. (*H. G. B.*).—1, *Betula alba laciniata*; 2, *Andromeda speciosa*; 3, *Lonicera Ledebourii*. (*L. B.*).—1, *Spiraea arifolia*; 2, *Cornus sanguinea*; 3, the white *Thalictrum aquilegifolium* if not tuberous-rooted; 4, *Callistachys ovata*. (*A. X.*).—1 and 2, *Cystopteris fragilis*; 3, *Coleonema pulchrum*; 4, *Sarracenia purpurea*. (*Chesterfield*).—1, *Salisbtria adiantifolia*; 2, *Lelium bifolium*; 3, *Andromeda polifolia*; 4, *Astrantia major*; 5, *Spiraea levigata*. (*Verescens*).—The rock plant is *Nepeta micrantha*. The leaf seems to be that of a *Fic. Hogg's* "Vegetable Kingdom" will suit you. *Lapageria rosea* will do in your greenhouse. (*Dublin*).—Your basket plant is probably *Senecio mikanooides*, but it was much crushed. (*Crauefer*).—The leaf is from a *Crassula*, probably *C. arborescens*. (*L. W.*).—*Diosma cricoides*. (*Rev. B. Lincke*).—*Periploca græca*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

JUNE 26th and 27th. SUEZOLK (Woodbridge). *Secs.*, Mr. J. Loder, jun. Entries close June 5th.

JULY 3rd. PNESSCOT. *Secs.*, Mr. James Beesley. Entries close June 21st.

JULY 9th, 10th, and 11th. LEENS and WEST RIDING. *Secs.*, G. Newton and J. Wade. Entries close June 21st.

AUGUST 2nd, 4th, and 5th. SHEFFIELD. *Secs.*, Mr. George Westerholm, 49, Queen Street.

SEPT. 4th. WAKEFIELD and WEST RIDING. *Secs.*, Mr. J. Cresland, jun. Entries close August 23.

SEPTEMBER 9th. WORSLEY and ARMLEY (near Leeds). *Secs.*, Mr. Robert Hoyle, Armley, near Leeds.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Secs.*, John B. Lythall 14, Temple Street, Birmingham.

POULTRY AND ITS PRODUCE.

THERE was a time—and compared with the age of a nation and civilisation, not so very long since—when to enjoy the luxury of a salad or a cauliflower it was necessary for the wealthy and the titled, and even for the Sovereign herself, to send an express to the continent in order to obtain it. Doubtless, the farmers of that day thought it beneath the dignity of their cloth to devote any portion of their time, attention, or land to so insignificant and ignoble a species of produce. It might do very well for the poor people of France and the Low Countries to fiddle-faddle themselves about such trifling productions, but an English farmer had something more worthy of his attention to look after than pot-herbs and lettuces, with their accompaniments. But that day is gone by, and these things are cultivated in old England with as much success and to as great an extent as on the continent; and any farmer has now only to step out at his back door in the kitchen garden attached to every house in the country to supply himself with whatever of culinary or other vegetables he delights in.

There are, however, still articles of daily consumption, the production of which in England is far from being commensurate with the consumption or with the capabilities of the soil, and for a large supply of which we are indebted to our neighbours, the French and Belgians, to an extent that will appear apocryphal to those who are not initiated into the history and mystery of the Board of Trade returns. We refer to poultry and its produce, in the raising of which the British farmers are far behind their neighbours.

A stimulus, it is true, has been given to this branch of rural economy the last few years, but at present the "poultry mania," as it is justly termed, is chiefly confined to amateur breeders. In order to extend the "poultry mania" amongst the agricultural classes, or rather to induce them to pay greater attention to the business of rearing and fattening fowls for the market, we will place before them the returns of the Board of Trade of the quantity of eggs and poultry imported; the former for the last ten years, whilst the latter, since the reduction of the duty not being inserted in the returns, we can only give them for a limited period.

With regard to eggs, then, the following are the average numbers per annum imported since 1828, taking every five years:—

AVERAGE ANNUAL IMPORT OF EGGS FROM	
1828 to 1832 inclu five	61,431,062
1833 to 1837	68,493,516
1838 to 1842	91,393,732
1843 to 1847	72,690,051
1848 to 1852	103,120,221
1853 to 1857	147,342,219
1858 to 1861	163,581,140

There has, therefore, been a gradual increase in the supply ever since 1828, with the exception of the fourth average; but to show the enormous extent to which it has now reached, we may state that whereas in 1833 the quantity imported was 70,415,931, in 1861 it reached 203,313,360. And, if we reckon the cost price of these at 4*l.* per dozen, their value is £282,379 10*s.*—upwards of a quarter million sterling for a species of produce that could with the greatest ease be raised at home. With regard to the poultry imported, there is reason to believe that it has increased in an equal proportion. The returns have not noticed them since 1856, but for that and the two previous years the imports were in value as follows:—

1854	£38,874
1855	42,075
1856	48,230

So that the increase was about 25 per cent. on those three years, and has probably been quite in an equal proportion since, making up an aggregate amount for 1861 of fully £360,000 for poultry and eggs.

The number of eggs sent from France is not so surprising, when we take into account that every farmer has his *basse-cour*, or fowl-yard, the produce of which constitutes no inconsiderable item in the accounts of the year. M. de Lavergne, in comparing the produce of the United Kingdom with that of France, states, that while the poultry of the former amounts to only 20 million francs (£800,000), that of the latter country amounts to 200 million francs (or £8,000,000 sterling); there is, therefore, a large margin left from the home consumption to be exported.

That the farmers would find it to their interest to cultivate more sedulously this branch of rural economy there cannot be a doubt. In London there is always a demand. Like all other

provisions, there are different periods for different prices, and here it is that poultry shows do much good in offering premiums for early maturity. If those who have facilities for rearing chickens would do so in January, or even in December, and bring them to market in a fat state in April, May, and June, they cannot fail to receive a remunerating price. Three pounds per dozen is a common value for fowls four months old. At this season, less than two guineas would be ridiculously low.

There is a collateral advantage to the farmer in keeping a large stock of fowls. The inferior grain could then be profitably consumed on the farm at a remunerating price, instead of being subject to the fluctuations of the market. Nor is the dung that would be made an object of no account. It is certain that fowls' dung is exceedingly valuable, and where large numbers are kept a considerable quantity would be made in the year. For the present we leave the subject for the consideration of those whom it concerns, but may probably recur to it on some future occasion.—(Mark Lane Express.)

PIGEONS AT THE BATH AND WEST OF ENGLAND EXHIBITION.

THREE pens belonging to Mr. E. Smith, 18, Steelhouse Lane, Birmingham, never appeared at all in the printed catalogue of the Bath and West of England Society; and in the Judges' award-book are entered only by numbers in pencil: consequently, it is most probable, they were post-entries at the last moment. To the Judges it was never at all known to whom they belonged. The awards were as follow:—

OWLS.—Pen 263*a*, second prize.

TRUMPETERS.—Highly Commended, pen 267*a*.

NUNS.—First prize to pen 279*a*.

These were items waited for during twenty-four hours after the time specified for the entry of the birds, and left even then a confused jumble. This irregularity should be strictly guarded against. No pens should be admitted after the time for entering has passed. Prizes awarded to pens not in the catalogue create suspicion of undue favour.

PROPOSED POULTRY SHOW AT SHEFFIELD.—We see it is stated that the active Committee of a new Society is at work, with a good prospect of success. They have secured an eligible site, and propose to hold the Exhibition during the summer.

DO BEES VARY IN DIFFERENT PARTS OF GREAT BRITAIN?

I HAVE two hives at present in my garden on the same stand, 3 feet apart; one a frame-hive containing a strong swarm of fine yellow bees, lately lived in the neighbourhood of Ealing; the other a common straw hive, with a year-old swarm of small black bees, from the neighbourhood of Woking. Both swarms are English bees, work vigorously, and do not interfere with each other, but vary in form, colour, and temper; the smaller bees being thicker, darker, and quieter than their more taper, brilliant, and demonstrative neighbours.—SURREY HIGHLANDER.

My attention having been drawn to a communication in a recent Number of THE JOURNAL OF HORTICULTURE from Mr. Darwin, entitled "Do bees vary in different parts of Great Britain?" and, being solicited to give my views on the subject, I make the following remarks:—

In the communication I made in your Journal, published May 15, 1860, to which Mr. Darwin refers, I announced to the scientific world the curious and highly interesting fact that a peculiar variety of honey bee was then in my possession, so sensibly different in its appearance and colour from the ordinary bee as to be easily distinguished from it. I propagated this variety of bee both naturally and artificially, but owing to certain fatalities arising principally from the past two adverse seasons, the progeny from the original stock all died out but one, which is still in my possession; but which, unfortunately, is not in the most flourishing condition.

In the article referred to I gave a particular account of this bee, and of its peculiar characteristics. The colony was lodged in a Huber-hive, and therefore I had every facility of internal examination. The queen was large and most brilliantly tinged

with a deep golden colour underneath and around the abdomen, the segments of which were particularly distinct and well defined. The depth and brilliance of colour far surpassed that of any ordinary queen; while the pale thick downy hairs which covered and surrounded the thorax showed very conspicuously. It was at once evident that the peculiarities of the common bee owed their origin to the very marked and distinctive colouring of their queen. In the drone the difference was not so manifest. I may mention that this queen died a natural death in the autumn of 1860, having been for some time previous so languid and feeble as to be scarce able to hold by the combs; she was thus in my possession fully three years. How old she was when she came into my hands I cannot say, but I conjectured she had been bred during the preceding summer. I regret I did not attempt to keep this variety of bee separate from my other hives. Owing to this circumstance, and perhaps from other causes, the distinctive peculiarities became gradually less marked, so that in the stock now possessed, being the third generation, the difference, more especially of the working bee from the ordinary variety, is scarcely discernible. In the second generation even the peculiarities of appearance were sensibly altered, though any ordinary observer might at once distinguish the bee from the common species. Indeed, I have repeatedly tested this by collecting a number of bees from different hives on a honied leaf, along with the grey variety, and placing them at a distance from the apiary in one promiscuous crowd; and have amused my friends by asking them to pick out from amongst the hundreds thus collected together the grey bees, which they were at once enabled to do; and by holding them on the point of the finger would see them fly direct to their hive. The bees of my present stock, which is the third generation, are, as I have already stated, not much different from the ordinary bee; and the curious circumstance is, that some are less marked than others, so that I have a difficulty in distinguishing some of them at all. A great number, however, still retain the traces, though faint, of the original colony. More especially is this the case with regard to the queen; but the altered aspect of both bees and queen is such that very little now remains of their former distinctive characteristics.

I will not attempt here a solution as to the origin of this peculiar variety of bee. In the communication before made, I merely hinted at probabilities, and I am still unable to go beyond mere conjectures. Certainly it is the first and only instance I know of where a marked distinction was ever discovered in the bee cultivated in this country. This leads me, however, to Mr. Darwin's inquiry, "Do bees vary in different parts of Great Britain?" This question I have no hesitation in answering in the negative, notwithstanding the observant Nottinghamshire clergyman and learned French naturalist, referred to by Mr. Darwin, being of a contrary opinion. The black bee alluded to by the celebrated Huber is an instance of how far even renowned naturalists may be carried away and misled by merest trifles. We can scarcely excuse this celebrated observer, even on the score of want of sight; though it is a great palliative to have arrived at such absurd conclusions on this matter, seeing that, according to his own account, there was nothing apparently peculiar in the appearance of the queen which produced the alleged monstrosities. The black bees, however, which have been thus immortalised by the great Huber, were nothing more than superannuated bees whose downy hair had been rubbed off by hard labour and incessant toil—either in collecting from some particular plant, or else from the pressing and wrestling consequent on robbing and plundering some neighbouring hive. From both causes I have often seen the bees become perfectly black and glazed in appearance, and the downy hair almost entirely rubbed off. By coming in contact with any glutinous or resinous substance the bees are often thus altered in appearance, and such was the effect produced on my own bees during a particularly warm season, by their feeding upon the exudation of a resinous fluid from the larch, that great numbers became prematurely old-looking and glazed in appearance, with tattered wings and perfectly disabled.

That bees of certain stocks differ in size from bees of other stocks is a fact not to be disputed, and, also, that they occasionally differ in their tempers is likewise a fact which most apiarists have ample evidence of to their cost; but that these differences of size or temper are sufficient to stamp the bees exhibiting them as a distinct variety, is a proposition too absurd to be for one moment entertained. If such a rule were to be applied to animal life of a higher order, how preposterous the conclusions!

M. Godson, the learned French naturalist before referred to, and the Nottinghamshire clergyman, should have known better. They should know that queens differ greatly in size, that drones differ greatly in size, and that bees differ greatly in size, and that these differences are simply and solely owing to the different sized cells in which they are cradled and reared. I have seen queens and drones not much larger than common bees, and I have seen common bees not half their natural size. But, apart altogether from extremes, there are marked differences as to size among all the three varieties. I had once a queen which was reared in a small royal cell, and a prolific queen she was too, though scarcely larger than a common bee. I could see no difference, however, in the size of her progeny, and even if there should, that difference would, as in the case of bees reared in old comb, disappear with the removal of the cause, the death of the queen or the renewal of the combs; for it is not the common bees that perpetuate their peculiarities. To the queen alone belongs the function of propagating the species. So much for size. Then as to temper. I have heard much of the amiable dispositions of some bees. "They are so gentle, my bees," said an apiarist to me, "they scarcely ever sting;" but in an operation which I saw performed in the apiary of this same person we had ample testimony that these amiable bees could use their weapons like others of their race when occasion so required. The fact is, that the temper of the bees of any stock is entirely influenced by its circumstances and conditions for the time being, so that we shall often find the bees of the same hive at one time irascible and furious, and at another time docile and peaceful. *Ceteris paribus*, I can always deal with a hive with greater freedom and less risk during the early summer when the combs are full of brood, than with the same hive in the autumn, in the midst of heath, engaged principally in storing and amassing honey.

On the whole, therefore, I am decidedly of opinion that no difference of climate or locality in Great Britain has any influence or effect either upon the size, colour, or temper of the honey bee; and that if any differences do exist in the size or temper of the inmates of any particular stock, they must be ascribed to those incidental causes, which being only temporary in themselves, cannot be perpetuated beyond a single generation, and cannot, therefore, constitute a claim to have such a colony exhibiting them designated as a distinct variety of the *Apis mellifera*—J. LOWE, *Edinburgh*.

#### BEE SEASON IN NORTH LANCASHIRE.

SINCE my last communication to you the bee season in this district has been anything but favourable. The month of May was a very wet one; but June up to this date (13th), I think has been worse than the memorable one of 1860. There have only been two days that rain has not fallen: therefore the swarming season has been impeded. The earliest swarm in this district May 15th (last year on the 27th), and there have been a few since in different parts. I had my first swarm the same as last year (June 9th), and two swarms since. It is possible that I should have had one in May, but I made an artificial one on the 27th—my maiden effort at this game; but I succeeded in obtaining a small one, enough for my purpose, as I can strengthen it to any extent at pleasure.

On the 25th of May I received, per rail, the same little box as last year, and upon it "Living Bees, with Care," of which I knew nothing. As might be expected, the lid was soon removed, and to my surprise there was a number of Ligurians. Getting too late for a thorough inspection, matters rested as they were until the next morning, when, to my wondering eye, there issued forth a Ligurian queen bee. What can this mean? Perhaps when the postman arrives he may have something that will solve this mystery. And so it proved: a letter from your valuable correspondent, "A DEVONSHIRE BEE-KEEPER," informing me that he had sent me a present, for which I thank him.

As I have no great opinion of placing strange queens at the head of a stock where there is brood in all stages, I adopted the plan as above. How this was accomplished some, perhaps, may want to know. For such inquirers I state it.

I removed my earliest stock from its stand, and placed an empty hive with the box at the top, separated by perforated zinc. As the day was not a very good one I did not get enough, and they were not satisfied with their adopted mother, if they found her at all, as they made to the hive adjoining; so I

cleared the bees from this, and removed it also. But proceedings were no better; so, as a last resource, I brought the first stock to its old stand, and the bees soon made themselves at home. But this was but of short duration. As soon as they were settled I inverted an empty hive, and placed the stock upon it. Of course, this was not the way to drive them—that is, the most fashionable way at present, but to use the magic fungus, as my great object was not to get the queen. By this means I obtained a little swarm; and whilst in their stupor

I put her Italian majesty to them. I adopted the same plan with the hybridised one last year, and both, I have no doubt, with perfect success. As my little ones have been bearing pollen every favourable opportunity since her introduction, I think she must have commenced her duties immediately, as I had supplied the frames pretty liberally with comb; but I have no intention of disturbing them at present for an ocular demonstration, as comb-building is going on favourably.—A NORTH LANCASHIRE BEE-KEEPER.

### LA FLÈCHE FOWL.



**FIRM**, strongly constituted body, standing proudly on long and sinewy legs and feet, appearing less than it really is, because the feathers are close; all the muscular proportions well developed; black plumage.

Of all the French breeds the La Flèche cock is the tallest; in many respects he is like the Spanish, and, I believe, he is originally the result of a cross between the Spanish and Crève Cœur.\* Others think this breed comes from the Breda, and it must be admitted they have many points in common.

Their *Skin* is white, fine, transparent, and soft; meat short, juicy, delicate, and very easily fattened.

The *Topknot* is formed of a little bunch of feathers, sometimes short and straight, sometimes rather longer and drooping. It rises from the crown of the head behind the comb. The comb is transversal and double. It assumes the form of horns leaning to the front, joined at the base, divided at top, sometimes smooth and pointed, sometimes ramified on the inner sides. A very small comb, likewise double, springs from the top of the nostrils, and stands in front of them. Although not much larger than a pea, this *combling*, which surmounts a small rising formed by the nostrils, contributes much to the remarkable and unique aspect of the head.

\* We are disposed to think it is more likely to be the result of a cross between the Spanish and Malay.

The *Wattles* should be very long and pendent.

The *Ear-lobes* should be very large, and meet under the neck; they should be of a dead white, especially at the breeding season. Of all the breeds that possess the white ear, this has the largest except the Spanish. The tuft of small feathers that covers the ear itself should be black.

The *Nostrils* are very open and unique in their form; they form, at their insertion, the rise from which springs the combling. The beak should be very strong, slightly curved, of a dull grey colour, and yellowish at the end.

*Physiognomy of the Head.*—The La Flèche has a physiognomy peculiar to itself, and which is principally caused by the prominent monticule which forms his nostrils, and which is surmounted by the small comb. The prominence of the comb seems to increase the characteristic depression of the beak, and gives some likeness to a rhinoceros. The comb, divided into horns, suggests the Crève Cœur, and the large white deaf ear the Spanish.

*Colour of the Legs.*—Slate blue, lighter or darker according to age, turning to a deeper leaden grey as the birds get older.

*Weight of the Fowls.*—They may be eaten towards the age of five months; but, generally, they are not fattened till they are from seven to eight months old, when they are arrived at their full growth. The male is then called a virgin cock, and when

his treatment, which should last a month or six weeks, is finished he will weigh 8 lbs., sometimes rather more. A virgin cock not fattened will, at eight months, give from 6 lbs. to 7 lbs. The weight of the flesh naturally varies according to fatness. If in a normal state the bones form an eighth of the entire weight, they form a much smaller proportion when the bird is fattened.

**Plumage.**—Entirely black, excepting some small white feathers that are sometimes to be found in the crest that is on the head. The neck-feathers are long, fine, and ample, with green or violet lustre on them; so are the wing and the tail-coverts, all others are black except those of the body, which have a greyish tinge. Among the flight-feathers, which should be of a violet black green shaded, some white ones may often be found till after the first moult.

(To be continued.)

### BEES DESERTING THEIR HIVES.

I EMBRACE the first opportunity of replying to your kind inquiries respecting my bees, and I do so the more readily because I know very many people are interested therein. If I write too much you can abridge anything you please.

But first let me observe that I am rather an old bee-keeper, as my first stocks were kept on the old plan thirty years ago, near Woodstock, in Oxfordshire; but the disasters to which I have referred occurred during the last few years. Living in a large town as I do, I should attribute my failure to my situation, did I not know positively that the like has occurred to others in very different situations; for example, a philosopher living at Perry Hill, Sydenham, in a very paradise for bees. If pure air, and "sylvan scene, with hill and dale, and liquid lapse of murmuring streams" be advantages, indeed, he has everything but the "heather." He has, nevertheless, always lost his bees in the same way I have described, and, being unable to solve the problem of their exit, after again and again replenishing his apiary, has at last, with deep regret, given them up altogether. The same thing nearly has occurred to a gentleman living on Plumstead Common, not far from my house; and this very day I met a friend from Bexley, in Kent, and inquired after his bees; he informed me that he intended purchasing no more, that his number had dwindled down to one stock, and that was very weak indeed. All had left as I have described.

Now, as to your first inquiry, I have used both boxes and straw hives. My boxes are made exactly, and, in every respect, like those recommended by Mr. Taylor, and all have bars alike; the straw hives are the "common cottage," being those in which I have generally purchased my bees, and, as you know, they vary in shape and size in different parts of the country.

Second inquiry: I have them well protected in an excellent bee-house made of deal, not painted; a zinc roof, close in front, but opening the whole length behind with shutters. This house will hold about twenty stocks, allowing them to be worked on the depriving plan; but it stands in an elevated situation, yet it is protected from wind. It occurred to me that something here might be unfavourable, and I removed them into my little garden, and placed them separately, thus:—I laid three or four bricks upon the ground, then on those I placed strips of board, on which I placed the floor-board, allowing a free circulation of air, still preventing any damp being conducted; their top protection is pieces of old carpet covered with zinc; their entrances are lough, but sufficiently narrow to prevent a mouse from entering.

Thirdly, I think they have not suffered from internal moisture, for I have sometimes ventilated and sometimes not. I have, however, kept them without ventilation for these two or three years.

Fourthly, I am not annoyed with ill smells; but in Woolwich, as in other towns, we have smoke enough, but one would think not to blow down so as to effect the bees; nevertheless, in the Royal Arsenal, within a mile from my house, from the Government works volumes of smoke rise high from the tall chimneys.

I have seen bees not one-hundredth part so well cared for as here, yet do ten times better, so far as swarming is concerned. I may be wrong, but it appears to me that the queen does not breed or continue to breed from some cause or other, and up to the present spring I have almost always attributed it to age, but now I know that this cannot be the case in every instance, neither can I conceive what becomes of the bees, for there are none dead in or about the hives. I do hope our Devonshire

friend, as well as others, will afford us all the assistance they are able to give; and further, I am sure that by giving us space in your truly valuable Journal, you will confer a great and lasting benefit on a very great number of bee-keepers through the country.—EDWD. FAIRBROTHER.

[I have much pleasure in tendering to Mr. Fairbrother all the advice and assistance in my power, regretting at the same time that my experience does not enable me at once to suggest a certain remedy for the evils of which he complains.

In the first place, it appears to me that he is mistaken in supposing that his bees "desert" their hives. All his descriptions go rather to prove that the rate of increase during autumn and early spring does not keep pace with, much less overtake, the mortality, and that a gradual dwindling away of the population is the consequence.

I have myself met with isolated instances of the same kind, although never to the extent related by Mr. Fairbrother; but in every case the cause of the misfortune was either at the time or afterwards sufficiently apparent. Although none of these appear completely identical with that under consideration, I will briefly relate them, in order to show what different causes may produce the same evil effects.

Some ten or a dozen years ago, before I was aware of the injurious results of fumigation upon bees, I made several attempts to establish stocks in autumn by fumigating condemned colonies, putting the inhabitants of two or three hives together, and endeavouring to keep them alive through the winter by copious supplies of artificial food. The result was exactly similar to the experience of Mr. Fairbrother. The bees survived until spring, and then dwindled away. Since I have attained the art of driving bees with facility, I have repeatedly tried the same experiment with the most complete success.

About the same time I was asked to fumigate a weak stock in the autumn for a gentleman residing in an adjoining parish. Having cut out the combs and collected all the bees, I found they numbered less than 200. There was a miserable little abortion of a queen, and about a dozen specimens of worker-brood of all ages in as many different cells, but a fair quantity of honey. The hive in this case was a straw one with a flat top and large central aperture for supering. It had been worked on the depriving system; and the combs being very old my impression at the time was, that swarming had been too long prevented, the queen had become superannuated, and that a failure in her breeding powers was the result.

A third instance occurred in 1851 to one of my own stocks in a Taylor's amateur's bar-hive. Finding in the month of May that the bees diminished instead of increasing in number, I came to the conclusion that the queen had perished, and fumigated the remaining bees with the view of adding them to another colony. To my surprise I found a living queen and a small quantity of brood, but the hive itself was completely saturated by internal moisture, and altogether in a most unwholesome condition. At the present time such a state of affairs would be checked at the outset by shifting the combs and bees into a dry box, but in the then state of my bee knowledge (albeit I commenced the pursuit eleven years previously), although I used bar-hives, so simple a matter as changing bees from one box to another appeared quite out of the question, and I have often watched a dwindling colony in a bar-hive for months together totally unable to decide whether the queen was alive or not, and utterly ignorant of the power I possessed, if I had known how to exercise it, of determining the point in a few minutes by an examination of every comb.

The full development of the extraordinary breeding powers of the queen or mother bee is a point of the utmost importance in scientific bee-keeping; and yet it is one upon which few certain rules can be laid down. Feeding is usually one of the greatest stimulants which can be applied; but even this may be overdone, for a more than sufficient supply will cause the bees to fill those cells with food which should be devoted to breeding, and the queen is often for this reason unable to find a sufficient number of empty cells in which to deposit her eggs. From what Mr. Fairbrother states it appears just possible that he may have erred in this direction. On the other hand, the insertion of an empty comb between the full brood-combs often appears to stimulate the queen to fill it with eggs immediately; but the following instance shows that this, like most other things, may be overdone:—One of my best colonies this spring was in a box with only eight frames. As the season advanced I thought a change to a larger hive would be advantageous, and accordingly placed it in a box with ten frames, putting at the same time an empty

comb in what the Germans call the "brood-nest." Finding after some time that the hive remained stationary, I examined it and discovered that the change appeared to have paralysed (so to speak) the breeding powers of the queen. She had confined her ovipositing to the combs on one side of the empty one, and even there had not laid so freely as I should have expected. Even when the offending comb was removed she failed to make up for lost time; and as I tolerate no queens in my apiary that are not first-rate breeders, I ultimately did away with her, although apparently a fine handsome queen not quite twelve months old.

I have entered thus fully into my own experience of bees dwindling away in their hives from causes other than that of the loss of queens, not because I find myself able satisfactorily to account for Mr. Fairbrother's misfortunes, but because I think it may throw some light on the general principles upon which advice should be tendered. I have myself kept bees in the centre of the city of Exeter, and do not fancy the smoke, &c. of a large town a sufficient reason for so complete a failure.

I have never suffered any injury from the wax moth in inhabited hives, although sometimes this pest makes sad havoc in my store of empty combs. Were the wax-moth really the cause of all the mischief, as suggested by "BAR-HIVE," it could scarcely fail to have been detected on a *post-mortem* examination.

If Mr. Fairbrother be not thoroughly discouraged, I should advise him to start afresh in his old bee-house (to which I can see nothing objectionable), with either bar-hives or frame-hives, and endeavour to attain sufficient skill in their manipulation to enable him to ascertain for himself at any time if there be anything wrong in their internal economy. If his wooden bar-hives are as I imagine, 13½ inches square by 7 inches deep, with eight bars, have them remodelled to nine bars, seven-eighths of an inch wide by three-eighths of an inch thick, and deepen the box to 8 inches, leaving three-eighths of an inch space between the top of the bars and the crown-board. Let him be on his guard against the injurious effects of internal moisture, and when food is really required (and then only), administer it liberally, but not lavishly. I should recommend also a judicious combination of the swarming and depriving systems, never allowing a queen to degenerate by old age, or a strong stock to destroy itself by over-swarming. With these precautions, and by neglecting no hints which his own observations and experience may furnish, I should have every confidence in his ability to make head against, and ultimately entirely avoid, the mysterious failures which appear to have attended his apiarian proceedings.

Whilst regretting my inability to pronounce more decidedly as to the exact cause of his ill success, I may be permitted to hope that some among the many accomplished apiarian correspondents of the JOURNAL OF HORTICULTURE may yet be able to throw a clearer light upon the subject than is in the power of—A DEVONSHIRE BEE-KEEPER.]

**LYTHRUM AS A BEE PLANT.**—A correspondent inquires of the Editors what specific name is given to a species of Lythrum greedily sought after by the domestic bees. It is either, perhaps, *Lythrum superbum* or *salicaria*, as your inquirer is told that they never leave a single bloom as long as one is out.—W. T., *Wimborne, Dorset*.

**AUSTRALIAN WILD HONEY.**—The bush around Adelong has this summer been remarkably prolific in honey, the wild bee appearing to increase in a much faster ratio than his domesticated brother. The number of hives captured, and the weight of their valuable contents, is really surprising. It is said that one party of Americans, well acquainted with the habits of this little industrious insect, and able to track them like genuine Kentucky bee-hunters, who are regular clippers at the business, are gathering their honey by the quarter-cask, and from this source indulging to its full measure their national weakness for sweet morsels. There are but few homes on the Adelong to which the labours of the bee have not this season contributed a welcome addition to their supply of comforts.—(*Wynyard Times*.)

**AILANTHUS' SILKWORM.**—A note has been addressed to the Academy of Sciences by M. Guerin-Ménéville on the progress of the cultivation of the *Ailante* (*Ailanthus glandulosa*), and of the breeding of the silkworm, introduced by him into France. It appears from M. Ménéville's note that the tree and the silkworm

will flourish in any country in Europe as well as in Africa, America, or Australia. By means of this precious importation M. Ménéville asserts that France may obtain a textile matter superior to cotton. A hectare of land (2½ acres) of the worst quality to be found in France planted with *Ailante* will produce the fourth year £16 worth of cocoons—a produce equal to that of an equal breadth of land planted with Mulberries in the best part of the south of France.—(*Times*.)

**VENOMOUS CATERPILLARS.**—A most singular case, perhaps the only one on record, of death caused by caterpillars occurred a few days ago in the commune of Dardilly, near Lyons. A little boy, not more than eight years old, had gone into a neighbouring wood in quest of birds' nests. Perceiving one on the top of a tree, he climbed up, but in so doing shook down an immense number of caterpillars, many of which fell on his shirt, his only upper garment, and soon covered his breast, which was bare, and penetrated to his arms and shoulders. For a few minutes the child took no notice of this, but he soon felt such an itching sensation that he was compelled to get down again and run home for assistance. Upon examination his skin appeared covered with large red spots, which were soon followed by a general swelling, then by fever, somnolency, and delirium; and, notwithstanding all medical care, death ensued in the course of a few hours. The kind of caterpillar which caused this disaster was the *Bombyx processionea* of Réaumur, a very venomous species. Naturalists know that if a nest of these insects be touched, or only stirred up with a stick, the person so doing, and remaining for some time near the spot, within reach of the emanations arising therefrom, will be attacked with a papulous eruption of a more or less confluent nature, which will last several days, and be attended with violent itching. Dr. Calmeil, physician to the hospital of Charenton, had preserved a nest of these caterpillars in a large glass phial, which was not opened for upwards of ten years. At length, the phial being accidentally wanted, it was opened in the presence of several persons, who all caught the eruption. This strange property has even suggested to several members of the faculty the idea of using these caterpillars in cases in which it is required to subject the skin to a strong and permanent irritation. We may remark, in conclusion, that the number of caterpillars which infest the trees this year all over France is quite unprecedented—a circumstance which has called the attention of the authorities and of various learned societies to the question of protecting insectivorous birds, the only really efficacious enemies of the caterpillar.—(*Galignani's Messenger*.)

OUR LETTER BOX.

**TOXOMA ON SPANISH FOWL'S EYE (E. S. H.).**—Your fowl has not the ring, as Spanish are not subject to it. We shall be but poor comforters when we tell you they seldom recover from the disease you mention. If the swelling becomes hard they never do. Your remedy is to purge very freely with castor oil, a table-spoonful at a time, and to bathe the face frequently with hot water. She should have no whole corn, a little meal, and plenty of lettuce to eat. Baily, in Mount Street, publishes a work on "Pheasant-rearing," which is sent by post for thirteen stamps.

**SPANISH COCK'S COMB BLACK—PREVENTING SOFT EGGS (—).**—Judging from such symptoms, all your fowls are rather out of condition. The colour of the cock's comb may be the result of the changeable weather and of a chill. The soft eggs are unmistakable evidence of bad condition, unless their yard or run lacks the necessary ingredients for making egg-shells. Throw down a basketful of bricklayer's rubbish, mortar, old ceilings, &c., and they will find stuff for egg-shells. If they already have this, give them food sparingly, and let them have plenty of lettuce.

**FALCON HOOKS IN COCHIN-CHINAS (Cochin-breeder).**—We never knew the time when falcon or vulture hooks were considered a beauty or desirable. We can only speak our own opinion, and that is, if they are not a disqualification they ought to be. We would not be misunderstood when we speak of falcon hooks. We do not mean slightly projecting feathers, but such as used to be seen on the Ptarmigan fowls, and are still met with at times in the White Cochins. The original Cochins of all colours had no vulture hooks.

**BEE-HIVES AT THE INTERNATIONAL EXHIBITION (E. K.).**—They will be noticed before long.

LONDON MARKETS.—JUNE 23.

POULTRY.

Indications are not wanting that we approach the end of June. Small chickens are more plentiful, and were it not that the capacious crop of the International Exhibition is capable of receiving any number, we should have to chronicle a great falling-off. It acts now as Vauxhall used to do formerly.

Large Fowls .....	4 0 to 4 6	Ducklings .....	3 0 to 3 6
Smaller do. ....	3 0 ,, 3 6	Hares .....	0 0 ,, 0 0
Chickens .....	1 9 ,, 2 3	Rabbits .....	1 3 ,, 1 4
Geese .....	0 0 ,, 0 0	Wild do. ....	0 8 ,, 0 9
Goslings .....	5 6 ,, 6 0	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 1-7, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.	Sun Sets.	Moon Rises and Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.							
1	Tu	Abrouia mellifera, &c.	30.161-30.070	dec. deg. 78-55	N.	-05	m. h. 111	m. h. VIII	m. h. 0 a 10	4	m. s. 3 24	182	
2	W	Abutilon striatum.	29.926-29.916	78-49	N.W.	—	49 af 3	18 af 8	18 10	5	3 40	183	
3	Th	Acemadnia tetragona.	29.836-29.799	79-44	N.W.	—	50 3	17 8	37 10	6	3 51	184	
4	F	Acronychia Cunninghamii.	29.600-29.278	67-47	S.	-12	51 3	17 8	57 10	7	4 2	185	
5	S	Actinotus helianthi.	29.278-29.275	71-46	S.W.	-05	52 3	17 8	20 11	8	4 13	186	
6	Sen	3 SUNDAY AFTER TRINITY.	29.421-29.310	73-53	S.	-26	53 3	16 8	49 11	9	4 23	187	
7	M	Adeandra fragrans.	29.510-29.367	75-50	W.	-04	53 3	16 8	mern.	10	4 33	188	

METEOROLOGICAL OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 74.7° and 51.4° respectively. The greatest heat, 97°, occurred on the 5th, in 1852; and the lowest cold, 36°, on the 7th in 1860. During the period 146 days were fine, and on 99 rain fell.

ROYAL HORTICULTURAL SOCIETY'S NATIONAL ROSE SHOW.

JUNE 26TH.



SPLENDID day at last, the 26th of the month being the first really bit of summer we had, in June, about London this season. A splendid Rose Show, too, and the first splendid exhibition of ladies' summer dresses which I have seen this season. The dresses came out luxuriantly at the Crystal Palace, on the first day of the grand Handel Festival; but what with the fathers, uncles, brothers, and foreigners, there was at least one and a half of them to every flounce. But

here, as luck would have it, a thousand of the men went to the dog show that day, and a great many more of them went over to the cattle and farming show at Battersea Park, and so many were absorbed at the International, that the real pink of the fashion only gathered about the Roses, but could not get a glimpse at them, so they filled the garden, up and down, and all over, in flowing beauty. Altogether it was a grand sight; the garden was gloriously green and gay, the bedding plants in exceedingly good bloom for so early a period; the walks were all fresh done up, and the freshness of the waterworks, with the refreshing influence of their murmuring waters "louping o'er the lins," had a magical effect in the heart of new London.

After all, I prefer the cascade, in imitation of the "lin," or waterfall, to the spouting system of exhibiting water in motion; but, perhaps, that only comes of early associations, and those who cannot get to see grand waterfalls in nature, ought to enjoy it in the next grandest form in which it may be made to play a part in their enjoyments, for water seems now as essential for the enjoyments of a great or public garden as music itself, and there is enough of both to be enjoyed in the new garden of the Royal Horticultural Society, and visitors did enjoy them that afternoon, although they could not see the Show. The Roses, like the ladies, were never more blooming, nor more fresh to look at either, or better placed for effect and for being judged, but they were four times too close together, and so occupied only one-fourth, or one-sixth rather, of the space in which they could be comfortably seen by so large a concourse of eager visitants, for of all the shows about London the florists carry off the palm for riveting the public attention with their Roses. All ideas of dresses, faces, shapes, and sizes of Self & Co., are completely out of book, before the Rose-stands, and you see nought for the moment but purple and pink note-books, and all note-takers and non-note-takers engaged as keenly, and with more earnest looks than at the gathering-in of the harvest.

All the nursery collections, except those in pots, were set in one tent at the west end of the conservatory, and those of amateurs with the pot Roses were in a similar tent at the other end of the conservatory. Both tents spanned the walks in front of the arcades, and both were span-roofed, and with a high centre division down the middle of the flat stand on which the Roses stood, each side being sufficiently wide to hold two rows of boxes; and there was an avenue made of moveable plants, along the centre of the conservatory, to communicate between the two tents, and along both sides of that avenue were four duplicate stands for showing Roses on, and most of them were filled with boxes of one kind, as Jules Margottin, Paul Ricaut, with Madame this, and Madame that, and Madame Furtado fuller than both, or of one strain, as blush, buff and creamy Tea Roses, and of seedlings and new comers.

The nurserymen occupied 44 yards of length of double boxes twice told—that is, the two sides of the stage, or four times 44 yards for a single run of boxes. Now, had they been placed in single file along the arcades, a half a yard to be between box and box, I am quite satisfied there would not have been one inch too much room for all to get a thorough good sight of the Roses, as everybody there wanted to see them.

The stand for the Amateurs' Roses was 32 yards long, and they occupied one whole side of it and one-half of the other side with a double row of boxes; the other half of the 32 yards of that side was occupied with the collections of pot Roses, the best pot Roses that ever were shown in June, and they were in the kind and style of growth which all amateurs and lovers of pot Roses indoors ought to aim at, instead of the monster specimens which the giants of exhibitors bring out to prove their pluck—that is to say, these June Roses were in No. 24-pots, and had from three to seven or eight perfect blooms on, and a few more coming. They were set in two rows, and Mr. Turner adopted a perfect novel way of setting in twos, which I will show you, and which I assure you had a very marked effect on the eye, before the place got crowded. The first name of each pair was in the front row, thus—

- Général Jacqueminot and President
- Baronne Prevost and Paul Ricaut
- Général Jacqueminot and Duchess of Norfolk
- Then a summer Rose in the centre of the two lines
- Louise d'Antriche and Jules Margottin
- Général Jacqueminot in the centre
- Lady Franklin and Paul Ricaut
- Duchess of Orleans in the centre
- Comtesse de Chabrilant and Jules Margottin
- Pio Nono, and a very light Rose
- Général Jacqueminot and Jules Margottin
- Paul Ricaut in the centre
- Général Jacqueminot and La Reine
- Paul Ricaut
- Anna Alexieff and Madame Zoutan
- Paul Ricaut
- Baronne de Prevost and Sombreuil

all in first-rate style of domestic comfort, as were the rest, though less elaborately set out.

The Rose which made the greatest sensation amongst the leaders of the fancy, is one which was sent to the

Floral Committee late in the autumn two years since, from the neighbourhood of Ipswich, from Robert Ward, Esq., Foxall Road, Ipswich—a Suffolk seedling, which he named John Hopper, and there is not one Rose from France or far away that will excel it anywhere. It is a most splendid Rose, with a strong free habit, and a profuse manner of blooming, and in one Rose, or in a cluster of them, there are three as distinct colours as if on purpose. A rich crimson, or rosy crimson face to the flower, the edges of the petals in a richer shade of carmine, and the whole of the back of the petal a lilacy violet tinge, that is both rich and lovely. I think I never set my eye on a more telling Rose; the blending of the tints in that flower is a perfect charm for the eye.

By the side of it stood another charmer in a very different way, a fine dwarf seedling bedding *Calceolaria*, of the *Anrea floribunda* strain, from the Messrs. Downie, Laird, & Laing. As far as pot culture can tell a tale in this class of *Calceolarias*, this will be the best at present of that strain.

The following, in masses of one kind in a box, were particularly rich in looks:—Baronne Prevost, Jules Margottin, Général Jacqueminot, Charles Lawson, Anna de Diesbach, looking like a deep rose-coloured tree Pæony, or Moutan, Gloire de Vitry, two magnificent boxes of the grand dame, the Comtesse de Chabrilant, and one of the best of all the French Roses, *Senateur Vaisse*.

The collections from the Amateurs I grouped according to their colours, which, like the natural system of botany, is the best assistance to the memory and to a knowledge of any particular kind of Rose; as, if you only know but one Rose out of each group, it enables the mind's eye to perceive what the rest of them are most like. Beginning with the darkest, perhaps General Washington is one of the best. Cardinal Patrizzi and Empereur de Maroc, Ohl and Emperor Napoleon, are four of a class. Shakespere and Garibaldi the same, Triomphe des Beaux Arts and François Arago next, Triomphe de Lyon and Gustave Coraux next, Ardoisée de Lyon and Léon des Combats, Triomphe de Paris, and Arthur de Sansal, with Prince Noir, the very darkest, are about the best way I could bring them in. The next darkest group begins with Général Jacqueminot, Géant des Batailles, Lord Raglan, Eugène Appert, Paul Ricaut, Grandissima (a Gallic Rose), *Senateur Vaisse* (fine), Victor Trouillard, Gloire de Santenay, Ornement des Jardins, Duke of Cambridge, and ends with François Premier. Red and rose-coloured is the next group, and Jules Margottin takes the lead in red, then Gloire de Vitry, Baronne Hallez, Charles Lawson (a double X), Victor Verdier (Pæony fashion), Madame Furtado (a beauty), La Reine, La Fontaine, Pauline Lanzezeur (a double X), Pio Nono and Sir Joseph Paxton in contrast; Gloire de France and Baronne Prevost ditto; La Ville de St. Denis, Anna Alexieff, Chénédole, Evêque de Nîmes (a very peculiar Rose), Anna de Diesbach (an open double X), Général Castellane, Victor Verdier, Jacques Lafitte, Paul Perras, Letitia, Comtesse de Chabrilant (double X), Souvenir de Leveson Gower, Madame Knorr, William Grillich, Alphonse Karr, Comte de Beaufort, Alexandrine Bachmeteff (double X), and Madame Schmidt.

Light rose and blush kinds. Madame Angelina (a Bourbon), Madam Rivers, Virginal (a blush in all the collections), Félicité Rigeaux, Laura Raymond (a fine lilacy shade), Comtesse de Lacpede, Queen Victoria (all a blush), Juno, Madame Vidot, Général Pélassier (lilacy), Caroline de Sansal, Madame Duchere, Auguste Mié, Impératrice Eugénie, Joan of Arc, and Lælia, finer than the first day it appeared in St. James' Hall, a very beautiful Rose.

The pure whites were only in summer and Tea Roses. But, recollect, all these are only a selection from private growers; the trade will come in for a turn at the Crystal Palace, and by putting the two lists together with the interval of time we may get at the most lively of the season.

Some said Général Jacqueminot did not grow well on its own roots, but give it plenty of *cocoa-nut* refuse (not *cocoa-fibre* refuse), and no manure for two years, and, perhaps, like mine, it would beat all that was there, and have a point or two to spare, as mine certainly would on its own free roots in that stuff, with no other help.

There were lots of fine-foliaged plants, Ferns, and others from Mr. Bull; and *Serissa fœtida variegata*, as it should be, among the rest. Also three specimen plants of the pale yellow-leaved *Geraniums* Golden Fleeca and Cloth of Gold; and another from Mr. Chilvers, gardener to F. G. E. Jervoise, Esq., Herriard Park,

down in Hampshire, where that breed first originated; but I could not see Mr. Chilvers—a well-known gardener once in Surbiton—to learn about the way he got the disease into or out of such healthy-looking variegation.

The Good Gracious double Pansy was sent in the name of Messrs. Carter & Co., and had a first-class certificate from a flying quorum of the Floral Committee, for they all seemed to do the honours of the summer shows, there were the Chairman, J. J. Blandy, Esq.; the Rev. J. Dix, who takes the chair in turns; the Secretary, Mr. Moore, and a lot more of us, and we were unanimous on the award. Many ladies also seconded our resolve; and you may expect it next spring as cheap as it is good. But I have not yet had its genealogy farther than it is a Devonian.

D. BEATON.

THE 26th of June is early enough, too early indeed, for any season almost; and in a cold, dull, and dreary one, such as this has been, the wonder is, that although most of the exhibitors complained that their Roses were not in bloom, so many were collected together on this day. Many well-known names were altogether absent, and many exhibited in fewer numbers than ordinarily. In the Nurserymen's Stand of 48 there was but one exhibitor, and even his were adjudged only to be worthy of a second prize; but then the very coolness of the season had contributed to give a character to the blooms such as they could not have had in a hotter one. Some varieties were shown with a colour they never had before, and even that old and well-established favourite, Général Jacqueminot, eclipsed himself. Shall I not, then, best satisfy the wishes of such Rose-fanciers as were not present, if I first speak of what I regarded as the most noticeable things in the Exhibition, and then give the more ordinary details of the Roses in some of the winning-stands? What of the new Roses? will, I know, be the first question. Is there anything good? Will it be a *Senateur-Vaisse* year, or not? From what I saw to-day, although I think it to be next to impossible to judge of the quality of a Rose the first year it is received from France, cut and hacked about it, as it is for buds and grafts, I think one may safely say, that there is a vast amount of rubbish—some Roses that it is a disgrace to have sent out, others which promise well, and others decidedly good. But, and let it be well trumpeted forth, the best new Rose in the Exhibition came from our dear old country—a seedling raised by Mr. Ward, of the Rosery, Ipswich. It was the admiration of all who saw the box of it that the owner had there. Crowds of Rose-fanciers were around it all day, and heartily congratulated the raiser. It is called John Hopper, and is a cross between Madame Vidot and Jules Margottin, of a lovely crimson, with a lilac hue over it, something like Pauline Lanzezeur, but much brighter and fuller. It received a First-class Certificate from the Sub-Committee of the Floral Committee, and a first prize as a seedling, and it deserved it well. It is of very vigorous habit, and a most prolific bloomer.

New Roses were shown by Messrs. Cranston, Fraser, Cant, Paul & Son, and Keynes. Paul & Son were first. The really new Roses—that is, of 1862, in their collection, were their own seedling Lord Clyde, Wilhelm Pfizer, Mademoiselle Julie Daran, vermilion red, a pretty thing; Paul Ferval, rough and bad; and Louise Darzins, apparently a good white. Mr. Cant was second with Roses of the year before, none of those of 1862 being, I believe, amongst them. Mr. Cranston was third with Charles Lefevre, a bright purplish-red flower of large size, and apparently of good quality; Comtesse de Seguier, worth nothing; Eugène Dubois, if possible worse than Reine des Violettes; Maurice Bernardin, an extremely good Rose, dark crimson, something of a *Senateur-Vaisse* look about it; Duc de Rohan, very fine, a double Jacqueminot it seemed to me, and shaded like its parent; François Lacharme, purplish-carmine, dying badly I fear, but very double, and of fine form, foliage good; Gloire de Chatillon, very bad; Eugène Bourcier, dark shaded; Souvenir de Mons. Rousseau; I fear there could not have been much affection towards poor M. Rousseau by the raiser, for it is a rough, bad, coarse flower; La Brillante, a finely-shaped, transparent, carmine Rose, of good quality, blooming freely, and of vigorous growth. Messrs. Fraser were fourth. Vicomte Vigier, promises to be good; Triomphe de Caen may be a good dark of the Duc de Cazes style; Alexandre Dumas is a very dark plum and crimson Rose of peculiar hue, not shown very double, but it may improve on this (many of the most promising Roses have not yet been shown); Madam Charles Wood,

M. Boutin, Maréchal Vaillant, &c. Gloire de Bordeaux, one of "Lartey et fils'" new Teas, raised from Gloire de Dijon, promises well, and may be equal to the gasconading account given of it; the inside of the petals is white, and the outside bright rose, and it is very vigorous in habit.

In one of Mr. Cant's boxes there was a bloom of Comtesse Cecile de Chabillant, which was a perfect gem. It was regularly and beautifully striped with small narrow bands in each petal. It was the most exquisite thing that could be imagined. It was, of course, only a chance sport. By-the-by, I hunted after Mr. Cranston for an hour and a half, but could not find him, as I wanted him very much to "eat his leek" about Triomphe d'Amiens. There were some perfectly mottled blooms of it shown in Messrs. Pauls' collection of pot Roses, which fully bore out all that I said about it. These pot Roses of Mr. Paul's and Mr. Charles Turner's were to my poor ideas the very models of what pot Roses ought to be: I think (but it may be want of taste), they are as far to be preferred to those giants of pyramids shown in the earlier part of the season as were the Fuchsias the other day at the Botanic to the ordinary type of Fuchsia-showing.

They contained, too, some very good Roses. Messrs. Pauls', which obtained the prize, were Victor Verdier, Général Jacqueminot, Dr. Bretonneau, l'Elegante, Triomphe de l'Exposition, Anna de Diesbach, Baronne Prevost, François Premier, Viscountess de Cazes, Général Jacqueminot, Duchess of Sutherland, Mademoiselle Louise Carique, Buffon, Jules Margottin, Madame Boll, Baronne Prevost, Léon des Combats, Gloire de Santenay, Catherine Guillot, and Triomphe de Lyons. Mr. Turner had President (very fine), Général Jacqueminot, Paul Ricaut, Baronne Prevost, Duchess of Norfolk, Jules Margottin, Criseelle, Louise d'Antriche, Paul Ricaut, Lady Franklin, Duc d'Orleans, Comtesse Cecile de Chabillant, Pius IX., La Reine, Madame de Trottiere, Anna Alexieff, and Sombreuil.

In the Amateurs' Class Mr. Hedge, of Colchester, carried off every first prize, and certainly his flowers were models of growth.

In 48's, single truss, there was hardly an indifferent, and certainly not a bad Rose. Oderic Vital, Pius IX., Madame Rivers, Jules Margottin, Comte de Paris, Engène Appert (very fine), Louise Magnan, Prince Regent, Madame Bravy, Madame Boll, Juno, Sénateur Vaise (a splendid bloom), Coupe d'Hébé, Letitia, Devonienais, Général Jacqueminot, La Reine, La Fontaine, Caroline de Sansal, Bizarre Marbrée, Jaume of Smith, Dominic Daran, Madame Hector Jacquin, Charles Lawson, Clara Sylvain, Comtesse Cecile de Chabillant, Madame Vidot, Souvenir de la Reine de l'Angleterre, La Ville de St. Denis, Vignerol, Lord Raglan, Pauline Lanzezeur, Princesse Hélène, Mathurin Regnier, General Washington, Baronne Prevost, Anna de Diesbach, Madame Knorr, General Simpson, Reine Victoria (large Tea), Gloire de Dijon, Mr. Griffith, and Madame de Cambacères were all in fine condition. Mr. Wm. Corp was second; Mr. Worthington, third; and Mr. Hollingworth, fourth.

His 24's were, if possible, still finer, comprising Comtesse Cecile de Chabillant, Adam, Jules Margottin, Paul Ricaut, Lord Raglan, Mrs. Rivers, La Ville de St. Denis, Juno, Bizarre Marbrée, Alexandrine Baelmeteff, Aurora, Letitia, Madame Knorr, Souvenir de la Reine d'Angleterre, Coupe d'Hébé, Madame Hardy, La Fontaine, Queen Victoria, Général Jacqueminot, Gloire de Dijon, Baronne Prevost, Madame Vidot, and Reine Victoria.

In 18's and 12's, Mr. Hedge was again first. To give the names of his flowers is but to repeat over again the list of the above names, and the prize list will give the names of the other successful competitors.

Amongst Nurserymen there was a very sharp contest, and here one must say a word as to collections of 96 Roses, 3 trusses of each—i.e., 288 Roses in each collection. It is, I believe, utterly impossible that so large a number can be staged without some bad Roses being amongst them; and when, as in the present case, seven stands were entered, it was almost work enough for the Judges without anything else, for they had thus 2016 Roses to adjudicate upon. I hope some day that either trebles will be dispensed with, or that fewer varieties will be required. Mr. Francis, of Hertford, occupied the first place, and Mr. Mitchell, of Pilsdown, second. His Roses were Catherine Guillot, Princesse Mathilde (very good), Madame Hector Jacquin, Souvenir de Comte Cavour (dark and good), Louise Darzins (white), Madame de Lamoricière, Triomphe de Paris, François I., Comtesse Cecile de Chabillant, Adelaide Fontaine, Souvenir de la Malmaison, Madame Laffay, Duc de

Magenta (fine Tea), Madame Vignerol (coarse), Duchess of Norfolk, Pauline Lanzezeur, Oderic Vital, Vicomtesse de Cazes, Crested Moss, Homère, Duc de Cazes, Leonise Moire, Louise de Savoie, Madame Van Houtte, Baronne Prevost, Buffon, Clement Marot, Madame Knorr, Souvenir d'Elise Varden (fine Tea), Ornement des Jardins Gloire de Santenay, Comte de Nanteuil, Comte de Paris, Léon des Combats, Madame Domage, Sénateur Vaise, Baron Wassacner, Evêque de Nîmes, Madame Schmidt (coarse), Devonienais, Louis XIV., Norma, Amabilis, La Brillante (very bright), Charles Lefevre, Auguste Vacher, Agatode, Triomphe de Rennes (very fine), Archduke Charles, Madame Damazin, Prairie de Terre Noire, Jules Margottin, Triomphe des Beaux Arts, Narcisse, Dr. Bretonneau, Madam Rivers, Darzins, and Narcisse, Alexandrine Baelmeteff, Lord Raglan, Victor Verdier, La Ville de St. Denis, Elise Sauvage, and Gloire de Bordeaux. Mr. W. Paul was third, and Mr. Keynes fourth.

In the Class of 48 trebles there was but one stand, and that only deemed worthy of a second prize.

In the Class of 24 trebles Mr. Cant took first with the best stand to my mind in the Exhibition. His Roses were Victor Verdier, Engène Appert, Général Jacqueminot, William Griffiths, Prince Léon, Comtesse de Chabillant, Devonienais, Paul Ricaut, Col. de Rougemont, Pauline Lanzezeur, Louis XIV., Anna de Diesbach, Duke of Cambridge, Coupe d'Hébé, Madame Vidot, Triomphe de Paris, Clement Marot, Baronne Prevost, Victor Trouillard, Mathurin Regnier, Jules Margottin, Rubens, Souvenir d'un Ami, and Madame Boll. Some of the Roses in the stand were models of growth. Such Victor Trouillards I never saw before. Mr. Francis was second, and Mr. Keynes third.

In 24 singles Mr. Keynes, of Salisbury, was first with Anna de Diesbach, Victor Verdier, Pauline Lanzezeur, Wm. Griffith, La Reine, Duchesse d'Orleans, Comte de Nanteuil, Souvenir de la Malmaison, Paul Ricaut, Jules Margottin, Général Jacqueminot, Madame Knorr, Prince Léon, Charles Lawson, Gloire de Vitry, Madame Vignerol, Sénateur Vaise, Madame Boll, Caroline de Sansal, Comtesse Cecile de Chabillant, Louis Peronny, Madame Vidot, La Fontaine, and La Ville de St. Denis. Mr. Charles Turner, of Slough, was second with a fine box of Lord Raglan, Duchesse d'Orleans, Baronne Prevost, Souvenir de la Malmaison, Jules Margottin, Madame Masson, La Ville de St. Denis, Sénateur Vaise (a magnificent bloom), Queen Victoria, Comtesse de Chabillant, Anna Alexieff, Général Jacqueminot, Léon des Combats, Charles Lawson, &c.

There was not that competition for the classes for single blooms, boxes of blooms, &c., that I should have expected. For a box of 12 blooms of Sénateur Vaise Mr. Keynes obtained the first prize, and no one can doubt the extreme value of this noble flower; and although Gloire de Santenay has by some been preferred to it, I think it must hold the premier place.

In 12 blooms of any other kind Mr. Hedge was first with a fine box of Charles Lawson. Mr. Francis second with Madame Boll. Mr. Keynes third with Anna de Diesbach; and Mr. Fraser fourth with Comtesse de Chabillant.

In bouquets of 6 sorts Mr. Keynes was first, Mr. Francis second, and Mr. Cranston third.

Teas were pretty good, but by themselves are hardly attractive enough owing to want of colour. We must not omit to mention a very nice box of blooms of Reynolds Hole shown by Mr. Standish; although, owing to the earliness of the Show, it was not seen in as good condition as it will be. As I hope to see some other shows next week, I must wait until they are over to give my notions upon the subject in its general aspect, while I know Mr. Beaton will not fail to give us his views of the decorative aspect of the Exhibition. The day was fine, and a numerous and fashionable attendance filled the grounds.—*D., Deal.*

## NEW ROSES.

As the admirers of the "queen of flowers" are now busy with their note-books, and seeking reliable information about the new Roses now blooming for the first time under an open British sky, I presume the following notes (made from personal observation of the several varieties while blooming here), may not be unacceptable:—

H.P. SOUVENIR DE M. ROSSEAT D'ANGES (Fargeton).—Brilliant clouded crimson; colour rich and effective; flowers large, well formed, full, and of good quality; good foliage and moderately robust habit. A handsome and useful flower.

H.P. VULCAIN (Verdier et Fils).—Rich velvety plum or dark purplish-maroon; colour fine, distinct, and very striking; petals shell-shaped and of good substance; flowers finely formed and double, in the way of Général Jacqueminot, but apparently not quite full when expanded; habit moderate. A fine, distinct, and novel flower.

H.P. COMTESSE DE SÉGUIER (Samson).—Reddish-crimson, suffused with violet; flowers of good size, full, and well formed; rich foliage and free habit.

H.P. MONTE CHRISTO (Fontaine).—Rich dark reddish-crimson; colour fine; petals of good substance; flowers large, full, and well formed; habit moderate. An attractive Rose, somewhat after Madame Masson.

At present I am only in a position to speak of the above, but shall be happy to continue the list as far as I may be able.—W. W., Nurseries, King's Acre, near Hereford.

## CULTURE OF THE PEACH AND NECTARINE.

It may seem superfluous to write upon the culture of the Peach and Nectarine, because so many cultivators have already given their experience on the subject. Now I have been a grower of these fruits for nearly half a century, and during that long time I have studied the various causes of success, and, what is equally important, the causes of failure; and the result of my reflections leads me to the conclusion that there are several points of culture that the writers on this subject have either entirely overlooked or have not given sufficient importance. I have come to the determination, therefore, of writing a few notes on their culture; and in so doing, I shall endeavour to treat fully of everything necessary to be done in order to grow healthy long-lived trees that will produce annually a fair crop of fruit. I attempt this with all due deference to those who have gone before me, and shall not in order to set up myself as a critic dwell upon, or even mention, where I think they are mistaken or not explicit enough to be understood by the tyro in Peach-culture.

I know of late years it has been the fashion to decry the hardihood of these fruits in this country. Now that glass is cheap every unsuccessful grower says the Peach should be in all cases covered with glass to insure a crop. I would ask such, Are you prepared to prove that the climate of this country is more severe than it was thirty or forty years ago? Unless that can be proved, I opine that, with proper care and close attention to a proper course of culture from making the border to the ripening of the first crop of fruit, the trees bearing these delicious fruits can be grown as successfully now as our older gardeners grew them fifty years ago. It is true when unfavourable seasons occur unprotected trees will suffer; but in such seasons the skill, attention, and forethought of a good gardener will be brought into play to overcome the untoward weather; and success in such seasons shows the difference of skill. Any careless cultivator can have a crop of fruit in warm summers, provided the preceding one has been warm also to ripen the wood of his Peach trees. But that is not sufficient for the owner; he wants fruit every year, and if he has provided all things necessary he ought to have his want supplied.

The question now arises, What is required in order to succeed with moderate attention in cultivating the Peach in this country without the aid of glass? The first thing is a proper situation. Formerly a great notion was entertained by our gardeners, or planners of gardens, that a low sheltered situation was the very best for a garden. That mistaken idea is, I think, now entirely exploded. A low situation, instead of being the best, is the worst for a fruit garden. The most careless observer must have remarked that tender plants suffer earliest from frost, both in the spring and autumn, in low grounds; whilst on moderately high land the slight frost has no effect on them. Many an autumn eve we see heavy mists on low grounds, whilst higher land is quite clear of them. The reason of this is that cold air is heavier than warm air, and therefore it sinks down by its gravity and shows itself as mist, displacing the warmer; and when the cold is so intense as to reach the freezing-point, vegetation suffers. These patent facts lead to the conclusion that a fruit garden should be placed on a moderately-elevated platform. Even an elevation of 50 feet or 100 feet above the bottom of a valley would be desirable. I might give many instances of places where the gardens are placed in low situations, where such fruits as the Peach, Nectarine, and Apricot often fail in yielding fruit. Sufficient for my purpose it is to mention Chatsworth,

Worsley Hall, Trentham, and the old garden now removed at Welbeck. In such places where the gardens are still continued it has been found necessary to cover the Peach walls with glass, in order first to ripen the wood, and secondly to ripen the fruit: this covering of glass is not adopted for the purpose of forcing the fruit into early maturity, but is used merely as a protection against early and late frost. In a properly-elevated situation the glass as a protective agent may be dispensed with.

From the above remarks I think it will be seen, that in order to succeed in Peach-culture against walls without glass, it is desirable—nay, absolutely necessary, to place the garden, where possible, in a moderately-elevated situation. If there are higher grounds on the north, north-east, and north-west sides of the garden, and those hills are planted with forest trees to shelter the garden from the winds blowing from these quarters you have the best situation imaginable, not only for fruit-tree walls, but for every other production expected from a garden. Let every one, then, who has the forming of new gardens study over the above remarks, and, if possible, choose such a site for the fruit and kitchen garden.

*Soil.*—The next most important agent for the production of the fruits, Peaches and Nectarines, is the soil. This includes drainage, subsoil, and surface soil. In the course of my experience I have observed that all stone fruit, without any exception, thrive best and are most fruitful in calcareous soils. In the limestone districts of Yorkshire the Peach trees against walls, where properly attended to, are healthy and fruitful; and round the town of Sherborne where limestone abounds, that excellent preserving Plum, the Winesour, grows in the hedges and bears profusely, and also the Damsou Plum is still more common. Almost every cottage has its garden hedge formed of these excellent fruits. I mention these as a proof of my maxim that stone-fruits thrive best in the limestone districts, where the subsoil is formed entirely of that material. The garden at Womersley Hall, the seat of Lord Hawke, has a subsoil of limestone. There I served part of my apprenticeship to gardening, and there the Peach trees lived to a great age and bore fruit plentifully. Also near there is Byram Hall, the seat of Sir John Ramsden, and the garden is also similar to Womersley as to its soil. In that garden twenty years ago there was the finest Peach wall in the kingdom. I forget the length, but it was considerable, and eight trees completely covered it, not a sickly branch to be seen; they were trained in what was termed the Seymour method, which I shall describe presently.

Well, what does all this amount to? Why, that whoever has the opportunity should form his Peach-borders with soil containing calcareous matters.

Let me, however, begin at the beginning. Supposing it is determined to make a Peach-border, either in a new garden or an old one, begin first by excavating the soil; the necessary width for ordinary walls need not exceed 12 feet. In general, as a useful rule, let the border be the same width as the wall is high. Then as to depth, 18 inches to 20 inches will be amply sufficient. The width being set out, then cut a main drain deeper than the bottom of the border: this main drain should be built with bricks laid flat and covered with flags the exact size of the drain. It should be placed at the side of the border the farthest from the wall, then form transverse drains across the border. If the subsoil is wet these cross drains should only be 10 feet apart; if moderately dry, then 12 feet or even 15 feet apart would do. Lay earthen tiles at the bottom, connecting them with the main drain in front: of course these cross-drains should have a gentle fall to carry off the superfluous water; next fill up the drain above the tiles with open rubble or scoria that has had the smaller particles sifted out of it. Then, if it can possibly be procured, lay all over the border a layer of broken unburnt limestone. If this, however, cannot be obtained, then instead cover the bottom of the border with brickenda mixed with rough pieces of lime rubbish. This completes the drainage.—T. APPEBY.

(To be continued.)

CHLORIDE OF LIME AS AN INSECTICIDE.—Dingler's "Polytechnische Journal" says, that sprinkling beds of vegetables with even a weak solution of this salt effectually preserves them from caterpillars, butterflies, morderella, slugs, &c. It has the same effect when sprinkled on the foliage of fruit trees. A paste of one part of powdered chloride of lime, and one-half part of some fatty matter, placed in a narrow band round the trunk of

the tree, prevents insects from creeping up it. It has ever been noticed that rats and mice quit places in which a quantity of chloride of lime has been spread.—(*Prairie Farmer.*)

### PEACH AND NECTARINE TREES FAILING.

THE leaves of the Peach and Nectarine trees here are withered, and most of last year's wood is quite dead. The trees were planted about six years ago by my predecessor, who tied all the wood that grew on them each year. They did not bear much fruit since they were planted. The border is a strong stiff clay, and nearly level.—S. H. D.

P.S.—Some of the trees are 2 feet deep in the border.

[We suspect the trees were done for by the severe frost of 1860 and 1861, and have been languishing since. We like to see every gardener do the best he can, but we have no sympathy with any one dwelling on the deficiencies and shortcomings of his predecessor. We hope in this respect our brethren of the spade will become more noble-minded. There can be no question that such reflecting is a professional shortcoming which respectable men should guard against. If all the wood made was *tied-in*, we should form an idea of a faggot rather than of a bearing Peach tree. The winter, the stiff clay, and the deep planting are sufficient to account for the failure. You do not mean the stems of the trees being 2 feet deep in the border? if so, they cannot thrive. Even the roots would be rather deep in such soil. A fresh border made at times would be the thing, and good drainage. If last year's wood is dead, the trees must be far gone. If, however, wood is breaking pretty regularly, we would, by stopping extra strong shoots and regulating the others, get what wood we could in good position, if it was determined to keep the trees, and raise them and plant in light sandy soil, in mounds, in the beginning of October. A little shading in bright days will insure the perfecting and ripening of the wood. If the trees are too far gone, light loamy soil should be got in readiness; and if renewing the whole border would be too much, plant the young trees on raised stations, drain the border, and add a little fresh soil every year. If the front part of the border is well trenched and ridged after draining and limed, it will get lighter; but the roots should be kept well up.]

### CAUSING VARIEGATION.

IN answer to "AN OLD SHOWMAN'S" first question, page 231, What would I have him to say? I did not want him to say one syllable, but rather to show us how to make a plain-leaved Geranium into a variegated Geranium by some sleight-of-hand way, by which he said it could be done, and I think he said that he could do it. Messrs. Downie, Laird, & Laing's variegated seedlings are not to put an old man like me off the scent, nor will chaff avail a fox before my hounds; he shall be run to earth, or to the very roots of his brush if he does not double about too cunningly. But to make the thing more easy than talking about it, I shall assume that my own view of it is perfectly wrong, and of no avail; and I again invite "AN OLD SHOWMAN," and those others who have given free opinions on the point, to tell us how to do the thing in their way, to begin afresh, but, at the same time, each of them to give us one sample of their view of the question, which sample we may prove ourselves by direct experiment. Anything of that sort, that cannot be proved by experiment, and come out the same way three times running, is not worth one straw more than the prophesy of Thomas the Rhymer, if even one-half so good. In one word, tell me how to "doctor" one out of one hundred of my own seedlings so as to "disease" it; and if I can do it, and do it once and again, you shall have an Arabian pony this time.—D. BEATON.

MEAN TEMPERATURE OF THE AIR.—The Academy of Sciences has received a communication from M. Becquerel, showing that there exists a vast difference between the temperature of the atmosphere close to the ground, and that measured at an altitude of from 60 feet to 70 feet above it. The soil, its nature, colour, and the objects which cover it, all influence the temperature within the above limits. It had long been observed that vegetation varies according to height, and that certain plants which cannot be cultivated in the valleys will thrive very well on the tops of the adjoining hills. Often also frost will injure the

flower of the Vine, and respect that of the Almond tree close by, which grows at a greater altitude. M. Martins, Director of the Botanical Garden at Montpellier, has observed that Laurel, Fig, and Olive trees die away in the lower parts of his garden, but are spared a few metres higher up, though in both cases protected by the same contrivances. M. Becquerel states that the mean temperature of the air at the Garden of Plants during the year 1861 increased regularly from 1 metre to 33 metres above the soil, and this circumstance has prompted him to endeavour to fix the altitude of which the temperature represents the real average at a given spot. He has remarked the curious fact that at six o'clock A.M. all the year round the temperature is the same at any altitude not exceeding 21 metres; six o'clock A.M. is, therefore, a critical period of the day, the temperature of which must stand in a certain relation to that of the month or year, and this relation he expresses by certain co-efficients which vary according to the different seasons, and reach their maximum in summer and their minimum in winter. These co-efficients and the mean temperature at six A.M. will determine the temperature of the air at a given hour and altitude.

### A FEW DAYS IN IRELAND.—No. 24.

#### HAM WOOD.

THIS picturesque residence of Charles W. Hamilton, Esq., is about twelve miles west of Dublin, some four miles from the station of Clonsella, on the Midland and Great Western Railway, and a mile and a half from the village of Dunbeyne. On calling on an afternoon at the seed warehouse of the Messrs. Dickson, Hogg, & Robertson, we were much taken with fine specimens of the white Globe Pomeranian Turnip, which seemed individually to be more than a stone in weight; and Mr. Robertson, as the seedsman, somewhat exultingly inquired if we could show a better sample in England. These Turnips from the farm of Mr. Hamilton added an additional incentive to visit Ham Wood, though there were plenty of reasons beforehand—such as the report generally diffused, that Mr. Hamilton was the most extensive breeder and the most successful exhibitor of the Shropshire sheep in the country, that his own place was a little model of neatness, suitability, and compactness, combined with a stern regard to economy; the question, Will such improvements pay? never for a moment being lost sight of, to gratify any mere whim or hobby. And that thus from practice, as well as extended observation, he was well qualified for giving counsel to the noblemen and gentlemen for whom he acts as agent and friendly adviser, so that the improvements that are carried on so extensively shall not only be substantial but remunerative. Add to all these that Mr. Hamilton is an enthusiastic gardener, as these pages already testify, fond of new things, without forgetting or losing relish for flowers and fruits that are old; and that his enthusiasm is shared in by his excellent gardener, Mr. Langdon, between whom and his employer we can fancy many of these conversations about fresh arrangements and new combinations that leave such pleasant impressions behind them, and do so much to make toil a pleasure. The expectations cherished were fully realised; and at the risk of being somewhat egotistical, we may be allowed to mention that on entering the nice library the first thing that rivetted our attention, and holding a prominent post of honour, was the whole of THE COTTAGE GARDENER, from the first to the last finished volume neatly bound.

Gardening being chiefly our theme, to it we will first direct attention. As far as we recollect, the house well sheltered and seeming to stand in a level country, is somewhere about 300 feet above the level of the sea. The best rooms face the south, and the flower garden is placed on this front, a broad walk acting as a terrace, the west side being flanked with fine Hollies and other evergreens, and the east with similar plants extending to a pinetum. The offices and kitchen garden are to the north and west of the mansion, and little or nothing is seen of them from the ornamental front.

Mr. Hamilton, well knowing the effect thus produced, took us to the upper principal rooms that we might look down upon the well-filled flower garden, and perhaps with the exception that the centre was rather dull, and the beds there rather crowded, the uncommonness of the grouping of the clumps and roominess of the whole, with plenty of grass to give relief, produced a very pleasing effect. The wet season in Ireland was much against flower gardening, and had a tendency to render the blue Lobelias somewhat grassy in their appearance; but the

generality of the beds were as bright in the middle of September as if they had enjoyed the dry weather and the bright sun we were privileged with in Hertfordshire.

Mr. Hamilton, thanks no doubt to Mr. Robertson, thanks in part to THE COTTAGE GARDENER, treated us so much less as a visiting gardener than an old friend, that there was no end to the comparing of notes and the free interchange of ideas on all gardening matters; and especially on everything connected with flower gardening. We found that in one thing, the shading of colour, and the mixing of shades, closely allied to each other, Mr. Hamilton had more experience and a finer eye for effect than we could boast of. On the other hand, we imagined we had clearer perceptions of contrast, and the importance of relative heights in forming groups, a matter often much neglected.

The various plans that were decided upon as improvements, and all good, and yet laid aside for something more novel, if not really better, could not be detailed in a single article, and with illustrations not in a whole Number. We must content ourselves with a slight criticism of some of the prominent features in last year's planting, and also in that which has been decided on and planted for the present year.

In looking from the upper rooms of the house, the whole

was very pleasing; when looked at from the walk, there was rather too much levelness, and want of relief-points to the eye. In our first engraving, *fig. 1*, the centre of the group was the only lofty object, in the shape of a column of Ivy with a vase at its top; and the principal part of the circle was devoted to a rustic seat round the column. This gave a dull appearance to the centre, and the seat would have been better at the south side of the garden, shaded from the sun. The seat has now been changed into a raised bed round the Ivy column, and is to be filled with Tom Thumb Scarlet *Tropæolum*, which will come in well with the other planting, and serve to drape the upright circumference. The two other circles in a line, marked 17, were filled with the low Baron Hugel Geranium—a good companion and contrast to the base of the four shells that were filled with *Cerastium*. This season, these circles are to be appropriated to tall pyramidal *Fuchsias* with an edging, and we are sure they will give relief; and if 3, or some of the circles beyond had also been pyramidal, the effect would have been good from the walk or the grass, though not so striking from the higher windows. The figures marked 4, 4, with distinct and shaded colours of *Verbenas* were beautifully done, and so were the shaded Geraniums in Nos. 5, 5.



The four shells in the centre, marked 2, are the most prominent features in the garden, and have cost the greatest amount of consideration from the proprietor. In 1861, though finely bloomed, the shells did not seem to be quite satisfactory. First, there seemed a want of balance as to sides, and a balance as to size and height. The first would be deemed a desirable thing by those who hate uniformity and balancing, and who, for the sake of variety, would have every clump in a geometrical plan different. We think, however, this variety often leads to confusion and sameness. Any one can estimate the value of balancing, and see the uniformity in making 3 the central colour; then different colours, but either the same, or the same shade in 2 and 4, and then others complementary or contrasting to those in 1 and 5. If these five separate beds in the one shell are the same in height so much the better; if not, 3 should be the highest, 2 and 4 next, and 1 and 5 lowest. If great variety was the object, then there might be three lines of colour in No. 3, and so of all the others, the outer lines of each division shading or contrasting with each other. Thus there might easily be three or nine distinct colours in each shell, and a narrow band might go round the whole of a distinct colour as the setting of the jewel case—such, for instance, as Variegated Mint, *Cerastium*, *Cineraria maritima*, *Gnaphalium lanatum*, &c. The shells having been filled as follows, readers

will judge for themselves as to balancing and height:—The circular end *Cerastium*, too low, and not good enough for the position. No. 1, *Lobelia speciosa*; 2, yellow *Calceolaria*; 3, *Commander-in-Chief Geranium*; 4, *Countess of Warwick ditto*; 5, *Shrubland Rose Petunia*.

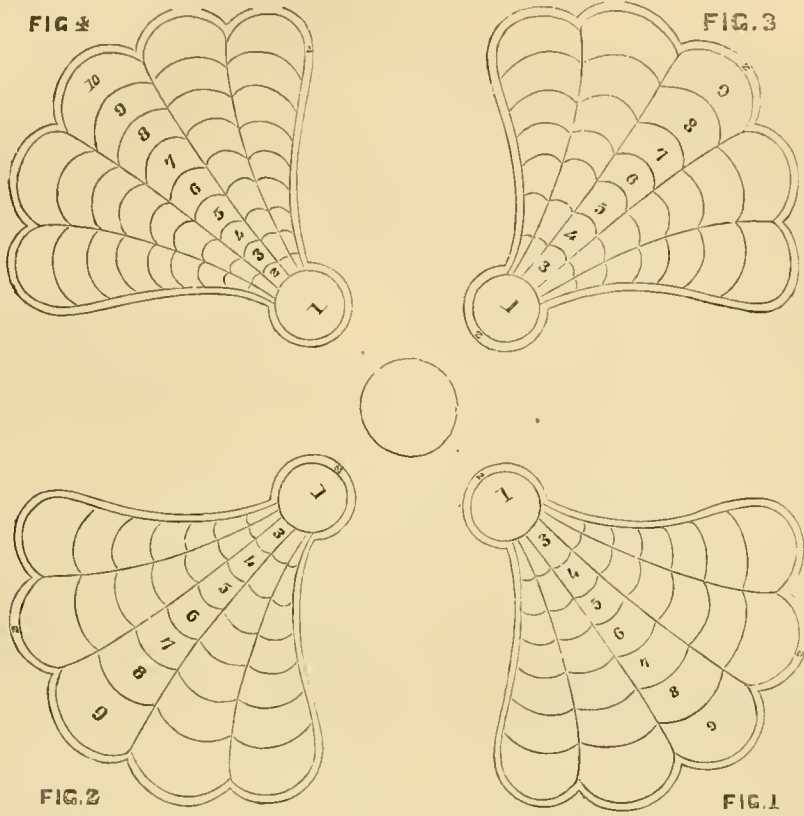
Then, again, the planting and management of these supposed shells were not so artistic as to carry out the leading idea. The shell was divided into five long beds, but there was no seen division between them; nor was there any, but four small irregular pathways were left at the wide end, alike to separate the colours there, and permit, we presume, of each bed being regulated. This latter was not indispensable, as Mr. Robson's huge beds can testify. However, if a marked division was to be seen, it should have been in straight lines of Box or other material. We should have preferred showing no divisions at all, filling up the whole shell, showing merely the volutes at the circumference or wide end, and depending entirely on marking the five divisions by the straight lines of contrasted colour touching each other, and yet kept quite distinct.

In carrying out such an idea, and the planting the shells separately or in pairs, either opposite each other or on the cross system, Mr. Hamilton thought of many modes which would have been very beautiful on the balancing system, whether each shell consisted of three or of nine colours. A happy thought,

however, struck him—that this season he would plant the shells in cross bands, these bands being curved to be in accordance with the volutes of the wide end of the shell. The beauty and interest of these curved lines will be seen just in proportion as the plants shall be trained to occupy the sharp angles in each curve. Without that a curved straight circular line would have the same effect. As shown, the figure is more artistic. In either case much of the interest will depend on the training, and that, again, in choosing plants that will fit into each other not only as respects colour, but height.

Many combinations were under review, some, we think, better than those decided on; but they had to be given up for want of the sufficient number of plants, &c. In all of them the circular end of the shell was made more telling, and of a more uniform height with the bed than last year, and in most cases a

low edging surrounded the whole shell. As good examples of arrangement of Mr. Hamilton's, not, however, carried out, we may instance the shells Nos. 1 and 2, in cut 2. In both the base of the shell was to be filled with crimson Geraniums of a dwarf character, such as Newllii, and a border round that, and all round the shell of Golden Chain Geranium, which would give a brightening, charming effect to the whole, and make the bands of Lobelia a brighter blue by being separated by the yellow leaves from the grass. The Ageratum nanum, and the Perilla, would be the only things that would need much training. The planting was to be as follows:—1, Imperial Crimson; 2, bordering Golden Chain; 3, band of Golden Chain; 4, Ageratum, dwarf; 5, Rose Queen Geranium; 6, Perilla; 7, Cerise unique Geranium; 8, Variegated Geranium; 9, Lobelia speciosa; 2, Golden Chain band.



In fig. 2—1, is Geranium Newllii, and the plants are repeated, except 5 was to be Geranium Christine, and 7, Commander-in-Chief.

No. 3 in the above represents one of a pair of shells as planted this season. No. 1 circle, Imperial Crimson Geranium; 2, band of blue Lobelia; 3, band of Crimson Imperial Geranium continued; 4, Golden Chain Geranium; 5, Ageratum nanum; 6, Christine Geranium; 7, Perilla; 8, Commander-in-Chief Geranium; 9, Countess of Warwick; 10, Blue Lobelia. The match bed has Newllii for Imperial Crimson, and Mangles' Variegated for Countess of Warwick.

No. 4 is one of the other pair of beds, or shells, and is thus planted—1, Hackness Geranium; 2, Senecio, new crimson; 3, Golden Chain; 4, Brilliant Geranium; 5, Perilla; 6, Ageratum nanum; 7, Trentham Rose Geranium; 8, Flower of the Day Geranium; 9, Lobelia speciosa; 10, border of Variegated Alyssum.

Mr. Hamilton has promised to tell us how he likes the planting ultimately decided on. For the present, though we sometimes place the blue Lobelia against grass, we are seldom satisfied with it, as it wants a bright season to make it bright enough. We prefer much the edging of No. 4, even though it gives some trouble, as we expect the Alyssum will in cutting, as it will grow stronger than the Lobelia, but it will stand any amount

of cutting or pegging. In another year we should expect the number of bands to be lessened.

We will now glance at the general planting shown opposite. The pair 3 are planted in three bands—centre Perilla, next Yellow Calceolarias, outside Lobelia speciosa; 4, 4, Verbenas, chiefly shaded, but the broad corners divided into distinct colours; 5, 5, shaded Scarlet Geraniums; 6, 6, Yellow Calceolaria, with broad band of Purple King Verbena; 7, Prince's Feather, and Love-lies-bleeding; 8, 8, crescents, raised beds, elevated by stakes of Larch of equal size, and thus forming by their elevation alone a fine feature in the background. These are planted with Scarlet Dahlia in the centre, a band of Verbena venosa, and an edging of Cerastium tomentosum all round at the top of the stakes intended to hang over and drape them. We are sure this will have a fine effect in winter, early spring when in bloom, and all the season through. The stakes meanwhile might be covered with Sedums or Ivy. For such elevated telling beds Punch Geranium might have been better than the Dahlia, though the latter, if early, will look well. 9, 9, Salvia patens for centre, and surrounded with Verbena venosa and Variegated Alyssum mixed, which we are sure will be charming; 10, 10, Gazania splendens; 11, Spitzfira Geranium; 12, Beaton's Stella, more appreciated in Ireland than even in England; 13, Lady Plymouth Geranium; 14, Beaton's Variegated Nosegay; 15, 15,

Mrs. Miller Geranium; 16, a nice finish for the place, when we saw it, radiant with Trentham Rose Geranium, this season it is supplied with little circles inside filled with Lobelia, and various colours of dwarfish Geraniums; whilst all the spaces between the circles, and round the outsides of them are to be carpeted with *Cerastium tomentosum*. Two years ago we did a good deal in this ground-colour-carpeting style, and we prophesy that this bed will not be the only one at Ham Wood. It is hardly necessary to mention any little differences on the other side of the garden. What pleased us greatly, was not only the general success, but the deep interest taken in the arrangement of each bed. We do hope that this will be truly an exhibition year at Ham Wood, and that the pleasure from success will repay the thought and labour involved.

R. FISH.

### PRUNING CLIMBING VERANDAH PLANTS.

SHOULD not a Honeysuckle and Jasmine, growing up a trellis under a verandah, be pruned at some time of the year, to prevent their running up and making a quantity of new wood above the trellis without blooming?—NOVICE.

[When a climber of any kind, indoors, or under a verandah, or in the open air, puts forth strong young wood above or beyond the trellis or limits of the space allowed for that plant, and this new wood does not bloom like the tops of your Honeysuckle and Jasmine, pruning does more harm than good, because pruning will only and in every one instance aggravate the evil—that is, pruning a "proud" plant under the conditions is the most sure and the most certain way of keeping it from blossoming. Your Honeysuckle and your Jasmine would load the air all round your house with their fragrance, if you could give each of them five or six times more room than they now have, and then train over that space all the medium-sized shoots, each of them made in a season; cutting clean out every puny little shoot as soon as it was from 4 inches to 6 inches long, and also stopping every gross shoot that was much bigger than the rest when it was 4 inches or 6 inches long, getting two ordinary shoots from the cut part instead of one extraordinary shoot without stopping; and any shoot that was large, or little, or middling, if it crowded that part of the plant, to be cut clean out from the branch as soon as one saw the crowding. But, as in this little island we have not room for one-tenth of the climbers with which we are charmed, and whereas we cannot afford sufficient space for the tithes of them, our people have invented a process which hinders most plants from growing away so fast; and unless you can afford more or rather much more room for your Honeysuckle and Jasmine, you must have recourse to that process which consists of baring the roots all round and 2 feet from the stem, and then severing every large root and one-half of the medium-sized roots just as the top shoots have been served above, only that the cutting-away of the large and larger roots is done 2 feet from the stem, and all the very little roots are left to provide for the tops till the cut roots make new ones to help them. But, like bleeding, it needs to be repeated occasionally, or as often as proud growths continue.]

### SUMMER PRUNING OF GRAPE VINES.

At a meeting of the Grape and Wine-Growers' Association of Northern Ohio, on the 24th ult., Charles Carpenter, of Kelley's Island, gave the following as his method of summer-pruning:—

"The many directions given for summer-pruning Grape Vines are enough to bewilder the novice, if not those of some experience, and I hope, in attempting to elucidate, I shall not further mystify the subject. As a general rule, prune as little in summer as you can, and not let the Vines get so thick as to cause any of the leaves in the thickest places to turn yellow, or deprive the fruit of plenty of light and air. The winter pruning should be more severe than is usually done. The vineyard culture, where 40 or 45 superficial feet of land are allowed to a Vine, from thirty to forty eyes to a Vine for bearing are plenty for most varieties. Never leave over one bud or joint per surface foot of land where the soil is favourable; and where it is unfavourable, the Vines should be planted further apart, and a less number of eyes for a given surface left.

"Now, if the winter pruning has been properly done, but little will be necessary in summer, and should commence early by removing water sprouts, superfluous buds; and whenever

from short-jointed canes, or too close training of them, there will evidently be too dense a mass when grown, thin out a part.

"As soon as the fruit is set, select the shoots for the next year's bearing, which should be grown on spurs on the lower part of the stock, and trained as much as practicable aside from the fruit and above it, and have the laterals picked out for 3 feet or 4 feet, so as to have a clean cane for next year, and keep the Vine open near the fruit. Beyond this remove no laterals, nor stop the ends of their canes.

"Some of the fruit-bearing shoots, particularly those near the ends of the canes, will incline to make too much growth; these may be stopped at from three to six leaves from the last cluster of fruit. Of the fruit-bearing shoots, except those near the ends of the cane, but few will need stopping, if there is a full crop of fruit, and proper attention is given to tying-up so as to keep the growth spread and open. Always endeavour to prevent growth by stopping ends and removing buds, rather than to cut away after the growth is made.

"In all summer pruning and tying-up, care should be taken that fruit grown in the shade should not be exposed to the direct rays of the sun. If the shade under which it has been growing is removed, it will surely be injured, if not spoiled.

"The best Grapes are always grown in the shade of the foliage. They require light and circulation of air. Those grown under the direct rays of the sun are smaller, harder pulped, and inferior to those grown where they have considerable protection."—*(Prairie Farmer.)*

### THE ROYAL AGRICULTURAL SOCIETY'S SHOW AT BATTERSEA PARK.

It is impossible to speak in too high terms of this truly grand national display of what must ever prove the primary source of the riches of a nation—its agricultural products. In no other country have these been so fully developed as in Britain; in none has ingenuity of invention been combined with such an amount of mechanical skill in constructing means for reducing the soil to subjection; and in none, too, do the great mass of the people take so lively an interest in farming matters. Selecting a spot within sight of the Houses of Parliament and of the International Exhibition, this great and useful Society has succeeded in gathering together, from all parts of the country, a more extensive and varied collection of stock and implements than has ever before been seen; and what redounds scarcely less to the Society's credit, the whole is arranged and classified in such an admirable manner, that any article in the catalogue, however small, can at once be found. The Show has proved a complete success, both financially and as a means of giving a just idea of the present advanced state of British agriculture, both to foreigners and our own countrymen.

In the miscellaneous department Messrs. Lawson & Son exhibit a most extensive and interesting collection of cereals and grasses, including all the principal varieties both ornamental and useful, accompanied with samples of their seeds, as well as those of agricultural roots. Occupying the centre of the stand there are in pots upwards of 140 of the best and rarest species and varieties of Conifers, among which were several of the new Japanese kinds, such as *Sciadopitys*, *Retinospora obtusa*, *pisifera*, &c. They have also wax models of various kinds of Peas, Beans, and Kohl Rabi. Turnips would likewise have been shown in the same way could room have been spared for the large number of varieties which had been prepared. Some fine stalks of a new kind of Rhubarb, called the Scottish Champion, which is said to be greatly superior to the Victoria in every respect, were also shown; and numerous coloured plates from the "*Pinetum Britannicum*," and "*Jardin Fruitier du Muséum*" were hung in different parts of the stand.

Messrs. Gibbs & Co., of Half Moon Street, had likewise an extensive collection of seeds of various kinds, and dried specimens of cereals and grasses, together with roots of Red and Yellow Globe, Long Red, and Long Yellow Mangold, White Belgian Carrots, and Kohl Rabi in a remarkably good state of preservation for this advanced period of the season.

Messrs. Carter & Co. had also a good exhibition of seeds of grasses, roots, &c., with numerous specimens of the former and coloured representations of the latter, as well as growing samples in pots. But as striking a feature as any was a large box or tray of *Spergula pilifera* in beautiful verdure, which, when we visited Sydenham a few weeks ago, had been recently planted for the purpose of exhibition here.

Among the implements, lawn-mowers were present in great force and variety from the usual exhibitors, but differing nothing from those which have been already frequently noticed in our pages. In one machine the cogs, apparently for silent, easy working, were of brass; and Green, of Leeds, had a new kind of chain, the outside links of which were made to come down like a flange over the cog wheel, which they were intended to clasp so as to prevent slipping off. Garden rollers came from the same exhibitor, Amies & Barford, and several others. Garden chairs were also to be seen in great variety; a number of excellent ones being exhibited by Messrs. J. B. Brown & Co., from whom there were, in addition, several very ornamental cast-iron vases. Seats and chairs of good construction were also shown by Picklesy & Sims; Barnards, of Norwich; Dray and Co.; Mapplebeck & Lowe; Haywood, of Derby, and some others. Reynolds, of New Compton Street, has one of iron, the bottom wrought in imitation of cane; and a good assortment of wire baskets, trellises, flower-stands, &c., similar to those shown at the International and Royal Horticultural Society's exhibitions.

In hot-water apparatus, the only contribution worthy of note was from Wood & Tomlinson, of Altrincham, consisting of two tubular boilers—the one of a horizontal, the other of an upright description. The principal peculiarity of these is the form of the tubes, which are scooped out on four sides, and rounded at the corners, so as to expose a greater surface to the action of the fire. The firebars are hollow; in the horizontal boiler, cylindrical; and in the upright one, of the regular furnace-bar shape; and in both cases the return passes in at the bottom by a syphon bend. They are said to be very economical of fuel, and powerful in their action.

Messrs. Warner & Sons have a fine display of hydraulic apparatus of various kinds, including pumps, garden-engines, &c., which demand no particular description here. We also saw a water and liquid-manure distributor from Mr. Baker, of Compton, near Newbury, consisting of an iron barrel containing 180 gallons, mounted on wheels, and which is light, neat, well-fitted for the purpose for which it is intended, and very cheap. It would prove useful for watering approach-roads and extensive lawns.

From the Hurlford Fireclay Works were several garden vases of that material, combining an excellent appearance with a very trifling cost, and which would just meet the wants of the large class of persons having small villa gardens admitting of such decorations. There were also wall copings, paving tiles, and garden-bordering of various descriptions, some of the latter being of a very good design, but ugly colour, together with feeding-troughs for cattle and poultry and numerous other articles of an agricultural character.

The St. Pancras Ironwork Company have a specimen of Scott's glass walls, already noticed fully in a report of the International Exhibition. Sir Joseph Paxton's watering-pot is shown by Thomson, of Hounslow, and garden netting by Cullingford; besides which there are numerous exhibitions of wire-fencing, and various kinds of ironwork, which need no particular mention here.

## THE INTERNATIONAL EXHIBITION.

(Continued from page 239.)

Of meteorological instruments there is a goodly display, contributed by Negretti & Zambra, Adie, and other eminent makers; but it is unnecessary to enter into descriptions of such familiar instruments as barometers, thermometers, and hygrometers, the principles on which these are constructed, and their mode of action, being well known, whilst as to their comparative accuracy no opinion can be formed by mere inspection from the outside of a glass-case. To do more would require lengthened trial and careful comparison in a place much less subject to vibration than the galleries of the Exhibition building.

As a barometer adapted for scientific observation, or, in fact, any purpose, the standard instrument of Negretti & Zambra is certainly one of the best, and it is procurable at a cost little exceeding that of the imperfect wheel barometer, which, if not made with extraordinary care, is liable to derangement, and is useless except as a "weather-glass." In Negretti's instrument the scale terminates in an ivory point, which, when a reading has to be made, is brought down to the surface of the mercury in the cistern by working a tangent screw. As soon as the ivory point and its reflection just touch each other, the vernier is adjusted to the top of the mercury in the tube, and the height of a

column of mercury equivalent in weight to the pressure of the atmosphere is read off to a five-hundredth of an inch, subject to correction for the capillary action of the tube and the expansion of the mercury by heat. It will thus be seen that no correction has to be made for capacity of cistern as in instruments with fixed scales, which is an advantage, by saving calculation; but it is doubtful to us whether this advantage is not more than counterbalanced by the necessity of making two adjustments—that of the ivory point to the surface of the mercury in the cistern, and that of the vernier to the surface of the mercury in the tube. These two adjustments cannot take place simultaneously, and in the interval, however short, which may elapse between the two a change may take place in the pressure of the air; the ivory point and its shadow might be no longer in contact, and, consequently, the true height of the mercury in the tube at that particular moment of observation would not be read off.

The same exhibitors have also a standard maximum thermometer, which has been found to act very well. Instead of the extreme highest temperature being marked by an index pushed forward by the mercury, as on Rutherford's principle, a piece of glass or enamel is introduced into the bend of the tube next the bulb, and which acting as a valve permits the mercury to flow past it when the temperature increases, but does not allow it to return when it becomes colder. Thus the extremity of the mercury in the tube always marks the highest temperature. To readjust the instrument it is merely necessary to lower the bulb end. Without venturing any opinion on the merits of the instrument as compared with those on Rutherford's principle, which are also exhibited, we may state that they have been tried at Kew, Greenwich, and other places, and that they have given great satisfaction.

In connection with the subject of self-registering thermometers we may state our regret that so few reliable observations on maxima and minima temperatures have been kept; for such are far more useful both to the horticulturist and the meteorologist than the readings of the ordinary thermometer made at a particular time, and actually involve less trouble. To be told that the mean temperature of a place is—say 50°, will afford but little idea of the vicissitudes of temperature to which vegetation is there exposed; but if known that in winter the thermometer stands frequently at zero, in summer at 100°, that the day temperature of certain months is so much, that the night temperature is so much, a tolerable approximation may be made to the true character of the climate, and productions of that particular spot.

We also noticed in other cases what were termed agricultural barometers, shown "merely as weather-glasses," by which we presume no great accuracy was implied, and some of which would cost half as much at least as a really good instrument. Adie, of London, exhibits an ingenious self-registering barometer, the invention of Admiral Sir A. Milne, which by a clock and float working an arm to which is attached a pencil, traces on a diagram lines indicating the height of the barometer at particular hours; and from R. Adie, of Liverpool, we find a conservatory hygrometer, in which the warping of a slip of wood is made to indicate the moisture or dryness of the air on a scale beginning at very damp, and ending at scorching. The principle of this, however, is not novel.

Before quitting the British portion of the Exhibition, we must notice the large case exhibited by the Liverpool Committee of Imports. It contains samples of all the varied importations which are made through that great commercial centre, comprising cottons, wools, bread-stuffs, sugars, teas (from the commonest to the finest), coffee, rice, arrowroot, spices, drugs, gums, minerals, dye-stuffs, &c., together with specimens of 180 sorts of wood. Most of the articles exhibited are accompanied by a comparative statement of the quantities imported during the last ten years, and an account of the sources from which these supplies were drawn, and the uses to which they are put.

We have now briefly reviewed the Exhibition in the British department, but from the immense number of articles displayed, and the additions and changes of position which have from time to time taken place, several have no doubt escaped our notice. To any of such that merit particular notice we shall revert on a future occasion, and we shall now proceed to examine the colonial departments, which, though less rich in examples of manufacturing skill, are particularly interesting by the raw products which are there displayed in profusion.

(To be continued.)

### DESTRUCTION OF SMALL BIRDS—A PLEA FOR THE SPARROW-SHOOTERS.

A KENTISH farmer, in the *South Eastern Gazette*, says, "Having noticed in your paper some account of the ravages of caterpillars, &c., attributed to the destruction of small birds, I should like to state my opinion on the subject. I am now using a farm where, I am ashamed to say, there are thousands of Sparrows and other small birds. There are also as many caterpillars and different kinds of insects as in any part of Kent; and but for the constant use of soot and water I should have had my fruit trees entirely stripped both of leaves and fruit. I am informed by many large fruit-growers that small birds are their greatest pests, and they have to thread their Gooseberry trees to keep them off in January, as well as to employ a man to shoot them.

"As an agriculturist and fruit-grower myself, I believe the way of farming in this country is to grub up all the hedgerows, and thus do away in a great measure with birds, and also with rats and mice. As to moles, I should very much like any one who speaks in favour of them to have twenty in his garden, so that he might understand the nature of them. A farmer must not depend on moles to destroy the wireworm; that must be done by ploughing and good cultivation."

[The above, sent to us by a correspondent, we insert because both sides should be heard, and because the above is a fair example of what the alayers of small birds say. Perhaps more inconclusive reasoners could not be encountered. Admit that there are many small birds on the farm alluded to, and many caterpillars too, yet even "A Kentish Farmer" could not believe that there would not have been more caterpillars if there had been fewer small birds, in the face of the fact that small birds feed their young ones on caterpillars? Some caterpillars there are which birds will not touch; and others which they will not touch when grown large—but that does not refute the demonstrated truth that they collect such caterpillars as those which feed upon the Apple and Pear blossoms. There is but one course sanctioned by common sense—scare the birds from the ripening corn and fruit, and let them live to help the cultivator in destroying insects at other seasons of the year.—EDS. J. or H.]

### HARDY FLOWERING PLANTS.

#### BERBERIS AURAHUACENSIS (*Aurahuacan Barberry*).

*Nat. Ord.*, Berberidaceæ. *Linn.*, Hexandria Monogynia. A half-hardy, sub-evergreen shrub, with straight, erect branches, bearing leaves of two kinds—the lower ones cordate, with a long petiole; the upper ones obovate, elliptical, tapering to the base, coriaceous, wavy, with a few marginal spiny teeth near the end,



and very glaucous on the under surface. The flowers are a very deep yellow, drooping, and grow in compact racemes. From New Grenada, near the village of Aurahuaco-Taquina, in the

Sierra Nevada, 9000 feet above the sea, near the snow-line. Introduced to Belgium in 1847. Flowers in summer.

#### PENTSTEMON CORDIFOLIUS (*Heart-leaved Pentstemon*).

*Nat. Ord.*, Scrophulariaceæ. *Linn.*, Didymia Angiospermia. A pretty half-shrubby hardy plant of spreading habit, having downy stems. The leaves are small, green, shining, cordate-serrate. The flowers grow in large, leafy, one-sided panicles at

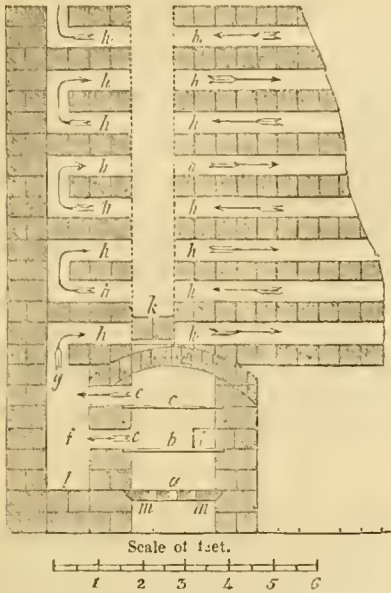


the end of the shoots; the calyx is covered with glandular hairs; the corolla nearly an inch and a half long, the tube almost cylindrical, the upper lip straight, the lower lip three-parted; colour, a "rich dull red." Suitable for rock, banks, or against a wall. From California, mountains of Santa Cruz. Introduced in 1848. Flowers from June to October.

### THE CONSTRUCTION AND HEATING OF GARDEN WALLS.

No horticultural erection is so generally met with as garden walls, and nothing so frequently shows the want of proper care. Walls may be built either of brick or stone, as is most convenient in the locality. Bricks are generally preferred, but their superiority in radiating heat is not so great as to be worth incurring extra expense, for stones make a wall fit for all purposes required, if care be taken by the masons to make proper joints, and they are not permitted to fill up with large seams of mortar, which fall out the first winter, leaving crevices capacious enough to shelter an army of insects, sufficient to eat all the fruit. The objects of a garden wall are specifically twofold: first, protection from radiation during the absence of the sun, by which excessive cold is avoided. Dr. Wells' experiment on dew illustrates this. A thermometer, protected by a handkerchief held horizontally, was found, by repeated experiments, to be from 4° to 6° higher than one openly exposed on a grass plot. This is the conservative power of the garden wall, and it is one of great importance; for the greatest radiation takes place during calm, clear nights, and may be so much in excess as to produce frost ten months in the year in our climate. The second object of the garden wall is accelerating vegetation, by increasing the temperature of the atmosphere in which the tree grows. When the wall is heated by the rays of the sun, it, in common with all heated bodies, radiates its caloric in ratio to the square of its distance: thus, if at 1 foot from the wall we have the power of 1°, at 1 inch we have a power of 144°. The reflection of all the unabsorbed rays of the sun, impinging on the surface of the

wall, increases the temperature of the atmosphere considerably. This power I will term forcing. That it may be as efficient as circumstances will admit of, the coping must only project 2 inches over the top of the wall, that it may not prevent the rays of the sun falling on the trees, but at the same time be sufficient to protect them from rectilinear radiation by night.



SECTION OF A HOT-AIR STOVE CHAMBER, AND FLUES FOR HEATING A GARDEN WALL.

- a, Furnace.
- b, First iron plate on which the fire acts.
- c, Second iron plate.
- d, Brick arch.
- e, Air-boles, opening into the hot-air chamber.
- f, Hot-air chamber.
- g, Flue, communicating between hot-air chamber and flue h, h, &c.
- h, Flues in the interior of the wall.
- i, Door to slide open when it is desirable to accelerate the circulation of the air.
- k, Soot-door and damper.
- l, Door for removing dust from the bottom of the hot-air chamber.

The heating apparatus, being placed below the ground level of the wall to be heated, is, as much as is practicable, situated at the lowest point of the ground level of the wall. The furnace is bricked (m, n) that a supply of the coal may be coked, thereby reducing the consumption of fuel, and lessening the attendance requisite. The air in contact with the plates b, c, being expanded by heat, will flow into the chamber f, coming into contact with colder air there, it will acquire a rotatory motion, retaining a tendency to ascend in ratio to its rarefaction, and in consonance with which tendency, it will flow along the flues h, as indicated by the arrows. When the heated air is found to circulate sluggishly, in consequence of its peculiar electric condition, sliding open the door i, will accelerate its circulation.

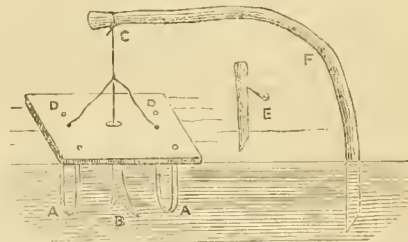
The conservative power is often aided by canvass, nets, straw, or Spruce Fir branches. Of these, canvass spread by night, and removed by day, is the best for increasing the forcing power, which is imperatively necessary; for Peaches and Nectarines, in cold, cloudy seasons, when they make late growth, are badly ripened—that is, they are unproductive next year, which often ends in the total destruction of the tree by canker. If the wall is flued, and fire heat is introduced by smoke, these flues are unfortunately found in practice too difficult to clean, and, consequently, draw badly when damp or foul, from their great length and necessarily tortuous course. Hot-water pipes have been used with better effect; but the expense in procuring and fixing them has prevented their use in a general way.

The method of heating that I recommend, with hot air, is one which may be effected at no more expense than flues; and, however doubtful may be the propriety of introducing air, deteriorated by passing over a highly heated surface, for the supply of animal and vegetable organisation, in this case it can be productive of no evil, being merely introduced into the interior of the wall. In height, the wall should not be under 8 feet, from the ground level to the coping; but 10 feet will be found the most useful height for general purposes. Where the area of the garden is flat, the appearance is much improved by raising the wall, on the north side, a foot or two higher, carrying the rise round the north-east

and north-west angles, and finishing with a cavetto or turret, in character with the architecture of the place. Not that I would recommend too much architectural display, to which fitness and propriety are frequently sacrificed by architects and builders; but the style of architecture adopted in the mansion, ought to pervade its appendages, or a bizarre and mean appearance will be the result. Thus, on the simplest plan, the garden doors should be supported by a couple of pilasters or pillars engaged. But where Gothic architecture is adopted, a buttress may be made to support each angle, adding both to the beauty and utility of the wall.

A coping is essential to the preservation of the wall from the effects of weather, at the same time it much improves its appearance. One of the most simple and efficient that I have seen is used by Mr. Walker, Preskilly Gardens, Pembrokeshire: this is made of slate flags, a couple of inches thick, bevelled off to three-quarters of an inch at the edges, and projecting 2 inches on each side. These projections, as before stated, greatly enhance the conservative power of the wall. Training is generally effected by nailing with shreds, but is attended with this evil—the wall, after a few years, becomes so full of holes, that destructive insects, such as earwigs and woodlice, find ample shelter therein. It has, therefore, been attempted to remedy the evil by fitting wires along the face of the wall, on which the trees are trained. Unfortunately, in this case, a space intervenes betwixt the trees and the wall, where the heated air escapes at the small angle of divergence, in consequence of the greater lightness, caused by the rarefaction of the air, while the constant flowing-in of the denser and colder air to supply the place of that escaped, produces a current which completely destroys the forcing power of the wall. I, therefore, come to the conclusion, that the only eligible mode of training trees, on an open wall, is by rails and shreds. For the purpose of destroying the larvæ of insects, I mix quicklime, as for whitewash, adding an equal quantity of soot, so as to make a thick wash. With this I wash over the walls and trees every winter, at the time when I unvail and train them. This, with attention to pointing the walls with good cement, when they require it, will keep them in good order.—P. WALKER.—(*Gardeners' Magazine of Botany.*)

A MOLE TRAP.



A PIECE of half-inch board, 6 inches long by 4 inches wide, through which four holes are bored near the four corners, and one in the middle. A piece of half-inch hoop-pole is split, the ends pointed a little, and so bent as to fit in and appear as the two pieces marked A, A. Another forked piece, of the same or smaller material, is cut, and one end round-pointed, so as to fit in the central hole of the main part of the trap, as B; C is a piece of stout twine, to which are attached pieces of very fine copper wire D, D. Each of these two sides of wire is double, and is, when the trap is set, opened out and led along inside the wooden loops A, A; E is a common wooden peg, of which four are necessary to set the trap; their use is simply to keep the board to the ground, against the upward force of the bent spring stake F. The trap is set level with the ground, in a "run" of the mole, taking care to disturb the run only enough to allow the loops A, A to enter it. A mole passing through the run, has to go through the loops, and in its passage has to scratch away the fork B, when the string C is allowed to be forced upwards by the spring E, drawing up, at the same time, the wires D, D, between which and the board the mole is caught.

Moles are far less suspicious of these wooden traps than they are of east-iron ones.

The chief art is in choosing the "runs" in which to set the traps. In soft ground, a mole would as soon make a new run

as use an old one; but as they usually return to banks and dry places to rest, a "run" through hard ground, between their resting-places and their "hunting-grounds," generally makes sure work of them.

### "I LOVE THE BIRDS, BUT I LOVE THE CHERRIES TOO."

As you are taking up the cause of the poor little birds, and as many would preserve all the cock and hen Sparrows in the country, I thought I would give your readers the benefit of nearly four years' experience—that is, if there be any benefit, on this truly interesting subject.

"Live and let live" is undoubtedly of Divine origin; but then, again, all creatures are given to man for his use, and if he will only employ sense and not temper he will seldom go far wrong. These were my ideas, and are now, when I first came here—one of the most beautiful spots in Surrey; and in order that the remarks which follow may be fully understood, I will in part describe the place—my house and grounds.

We are a mile from the village, no house nearer than 500 yards. On three sides of my grounds there is a high plantation and shrubbery, on which during the season you can always find from six to ten nests. I have never disturbed them, and unless the Jays, the Cuckoo, Night Hawk, or some such enemy pay them a visit, they always hatch out and fly. At different times I have taken a nest of young birds about four or five days old, have put it into a wire cage so that the old ones could feed their brood, and have seen with pleasure the immense quantity of wireworms, slugs, grubs, &c., brought in. I say "immense;" for on some days we have found at the bottom of the cage as much as a quart pot would hold, and these were the insects that the old birds could not put into the young ones' mouths. Now, if we take the average of one dropped for two swallowed, we see how much a single pair do.

On another occasion I sat and watched a Wren feed her nestlings. Every minute she came in with some insect. In a quarter of an hour that I watched she had first a spotted white moth, then a small butterfly, then a dark grub, then some kind of fly, then came a small worm or caterpillar. I could not tell which. Off she went again, and again some insect. How long I should have sat watching I cannot say, as I was called in to "my grub." So often have I seen birds catch insects that I thought they, the birds, were an unqualified good. Even the tale of the Swallow eating bees I did not believe, for I have seen a bee chase a Swallow, not one of the white-tailed fellows, but those that have two long feathers in the tail, as you may see at times a small bird chase a Hawk. Cock Sparrows became friends. Now so much for the good birds do.

I have now in my garden a great many Gooseberry and Currant trees stripped of their leaves by the caterpillar. I have also plenty of Sparrows' nests; but Sparrows must be like human beings—when they have plenty they care not for that for which, if only given in part, they would hop for joy. Never a caterpillar will they eat; but as soon as a Pea-pod swells, or one side of a Strawberry ripens, at that they go. The Blackbirds are as bad. I have driven out four at one time from a small bed of Strawberries, 17½ yards by 6 yards. All this year I never have had a ripe whole Strawberry; I get plenty of halves and bits. Now, the birds will not eat the caterpillar. Up to the present time I let the birds have the first crop of all they chose to take; but I have now such a stock of birds, that it will be all first crop and no second for me. I have not a Raspberry. They even eat the ripe side of the berry, and wait till the other side ripens, and then come again; and as these chaps come at two in the morning, even Mr. Fish, who could never have been "a six o'clock man," would not match them. Now, what are we to do? "Live and let live?" Do the birds follow this golden rule? Wasps, I believe, kill more caterpillars than birds. Can you, and the combined talent of 162, Fleet Street, help us? Will "D. B." give us his aid? "D., Deal," will say, "Birds are not florists' flowers;" and the "DEVONSHIRE BEE-KEEPER" cannot be expected to interfere. The only conclusion I can come to, is to have a machine that will fire a gun every hour, half-hour, or quarter-hour, or even every two hours, and to put it in the garden. Will this do? I have taken into my confidence a working clockmaker, and we got out a thing that would "shoot-off;" but as he has not time to work for me, and not knowing another mechanic, I will give you the plan as well as I can on paper, and

if any of your readers have a mind to try, I will aid. The cost will not be more than £1 or 30s. We first took eight pieces of stout iron gas-pipe, inch bore, and 3 inches long; fixed this on to a wheel, and there we stopped work, but not thought. However, this piping was to have had a gun-nipple screwed on to one end, which end was, of course, to be closed by a smith making it hot and welding it together; then we were to have a clock movement to turn the wheel round, and, at certain times, a spring was to let fly a hammer which would fire off a barrel. The movement would be similar to the striking movement; the whole to work with a cord and pulley; also a pendulum as a clock, and by raising or lowering the ball on the pendulum, the rate of movement would set going the machine in half-quarter or eighth time. In short, it was a "hybrid" between a revolver and a Dutch clock, or a cross between a Yankee and a Dutchman.

My practical friend said there was "no difficulty in making it, but that he had so much to do that he could not make the toy."

Well, if it was made would it scare the birds? They soon became familiar with all kinds of guys, and build in old coats, hats, &c. Tell me, you learned men of Fleet Street, can I have fruit, and Peas, and also birds?—X.

[Nothing more easy. One or two live old women or old men for scarers, during the Pea and small fruit season, will save the crops and the birds at the same time. Boys and girls cannot be trusted implicitly; and the best wax figure from Madame Tassaud's would soon be a rest instead of a terror to the winged marauders.—EDS. J. OF H.]

### ENTOMOLOGICAL SOCIETY'S MEETING.

The June Meeting of the Entomological Society was presided over by the President, who announced that it had been made a special one, in order to proceed with the election of a Member of the Council in the place of Dr. Knaggs, resigned, when Mr. Stainton was unanimously elected. Among the donations received since the last Meeting was the very excellent memoir on the late Professor Henslow, by the Rev. Leonard Jenyns, just published, a truly worthy record of a good man. A copy of the fine work, by Jacquelin du Val, on the "Genera of European Coleoptera" was also on the table purchased by the Society. A note was read by Mr. Barton, of Lymington, on the sudden appearance of a yellowish dust on the leaves of plants in his garden, which he thought might be the eggs or excrement of insects, but was pronounced by several botanists present to be the pollen of coniferous trees.

Professor Westwood exhibited a dry collodion plate, communicated by Mr. Ormerod, on the coating of which, composed of gelatine, collodion, nitrate of silver, and tannin, considerable devastation had been committed by *Blatta orientalis*, the common Cockroach, the action of the jaws being visible in several places. The Professor also mentioned other instances of insects attacking chemical preparations.

Mr. Waterhouse exhibited two small but rare British Beetles, *Scraptia nigricans* (Stephens), taken on rotten Oaks, and *Trichonyx sulcicollis* belonging to the family *Pselaphidae*, both taken in the neighbourhood of London.

Mr. Reading exhibited *Pentarthrum Huttoni* (Wollaston), taken at Plymouth in a cask made of birch staves with hazel hoops.

Mr. W. F. Kirby exhibited a very rare and beautiful Moth from India, *Brahmæa Hearseii*, white; and *Parnassius clarus* from Asiatic Russia. And he read a paper on the specific difference between *Colias Boothii* and *C. Hecla*; also, a description of *Cononympha Mandare*, a new species from Polish Ukraine.

The President exhibited specimens of a very remarkable species of Ant from Mexico, *Myrmecocystus mexicanus*, the abdomen of which is very large and inflated, and which secretes a kind of honey sold in the market of Mexico, and which makes an agreeable liquor. A somewhat similar kind of Ant had been sent from Borneo by Mr. Wallace, which the President had described under the name of *Cremalogaster infustus*. In this species, however, the honey-like secretion is discharged from the metathorax and not from the abdomen as in the Mexican species.

A paper by Mr. E. Newman was read, entitled "Varieties versus Hybrids," in opposition to Mr. Faraday's paper read at the May Meeting, and which Mr. Newman appears entirely to have misunderstood, supposing Mr. Faraday to have maintained

that remarkable varieties occasionally observed were hybrids between distinct species, instead of being the produce of two varieties of the one and the same species; Mr. Faraday contending that where both parents belonged to the same variety, or to the type of the species, the progeny would follow the parents. Experiment and direct observation of facts could alone prove or disprove this assertion.

Professor Westwood gave an account of the different collections of insects and insect produce contained in the International Exhibition, and which were of two kinds—those consisting of geographical collections of insects from different localities, and those containing illustrations of the habits or economic application of insects. In the former series were especially to be noticed the collections from Guiana (containing a new species of Paussus), Adelaide, and Natal; and in the latter the illustrations of silk-producing Moths formed by Mr. F. Moore (in the Indian department), and by M. Guérin-Ménéville (in the French department), the latter containing illustrations of the new Japan *Ailanthus Silk-worm*; and a remarkable collection of specimens illustrating the insects injurious to agriculture, horticulture, timber, &c., in the French department.

Mr. Waterhouse read a paper entitled, "Observations upon the Nomenclature adopted in the recently-published Catalogue of British Coleoptera, in opposition to the Remarks of Dr. Schaum contained in a paper entitled 'On the restoration of Obsolete Names in Entomology.'" This controversy is of general interest, as it involves the propriety of taking up the earliest-published name of a species which may have happened to have been overlooked by subsequent describers or monographers.

## THE BOTANICAL GARDEN OF MAURITIUS.

I HAVE never yet seen anything to compare with the floral glory of this island, either in the beauty and abundance of the flowers, or in their astonishing gorgeoussness. I have seen others as fragrant and delicate, but none so rich in tints and colours, and none of such magnificent proportions. It seems, indeed, that every form of vegetable life here is ambitious to be a flower, and is a flower, from the tiny plant, and Vine, and dwarf shrubs, up to the tall bushes and stately trees. The roadsides, even in the wildest and most rural districts, are bordered with beautiful forms of vegetable life; and when you leave the road you plunge into the wilderness of flowering plants, through which it is hard to make your way; and the mean bamboo huts of Coolie, Indian, and Malay labourers and apprentices, as they are called, who by words of misrepresentation and fraud are imported here to the number of twelve thousand a-year, and having worked for almost nothing, are in the end cheated out of even that, are fairly embowered in flowers, and perfumed with what is sweeter than incense.

I cannot give the names of the different flowers, wild and cultivated, which adorn the island, nor would the character of them be understood from the name if it were given, since a great part are indigenous to this island or others in this intertropical latitude. I will merely state in illustration, that no less than one hundred and fifty varieties of the Rose are cultivated in this little island.

I had visited the botanical garden at Cape Town on the Cape of Good Hope, and seen much to admire, though it covers only half a dozen acres, but which are covered with a forest of all the rare trees of Southern Africa, with its plants and flowers. From what I was told by gentlemen of Port Louis, I could not doubt of a higher gratification from a visit to the botanical garden of Mauritius, far more ample in its dimensions, and in which a great part of the vegetable and floral wonders of the tropics had been collected, while the Government had made more liberal outlays in preserving and adorning it, and the Superintendent, whose life had been devoted to it, was celebrated for his good taste as well as for his care and fidelity. It was, therefore, with pleasure that I received a polite invitation from a gentleman to accompany him in his own carriage in a drive to the garden, which is eight miles distant from Port Louis, and in the neighbourhood of the reputed graves of Paul and Virginia.

So bright and early we were on our way, resolved on making the most of the day. The road lay through a charming part of the island, being in a high state of cultivation, and crowded like a bee-hive with the different-coloured races who make the labourers. The island is just within the tropics, and therefore luxuriates and blossoms in an everlasting summer. Here fields

wave with the tallest and rankest corn, a young forest at least 15 feet or 18 feet high. Some fields are ripe for harvest, the long pendent ears glittering in the sun; others are densely crowded with juicy green stalks in the stages of adolescent life, while in other directions are seen young crops shooting up from the naked soil. Thus crop succeeds to crop in uninterrupted succession, the one almost taking hold of the other, and pushing it along to find room for itself. There are some immense fields of sugar cane, some estates or plantations embracing from three thousand to four thousand acres; thus a dense forest is annually created and annually destroyed, into which the eye cannot penetrate—one great jungle for wild beasts, did any live upon the island. Here and there heavy dark piles of buildings are seen rising in the centres of the plantations, with their chimneys shooting up above the rank vegetation and even the trees. These are the sugar mills of the estates, and are generally propelled by steam. Back from the road at a small distance, and always embowered among the trees and flowering shrubs, may be seen, in the luxuriance of the foliage, the fine houses of the planters, which are approached through high gateways and over smooth and wide carriage-ways, and fine pathways lined with shrubbery and flowers. Palms, Palmettoes, Bananas, Aloes, some of them 30 feet high, the Cocoa, the Shaddock, and other luxuriant trees, with tall, straight, and graceful shafts, border each side of the road wherever you go. Amidst this array of natural beauty, which no art or expenditure in our country can equal, are seen and encountered crowds of the degraded coloured races on the roads in a continual stream, going and returning in all directions, bareheaded, barefooted, barelegged, and often utterly bare, except the small domain covered by a rag about the loins. Mingling sights of natural beauty and human misery and degradation!

At length we approached a village called Pamplemousses, from a fruit-bearing tree growing in the vicinity in great abundance, and which is also known by the name of Shaddock. Here is a wilderness of the most luxuriant vegetation which the eye cannot pierce, and above which it can hardly rise. Three or four roads centre here in an open area, in the middle of which rises a large stone Catholic church. A short distance from the church is the Botanical Garden. Twice we called at the house of Mr. Duncan, the Superintendent, to obtain his assistance as our guide and *cicerone*, but without success, as he, too, had gone to his church to participate in the services of the occasion. Near to the house I observed a picturesque little lake, the work of art and taste, over which a flock of ducks were sailing and sporting, apparently sympathising with the spirit of the day. Not so, however, with their predecessors, if not their progenitors, as I afterwards learnt, and whose tragic history I must give your American readers. Mr. Duncan had stocked his tiny lake with a large number of beautiful ducks, and which, in addition to "personal beauty," had other attractions for Mr. Duncan, their owner and master. At length, to his deep regret and sore amazement, he observed a rapid diminution in their number; for as he and his children gazed upon their gambols upon the water, strangely to him one plunged beneath it, and, though it was not in *gurgile vasto*, it never rose again! Unable to account for so strange a disappearance of his pets, he at last resolved to drain his pond, when at once the mystery was solved, for at the bottom of the lake lay a monster eel, which might almost be taken for a veritable sea-serpent. There he lay, splashing, and twisting, and wriggling in the mud and water, and decidedly uncomfortable in his position and prospects. He was not less than 8 feet long, with a corresponding circumference, in whose capacious maw was found the last of the extinct flock of ducks. The monster was slaughtered, the waters turned back, and the ducks flourished again.

At length we found the botanical garden—a grand forest rather than a garden, and in territory a good sized farm, instead of a small plot of ground merely sufficient for a few vegetables and flowers; for the botanical garden of Mauritius covers not less than forty acres. I entered the gateway; I walked the magnificent avenue; and, stretching my eye along as far as it could reach, stood silent, amazed, and wondering, in the unknown, unimagined, and undescribed wilderness of vegetable and floral glory before me. To study it, to comprehend it, to describe it, was altogether out of the question, and I could only wander here and there as fancy and accident directed, and gaze, and enjoy, and, when weary, sit down upon some grassy mound, or by the side of the bank of a little lake, or under the shadow of some magnificent Palm. Wide gravelled roads run from one end to the other, crossed by others at right angles, while walks

are opened here and there bordered with flowers and overshadowed by trees, while bizarre pathways steal around the lakes and into the wilderness of trees and shrubbery, which it was almost perilous to follow. Small artificial lakes are constructed with admirable taste by letting in the water of a brook which runs through the grounds, and tiny islands again are constructed in the lakes, trees shooting up from bank and centre, and giving all the appearance of nature. The principal roads, or walks rather, for carriages and horses are not permitted to enter, are lined by tall and graceful Palms, planted at regular distances, which, as seen from end to end, resemble the rows of pillars in an ancient church or an old heathen temple. Nothing could be grander, while there was added all the freshness of life and the truth of nature. In some of the walks, whose width is most ample, the luxuriant branches, spreading out 40 feet or 50 feet high from the naked trunks, reached across the way, and intertwining twigs and foliage made a vast and beautiful arch, which no art can equal. The sun could not penetrate it, the heat in vain sought to pour itself upon the earth; it was midnight beneath at noon, and cool and moist within the burning tropics. Such flowers, so large and so fragrant, and of such tints and colours! I plucked some, and carefully preserved them, and yet they have faded and all their glory is gone. Such shrubbery, all covered and bending with flowers! Then "the Traveller's Tree" was pointed out, of which I had never read or else had forgotten, which a kind and wise Providence had provided for this burning climate, and which, with a small gash, gushes out with delicious water. And there is the Dragon Tree, which sends out blood by a light incision in the bark, and you feel guiltily as though you had killed a human being. —, *Port Louis, April, 1862.*—(*Boston Traveller.*)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE weather is now most favourable for planting-out good breadths of various sorts of vegetables for autumn, winter, and spring use. *Broad Beans*, a few *Mazagans* may yet be put in, which will produce late in the season if the weather prove favourable. *Broccoli*, *Cape* and *Grange's* may now be planted where the early *Peas* have been gathered, and also the *Waleheren Cauliflower*, which may be made to afford a supply from the end of October till January. *Cabbage*, sow a little more seed immediately if the sowing recommended last month has failed. *Chervil*, another sowing to be made for succession. *Dwarf Kidney Beans*, make the last principal sowing. Earth-up the advancing crops. *Endive*, continue to plant-out a few about once a fortnight to keep up a succession. Another sowing to be made. *Leeks*, transplant; they are the better for being earthed-up like *Celery* to the depth of 6 inches. *Parsley*, make a sowing now to insure strong plants before winter. *Peas*, earth-up and stick advancing crops. A few more may yet be sown, which will come into bearing if the autumn weather prove favourable. Top the tall varieties, as they are growing very rampant this season from the prevailing moisture. Continue to sow *Lettuces*, *Radishes*, and *Salads* of all sorts, according to the consumption. *Tomatoes*, keep them nailed to the walls or wooden fences; thin also or stop their shoots frequently, as they require all the sun possible to produce good crops of fruit in our climate. *Vegetable Marrows*, these plants will require a pretty liberal supply of water during the continuance of dry weather. Stop the main shoots to cause them to throw-out laterals. Hoe in dry weather between all crops in rows, if they are not mulched with short grass or litter, to kill weeds and to loosen the soil around the plants.

### FLOWER GARDEN.

Attend to the greenhouse plants now placed out of doors. See that the worms do not effect an entrance into the pots. Attend to the routine of tying, stopping, &c., as we may presume the principal planting-out for the season is now over. The usual routine of pegging-down plants intended to be kept dwarf, tying others up, and keeping the surface of the beds free from weeds until it is covered by the growing plants, will require frequent attention. The *Roses* to be well staked, the shoots disbudded and stopped, and the roots mulched or supplied with liquid manure according to the state of the weather. Budding to be commenced on all stocks from which the bark will rise freely; and such as are more sluggish in their circulation to be excited by a copious supply of liquid manure. *Carnations* and

*Picotees* to be layered: this is done by cutting through the second or third joint, bringing the knife about half an inch up the centre of the shoot, making a tongue; the small portion of stem beyond the joint is cut back to it, and when pegged-down in the soil, which should be fine and light, it will soon emit roots. These plants require a good supply of water during the time they are in bloom; but it is necessary to be cautious in not overdoing it, for if too much is given they will assume a sickly appearance. If any of the pods appear likely to burst on one side they must be eased by slitting each division of the cup with a thin piece of ivory sharpened at the point.

### FRUIT GARDEN.

Vines on the open walls still require rubbing off the useless shoots, nailing-in those that are useful, and thinning the *Grapes*. *Currants* and *Gooseberries* require all the watery useless shoots to be thinned-out.

### STOVE.

As many of the principal plants of this house will now be in the conservatory, advantage should be taken of their absence to encourage the plants for winter blooming—such as *Aphelandras*, *Begonias*, *Eranthemums*, *Euphorbias*, &c.; and a batch of *Achimenes picta* and *Gesnera zebrina* should be started for the same purpose.

### GREENHOUSE AND CONSERVATORY.

Should these structures require repairs or cleaning, the stock may be removed with greater safety at this than at any period; it is injudicious to leave the completion of such work until late in the season. Proceed with propagating such things as are required, and attend to *Violets* and *Pinks* for autumn potting. *Roses* and other plants in pots to have liquid manure occasionally, as also *Lily of the Valley*. All plants which have done blooming to be cut-in and vegetated preparatory to starting for new growth, and remove the decayed flowers and seed-pods before they exhaust the energies of the plant by perfecting their seed.

### PITS AND FRAMES.

Stock for autumn and winter blooming will now require some care to get it sufficiently forward to be useful at the proper time. *Chinese Primroses*, especially the double varieties, if at all backward, should now be placed in a cold frame, and shaded from the sun, when they will be found to make satisfactory progress. *Cinerarias* for early blooming should also be potted and started at once, choosing the strongest suckers for the purpose, and placing them in a close shady frame until they have been rooted. Examine young specimens that were potted early in the season, and shift at once such as require more pot-room. W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

AS soon as the weather cleared up have been busy hoeing-up weeds, and in other cases where thick, pointing them in. It saves much labour to cut them up and leave them on the ground, when they are not more than 1 inch or a little more in height. A sunny day then soon does for them. Threw a little salt among *Asparagus*. Earthed-up *Cauliflowers* to prevent the wind knocking them about. Staked *Peas* after forking-up the ground near the rows, alike to let in air and keep the moisture from too freely evaporating; will mulch with short grass if hot weather sets in, and give them a little manure water besides. I notice that a good many of the cut-up sets from *Sea-kale* that had been forced have rotted this season, showing that, in all cases, and especially in wet seasons, it is safest to stick the roots thickly in sandy soil, and plant only after they break, as already intimated. Those from unforced roots are more sure, and the smaller roots, between the size of a quill and the little finger, are the sweetest of all. On the whole, however, I like seedlings best, and where much is wanted a piece should now be selected for seed, and the other flower-heads cut away, otherwise the crowns will be inferior. Find plenty of pieces coming up in the ground from small roots left when the crop was taken up for forcing, which seems to show that roots much forced are not so much to be depended on. Sowed *Peas*, which, with the exception of a few of the earliest in July, will be the last for the season. Find that this season that good *Pea*, *Dickson's Favourite*, sown without any help has only been three days or so behind the *Early Frame*, and in quality and bearing there is no comparison. We shall not get a first-rate *Marrow* fit for table until July. Earthed-up some *Potatoes* on the sides of a raised bank, which were planted

shallow on account of the weather being damp, and the soil wet. I notice answers to correspondents, as to Mr. Keane advising to earth-up, and the not earthing-up being followed by a greater crop. I could not say there was the difference of a fourth there spoken of; but there was so much difference that in fine, dry, light soil we could plant from 6 inches to 8 inches deep, and not earth-up at all. But in stiff, wet soil we would plant more shallow, and earth-up, and for two reasons. First, if not earthed-up the Potatoes get so near the surface as to be greened, and thus are unfit for table, whatever their quantity; and, secondly, in such wet seasons as this, the rain instead of sinking into them, is taken past them, especially if there is any decline. I notice some planted on the tops of ridges, with trenches between them, as lately recommended by a correspondent; and though they show for a large crop, a slight earthing here and there will be required, in order to cover those that are cropping out to the surface. In wet seasons, too, those on the flat are more subject to the disease, so far as I have noticed. I say this much as confirmatory of the principle, that circumstances often show reasons for altering treatment. Both plans are right according to these circumstances. Gardeners must often do the best with what they have; it is no use being contented with saying that such and such treatment would make the land better, and be a saving of labour afterwards. All right to say so, and get it if possible; but not to get careless and inconsiderate when it is not done.\*

#### FRUIT GARDEN.

Proceeded with regulating fruit trees; protecting from birds; syringing in houses—as orchard-houses, night and morning—to keep off the red spider, and watered with manure water as needed. So far as our little experience goes, feel convinced that much may be done with fruit trees in pots in small places, and where a little labour is not grudged. Had some small Cherry trees in March sent from a nursery in a bundle without a particle of earth about the roots, and from two of these, the *Impératrice Eugénie* have had a dozen of nice dishes since the beginning of June. One out of the dozen is sickly, threatens to go, but will get hospital treatment. Some others have not given us any fruit, but most have ripened. Will ripen a few to tell us what they are, and if true to name. Of course they had a little more care than being merely jammed into a pot. I feel sanguine that next season they will produce heavily. They are under glass, with abundance of air night and day, the pots partly plunged in the earth, and I incline to keep them there. Would Mr. Rivers or others of more experience tell if it would be an advantage to place them out of doors in the autumn, and how and when? The leaves are large and fine on the stopped shoots, and I think fruit-buds are already forming.

#### MELONS.

So many try Melons after their bedding plants, that, to save room, I will here answer a number of inquiries as to treatment. In a fine season most of those generally grown will ripen well if strong plants are turned out in stiffish loam after the middle of June with the protection of glass only, as in hot days little air need be given if the heat is not above 90°. The seasons are so uncertain, however, that it is preferable to use a little bottom heat, such as from grass and litter if it can be got. In such a case there is little necessity for the material being sweet, if you cover all over with from 15 inches to 18 inches of soil, and that soil is 15 inches from the glass. Now, in the case of beginners, I would advise using two or three plants to a light instead of one, as the management is more simple, and you are likely to get the fruit set more equally. From six to eight fruit in a light 7 feet by 4 feet is a good crop. If the kind is a pocket Melon of course you can have quantity accordingly.

Now as to stopping and training. We have had a good deal of trouble from new comers not understanding our plan, and stopping and nipping the shoots as they would do a Cucumber: I will, therefore, try and make my simple plan as clear as possible. It is based on a series of facts or, rather, observations. First, that in general the Melon bears most freely on the third shoots that the plants make; secondly, that the fruit swells most freely when the plants are strong, before these show fruit; thirdly, that once a fruit sets and swells on a plant it is almost use-

\* We quite agree with Mr. Fish, that where the tubers are so near the surface as to be exposed to the light, it is desirable to draw over them a little earth, not more than an inch deep. Whether earthing-up is more needed on a heavy soil we do not know, as we never had to grow Potatoes on a soil so unsuited for them; but as Mr. Fish says it is so, our readers may safely accept so good an authority.—Eos.

less to try and get another fruit to set and swell before that first fruit is ripe. Now then for the simplicities if possible. There is a seedling Melon plant a few inches in height, and growing up, upright as a young Oak; that is the primary shoot; but as we neither eat the shoot, nor use it for timber, we pinch the top terminal bud out. This will cause a shoot to come from the base of every leaf left; these are the secondary shoots. To make matters simple, we shall only keep two of these; though if a plant was to fill a light we would prefer four or six. Well, we select two, and all the others, when an eighth of an inch long or so, we nip out clean from the axil of the leaf with the point of a penknife. The two little incipient shoots left, will soon begin to grow rapidly. The plant is turned out into the middle of the bed, and we train one of these secondary shoots to the back, and the other to the front, *no stopping of these shoots yet, mind*; but as they grow, nip out the bud in the axil of each leaf, but not hurting a leaf, to the length of 15 inches or 18 inches from the collar of the plant. This prevents the third, or tertiary shoots coming until the plants are strong. Then nip out the point of the secondary shoot, leaving about four joints, from the disbudded part and the stopped point. From each of these joints the tertiary shoots will come, and will generally show fruit at the first joint; stop at the joint immediately above, and treat in the usual way. By this mode little pruning is necessary; the plants are strong before they are allowed to show fruit; the fruit comes into bloom on the plant almost all at once; and, if too many set, it is easy to thin them out. I believe that those who try this mode will give up the everlasting stopping, and treating Melons much as they would do Cucumbers. If people were to be paid for novelty now-a-days I might expect some patent of reward, as I believe the plan was originally my own. Lately in some contemporaries I have noticed it advocated; but it is many years since I practised it and recommended it. If I can learn a better and more regular and simple mode, I shall be glad to hear of it.

#### ORNAMENTAL PLANTS.

Much the same as last week. Mowed lawn; switched part with daisy-knife, with which a man can do four times as much as he could do with a scythe, and with half or less than that of labour. Regulated and planted rough rockery ground. Hoed all the flower-beds we could get at, to break the crust and destroy the weeds, keeping all rakes locked up.—R. F.

#### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

CAMELLIA CULTURE (*J. M.*).—See page 229 of the current volume. If the wood is made, and the buds formed, give them more light in the greenhouse, abundance of water, and give them more light out of doors, if removed there. The drying-up will not do at all, it is apt to make buds drop, as well as elongate. Perhaps you do not comprehend the exact state of your plants.

MELONS FALLING OFF (*N. P. Hunts*).—We question if there is anything to correct. Nature is doing what you should have done in the thinning way. Twelve good, fair-sized fruit are enough for such a pit, 12 feet by 6 feet. We presume your heat is sun heat, if not, from 65° to 70° is hot enough at night. If more, leave a little air on to reduce it. In fact, a little air at all times will help you, especially in such heat.

DAPHNE LEAVES DECAYING (*A Cheshire Subscriber*).—Such leaves will always be found on Daphnes, on growing afresh, for like other evergreens they then shed a few of their older leaves. If there are many such, it shows the plants have been too dry and cold, or, what is more likely, have been waterlogged on swampy soil from deficient drainage. If so, examine the roots, and if the soil is bad and swampy, drain well, put in a smaller pot, using sandy heath soil and fibry loam, and set the plants where you can keep them close, shade from bright sun, and syringe the heads frequently. As they break and grow inure to more air and sun by degrees.

CELERY ROOTS (*B. W.*).—We never trim them, but move each plant with a trowel. The avoidance of any check to the growth of the plants is one necessity in growing fine, crisp Celery. The Dianthus you mention are both hardy.

**CHLORIDE OF LIME (J. S. S. W.).**—You will see an extract in our paper to-day relative to the strength of the solution for killing insects.

**WARINGTON'S AQUARIUM (L. L. S.).**—The glass is fixed into the zinc by the white and red lead mixture. Zinc has no injurious effect upon fish, nor has either white or red lead after it has become dry and hard. To make assurance doubly sure, you could varnish over the metal and the white or red lead before putting in any water.

**GARDENERS' HOURS (W. T. F.).**—We do not see anything in your communication but what Mr. Fish has said.

**MILDEWED ROSES (J. A. P.).**—We fear the mildew has progressed too far to be much subdued by flowers of sulphur. Mulch the surface of the soil about the roots and give liquid manure freely two or three times a-week, and not too strong. If you adopt this precaution earlier next year you will not be troubled with mildew, probably. The *Berberis japonica* is likely to do better now it is less shaded.

**VINE LEAVES ROUGH ON UNDER SURFACE (D. Moubray).**—It is not a disease, but a consequence of the excessive activity of the roots. These planted inside the house in a border soil of "2 feet deep of rich loam, cow-dung, and half-inch bones," supply sap to the leaves faster than the latter can expand, the parenchyma of the leaf consequently swells, and acquires the warty appearance so frequent in such cases. It will not injure the Vine, and as the organic refuse in the border will decrease annually, so will this appearance in the leaf. A little less water to the roots, and a little more moisture in the air of the house will also diminish it.

**ICE-HOUSE (A. Notice).**—There are about twenty communications on this subject in our last volume, giving directions for making ice-houses and ice-stacks. We have not a single new suggestion to make.

**ROSE "JOHN HOPPER" (R. Ward, the Rosery, Ipswich).**—We consider this to be a first-rate Rose, of magnificent habit, raised, as you say, between Madame Vidot and Jules Margottin, it bears traces of both parents, and somewhat resembles Pauline Lanzeteur. It is, however, much fuller, of a different shade of colour, and more cupped in shape. We consider you very fortunate in having produced so fine an English Rose. Let the Floral Committee see it.

**ANTS AND NETTLES IN GRASS (Ants and Nettles).**—The ants can be destroyed and driven away by perseveringly sprinkling gas lime over their haunts. The Nettles can only be destroyed by forking-out the roots, and mowing-off the tops as fast as they appear.

**POND OR CRESSPOOL MUD (Idem).**—Mixed with loam it may be employed without any fear for forming your terrace-border; in fact, it would be an enricher, and would well suit Roses.

**EXCRESCENCES ON WHITE THORN (W. Barlow).**—We have seen similar excrescences before, but have been unable to determine either their nature or cause. However, though they appear on the bushes one year, it is not certain that they will do so in the year following.

**INSECTS (B. C.).**—The caterpillars sent as infesting the Apple trees, were dead when they reached us. We can only, therefore, conjecture that they were the larvæ of the Winter Moth (*Cheimatobia brumata*), which had gnawed round the stem of the flowers. A solution of hellebore (1 lb. to 4 gallons of water) will kill them.—W.

**OUT-OF-DOORS FERNERY (M. D.).**—This idea, the design, and the execution of it are all in the right direction; but the principal part—the really practical part—is not touched upon, and whether Ferns will live there or not no one can tell, or even guess from the data given. If the roots of the plantation are not excluded entirely from running into the newly-loosed soil in the made banks, they will occupy every inch of it before this time next year, and no Fern less strong than *Osmunda regalis* will do the least good in it, and the fern cocoa stuff is put into and over the soil for the Ferns, the more greedily the roots of Elms, Oaks, Ashes, and other trees will run through and through it, and the less fit it will be to sustain a fernery. But suppose no tree roots can get into the banks of this fernery, no place could be more suitable for growing a choice collection of Ferns, and no stuff is one-half so good for mixing with the native soil for Ferns as the cocoa-nut-fibre refuse fresh from the mills. The mat-manufactories do not have it all. The older it is the better to mix with sandy soil, and the newer it is the better for heavy lands, and the age makes no difference for Ferns. The best arrangement would be to keep all the low-growing Ferns down near the bottom, and to have all the kinds in each genus kept together, the medium-sized next, and in the same way, and the commonest and tallest all along the top, and you will find all the kinds fully described by Mr. Appley in former Volumes.

**MISCAT GRAPES SPOTTED (T. D. H.).**—The roots are not sufficiently active to supply the sap required for your very vigorously growing and well-loaded Vines. Remove the soil from over the roots and substitute for it some light loam mixed with a little well-rotted dung, all warmed to about 90°, and water with weak liquid manure of the same temperature. If the roots are outside, cover with a tarpaulin at night and during cold or wet weather, but uncover during bright sunshine.

**IRON WINDOW CASEMENTS (Westmorland).**—So far from these and iron staircases rendering the buildings to which they are attached more liable to injury by lightning, we believe that they promote their safety. Injury from the electric fluid is occasioned by the bad conducting power of the body with which it comes in contact, and which body is, consequently, shivered into fragments. Lightning conductors, as the name intimates, allow the electric fluid to pass along rapidly. Galvanised iron is not a nonconductor.

**EYES AND NO EYES (T. Parsons).**—What you say may be true, and we shall be very ready to publish the results of your experiments so soon as concluded.

**NAMES OF PLANTS (Ignoramus).**—The leaves enclosed are those of the Variegated Alyssum, but rather more yellow than usual. (J. D., Dundee).—Your specimens were not fit to name. They are too young and too much bundled up. 2, *Epilobium montanum*; 4, *Lycopis arvensis*; 5, *Myosotis collina*. The others utterly undeterminable. (C. H., Upper Deal).—1, *Athyrium filix-femina incisum* (small); 2, *A. filix-femina laxum*; 3 and 4, other forms of the Lady Fern, *A. filix-femina*, but not having special names; 4, is something like *molle*, but may be only a young plant of some other form. (J. E., Ashwicken).—*Nepeta micrantha*. (R. B.).—1, *Agapanthus umbellatus*; 2, *Francoa appendiculata*; 5, *Gesnera zebrina*; 7, *Begonia Griffithii*; 8, *Cissis discolor*; 11, *Pteris aquilina*; 6 and 9, *Begonia*, but these are too numerous to name from withered leaves. *Asplenium marium* not

numbered. (An Old Subscriber, Sunderland).—Varieties, which are numerous, of *Erica ventricosa*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

JULY 3rd. PRESCOT. Sec., Mr. James Beesley. Entries close June 21st.  
 JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. Secs., G. Newton and J. Wade. Entries close June 21st.  
 AUGUST 2nd, 4th, and 5th. SHEFFIELD. Sec., Mr. George Westerholm, 49, Queen Street.  
 SEPT. 4th. WAKEFIELD AND WEST RIDING. Sec., Mr. J. Crosland, jun. Entries close August 23.  
 SEPTEMBER 9th. WORSLEY AND ARMLEY (NEAR LEEDS). Sec., Mr. Robert Hoyle, Armley, near Leeds.  
 DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.

### WOODBIDGE POULTRY SHOW.

JUNE 26TH AND 27TH.

THROUGH the endeavours of a few of the zealous supporters of poultry shows, inhabitants of the town of Woodbridge, the first Exhibition ever held there took place on the Thursday and Friday of last week; and whether we take into consideration the number of pens entered, the quality of the birds, or the support it met with in the way of visitors, it must be pronounced a decided success, and we heartily congratulate the Committee upon it, and can but attribute it to the zeal with which one and all of them entered into it, evidently determined not to leave a stone unturned that would in any way tend to promote the interest of exhibitors or visitors, or aid in establishing a permanent poultry society for the county of Suffolk.

The pens used were Mr. Cook's, of Colchester, which were judiciously arranged in a large and commodious tent on the bowling green adjoining the "Crown" Hotel. All birds of one class being on the same level. We must also call attention to the substitute for sawdust placed in the pens, which was a craig, or fine gravel, peculiar to the neighbourhood, and to this to a great extent may be attributed the healthy appearance of the birds.

The first class on the list was *Spanish*; but, if we except the prize pens, there was nothing worthy of note. Mr. Rodbard's pen was empty.

*Dorkings* were both numerous and good, and afford another triumph to Lady Julia Cornwallis for distancing any other competitors. We can also speak well of Mr. Frost's pens, with which he obtained the third prize, and two high commendations.

In *Cochins* Mrs. Fookes stood first, Mr. Fowler being a good second, and the whole class was good.

As usual *Game* fowls were the great attraction of the Show, and amongst them were to be found some of the best birds England can produce. We need only mention the names of Messrs. Fletcher, Matthew, and Dawson, to give a pretty correct idea of the competition. Notwithstanding this, Messrs. Goodwin and Watson figured in the prize list in the class for Reds. The first prize went to Mr. Fletcher's pen of Brown Reds, as well as the cup for the best pen of Game fowls in the Show. His Black Reds were particularly good, as well as his Duckwings; but many of the pens were very much out of condition. We had here another proof of the desirability of having but one hen and a cock in the Game fowl classes, as invariably there are pens with one of the hens taken out in consequence of her being beaten either by the cock or the other hen.

The *Hamburghs* had but two classes—one for Gold, the other for Silver-spangled. In the latter, Lady Cornwallis took first with a very excellent pen. The Rev. T. L. Fellowes' pen contained two very beautiful hens, but his cock had but bad ear-lobes.

In the "variety class," the first prize went to a good pen of Brahmas, the second to Silver-pencilled *Hamburghs*, the third to White-crested Black Polands.

The *Game Cock Sweepstakes* was carried off by Mr. Matthew with a beautiful Black Red, shown in very fine condition; he was, however, hard run by Mr. Camm. Many of the birds in this class lost all chance by want of condition, which may be accounted for by the moulting season being so near at hand.

Mr. Camm's pen of *Duckwing Game Bantams* well deserved the prize they won. They were one of the best pens we ever saw. The cock bird is a perfect little gem. The class for "other varieties" produced only two pens of inferior Black.

Mr. Fowler again carried off the Aylesbury *Duck* prizes; also, the second for Rouens, with a promising young pen.

**SPANISH.**—First, R. B. Postons. Second, J. K. Fowler. Third, Rev. G. F. Hodson.

**DORKINGS** (Coloured or White).—Silver Cup and Second, Lady Julia Cornwallis. Third, J. Frost.

**COCHIN-CHINA** (Coloured or White).—First, Mrs. H. Fookes. Second, J. K. Fowler. Third, J. Wright.

**GAME** (White and Piles, Blacks and Brassy-winged).—First, S. Matthew. Second, W. Dawson. Third, R. Goodwyn.

**GAME** (Black-breasted and other Reds).—Silver Cup and Second, J. Fletcher. Third, F. Watson.

**GAME** (Duckwings and other Greys and Blues).—First, J. Fletcher. Second, W. Dawson. Third, J. Goodwin.

**HAMBURGERS** (Golden-spangled).—First, Mrs. Pattison. Second, Rev. T. L. Fellowes.

**HAMBURGERS** (Silver-spangled).—First, Lady Julia Cornwallis. Second, Rev. T. L. Fellowes.

**ANY VARIETY.**—First, J. Wright. Second, Rev. T. L. Fellowes. Third, T. P. Edwards.

#### SWEEPSTAKES.

**GAME COCK.**—First, S. Matthew. Second, J. Camm. Third, R. Goodwyn. Fourth, W. N. Walker.

**DORKING COCK.**—Prize, Lady Julia Cornwallis.

**COCHIN-CHINA COCK.**—Prize, Mrs. H. Fookes.

**GAME BANTAMS.**—First, J. Camm. Second, R. E. Postons.

**BANTAMS** (any variety).—First, J. Wright. Second, Rev. H. Curry.

**DUCKS** (White Aylesbury).—First and Second, J. K. Fowler.

**DUCKS** (Rouen).—First, N. Barthropp. Second, J. K. Fowler.

**TRURYS.**—Prize, R. Garrett.

Judge: G. Saunders Sainsbury, Esq., Devizes.

### THORNE AGRICULTURAL ASSOCIATION'S POULTRY SHOW.

THIS was held at Thorne on the 18th instant, in the grounds of Makin Durham, Esq. There were more than 250 pens, and the birds exhibited were generally excellent.

The following were the awards:—

**SPANISH.**—First, E. Brown, Sheffield. Second, J. Dixon, Bradford. Commended, H. H. Downs, Doncaster.

**COCHIN-CHINA.**—First, W. Dawson, Hopton, Mirfield. Second, J. Dixon, Bradford. Commended, J. C. Trotter, Hull.

**DORKING.**—First, J. Sledmore, Epworth. Second, J. Dixon, Bradford. Commended, J. Sledmore.

**GAME** (White and Piles).—First withheld. Second, T. Walker, Swinfleet.

**GAME** (Black-breasted and other Reds).—First, H. Adams, Beverley. Second, H. M. Julian, Beverley. Highly Commended, C. Marsden, Thorne; Messrs. Bentley & Sales, Crowle; G. Helliwell, Walkley, Sheffield. Commended, J. Crossland, jun., Wakefield; C. W. Brierley, Rochdale.

**GAME** (Duckwings and other Greys and Blues).—First, G. Helliwell, Walkley, Sheffield. Second, J. P. Hepworth, Bearswood Green. Highly Commended, H. Adams, Beverley. Commended, J. Mowbray, Finningley.

**GAME** (any Breed).—Silver Cup, H. Adams, Beverley. Highly Commended, H. M. Julian, Beverley; H. Adams. Commended, Messrs. Bentley & Sales, Crowle; C. W. Brierley, Rochdale.

**POLAND** (any variety).—First and Second, J. Dixon, Bradford.

**HAMBURG** (Silver-spangled).—First, J. Richardson, Thorne. Second, J. Dixon, Bradford.

**HAMBURG** (Golden-spangled).—First, G. R. Tate, Driffield. Second, J. Dixon, Bradford. Commended, E. Brown, Sheffield.

**HAMBURG** (Silver-pencilled).—First, G. Helliwell, Walkley, Sheffield. Second, J. Dixon, Bradford. Commended, J. Dixon.

**HAMBURG** (Golden-pencilled).—First, E. Brown, Sheffield. Second, C. W. Brierley, Rochdale. Commended, J. Dixon, Bradford; W. F. Entwistle, Bradford.

**ANY FARMYARD CROSS.**—First, H. Adams, Beverley. Second, T. Downing, Thorne.

**BANTAMS** (Silver or Golden-laced).—First, F. Wragg, Walkley, Sheffield. Second, J. Dixon, Bradford.

**BANTAMS** (Black, White, or any Colour).—First, C. W. Brierley, Rochdale. Second, J. Dixon, Bradford. Highly Commended, G. R. Tate, Driffield; J. Staley, Newark; C. W. Brierley; H. Adams, Beverley. Commended, J. Crossland, jun., Wakefield; G. R. Tate; W. F. Entwistle, Bradford.

**COCK** (any Breed or Cross).—First, H. Adams, Beverley. Second, W. Boyes, Beverley. Highly Commended, Messrs. Bentley & Sales, Crowle; T. B. Perry, Hull; T. Candy, Rotherham; C. W. Brierley, Rochdale. Commended, G. R. Tate, Driffield; Miss E. Blackburn, Howden.

**HENS** (any Breed or Cross).—First, E. Brown, Sheffield. Second, Lady Hawke, Womersley Park. Highly Commended, G. R. Tate, Driffield; J. Dixon, Bradford; J. B. Perry, Hull; H. Adams, Beverley. Commended, Lady Hawke; J. Sledmore, Epworth; J. Richardson, Thorne; C. W. Brierley, Rochdale.

**ANY PURE BREED.**—First, J. Staley, Newark. Second, J. Sledmore, Epworth. Highly Commended, R. Williamson, Wheatley Toll Bar; J. Sledmore. Commended, R. Williamson; J. Sledmore.

**EXTRA STOCK.**—Commended, W. B. Key, Epworth (Golden-Pencilled) J. Cawkwell, Belton (Black Game).

**GUINEA FOWLS.**—First and Second, G. R. Tate, Driffield. Commended, H. Mirkin, Driffield.

**TURKEYS.**—First, J. Dixon, Bradford. Second, G. R. Tate, Driffield. Highly Commended, Lady Hawke, Womersley Park. Commended, Miss Smith, Hatfield.

**GEES.**—First, G. R. Tate, Driffield. Second, J. Dixon, Bradford. Highly Commended, Lady Hawke, Womersley Park; Mrs. Goldthorpe, Cantley.

**GINS** (Goslings).—First, Mrs. Langhorn, Thorne. Second, Lady Hawke, Womersley Park. Highly Commended, G. Moody, Thorne Mors; J. B. Hepworth, Bearswood Green. Commended, Mrs. Stanley, Thorne.

**DUCKS** (any Breed).—First, G. R. Tate, Driffield. Second, J. Dixon, Bradford. Commended, G. Helliwell, Walkley, Sheffield.

**DUCKS** (Aylesbury).—First, G. R. Tate, Driffield. Second, Mrs. Thompson Wormley Hill. Highly Commended, S. Robson, Brotherton.

**RABBITS.**—*Duck and Doe.*—First, J. T. Spencer, Doncaster. Second, Miss R. Richardson, Thorne (Chinehillas). *Duck.*—First, J. Cresser, Thorne. Second, R. Gravit, Thorne. Highly Commended, W. Dury, Thorne. Commended, G. Woodley, Thorne. *Doe.*—First, R. Gravit, Thorne. Second, J. T. Spencer, Doncaster. Highly Commended, J. B. Hepworth, Bearswood Green. Commended, W. Dury, Thorne. *Doe for weight.*—First, J. Cresser, Thorne. Second, J. Gregory, Hatfield.

**PIGEONS.**—*Carriers.*—First, S. Robson, Brotherton. Second, W. F. Entwistle, Bradford. Highly Commended, J. B. Hepworth, Bearswood Green. *Croppers.*—First, S. Robson, Brotherton. Second, W. F. Entwistle, Bradford. *Tumblers.*—First, W. F. Entwistle, Bradford. Second, J. W. Edge, Birmingham. Highly Commended, W. Catterson, Hull; J. C. Addy, Epworth. Commended, R. Gravit, Thorne. *Ja obins.*—First, W. Carlton, Howden. Second, Master C. Darley, Thorne. *Nuns.*—First, W. F. Key, Beverley. Second, W. Catterson, Hull. *Trumpeters.*—First, F. Key, Beverley. Second, E. Smith, Birmingham. Commended, E. Smith *Turbits.*—First, J. W. Edge, Birmingham. Second, E. Smith, Birmingham. *Fantails.*—First, F. Key, Beverley. Second, S. Robson, Brotherton. Commended, J. W. Edge, Birmingham; E. Smith, Birmingham. *Owls.*—First, F. Key, Beverley. Second, J. W. Edge, Birmingham. Commended, J. W. Edge. *Extra Stock.*—Highly Commended, T. Addy, Epworth (Tumblers). Commended, R. Gravit, Thorne (Tumblers).

The Judges were C. Bllance, Esq., of Taunton; and T. B. Stead, Esq., of Leeds.

### ARTIFICIAL COLONIES.

ARTIFICIAL colonies may be made as soon as sealed drone-brood can be seen in the more populous hives, because drones will then be sufficiently abundant when the young queen has matured and begin to make their hymeneal excursions. If a few of the stronger stocks, especially such as have much drone-comb, be selected and divided early by drumming-out a swarm from each, a large number of supernumerary queens may be procured in the course of from ten to fourteen days, and an excessive production of drones be prevented for that season in such colony. These young queens, or the royal cells containing them, may be used with great advantage in forming artificial colonies.

A fertile queen obtained during the interval of deficient supplies is highly valuable, as she is able to produce a large number of workers which mature in season to appropriate the nectar of the lindens and white clover. And in fact, the worth of a weak colony, preserved over winter with much care and difficulty, consists almost entirely in its fertile queen, qualified to furnish a numerous progeny early in the opening season. The advantage of possessing fertile young queens (more to be prized than the old ones of previous years) need hence scarcely be adverted to.

Not every young queen that is bred becomes fertile. Many are lost on their hymeneal excursions. Colonies to which such have been given should, therefore, be watched with peculiar care, till we have ocular proof that they contain worker-brood. If a queen be lost, measures should forthwith be taken to remedy the evil by introducing a reserve queen or a royal cell. But as these are not always at hand, it is advisable to insert a piece of worker-comb, containing eggs and larvae, in every colony respecting which doubt is entertained. Those who use movable comb hives can greatly aid their young stocks, and guard against this kind of calamity, by the insertion of combs with uncapped worker-larvæ at intervals of three or four days, until they are satisfied, by actual observation, that the colony contains a queen qualified to lay worker eggs. The bees will always thus have within reach the means of rearing a queen in case of accident; and at this season the uncapped larvæ is not likely to perish from want of heat or due attendance, unless the colony be very feeble.—(*American Bee Journal.*)

**DAMSON WINE.**—Let the damsons be ripe, but not damaged. Pick out carefully any leaves or other dirt that may be amongst

them. Put them into a boiled tub, and having a quantity of clear soft water, let it stand till cold, and pour it over the damsons in sufficient quantity to cover the whole, and 2 inches or 3 inches more; let them stand in a cool place for a fortnight, stirring them gently two or three times a-day, but by no means break them, as that imparts a muddiness to the liquor not easily got rid of. At the time mentioned pour off the water carefully, which by this time will have become strongly impregnated with the juices of the fruit, add  $3\frac{1}{2}$  lbs. of good "Foot-sugar" to each gallon, and boil it gently for about forty minutes; after which pour it into a cask, and if no signs of fermentation take place, bung it down in a day or two. A few raisins may be added if thought advisable; but the great secret is not to break up the fruit, and when once put into the barrel to let it alone for about two years or more, when an excellent wine will be produced differing not materially from what is called "Test wine." Some

makers who object to a sweet wine do not boil the liquor, but, after drawing it off the fruit, add the sugar, and let it stand in a tub a few days, where it will ferment; or they ferment it in the cask. This fermentation takes off part of the sweetness, and the wine is, perhaps, sooner ready for use; but the little sharpness arising from the fruit is more predominant than when it is allowed to soften down by more time being given to it. Good damson wine is, perhaps, the nearest approach to good port that we have in England. No currant wine can equal it—in fact, wines made from red or black currants are going fast out of fashion in fruit-growing districts, the sharp acids of these fruits predominating so much. A mixture of fruits is sometimes used, but these, perhaps, may be described hereafter. Suffice it to say that those who have had the good fortune to manage damson wine well may with much propriety call it English port; and it requires no spirit to impart strength to it.—J. R.

## LA FLÈCHE FOWL.

(Continued from page 245.)

### THE HEN.

RATHER smaller than the cock of the same breed. Firm and consequential carriage, eye lively and bold. Round upright body, supported by strong sinewy legs of moderate length; great muscular development; flesh abundant and fine; large head; ample belly-feathers but close, not fluffy; plumage black.

*Head.*—Long and large, having all the characteristics of the cock but of smaller proportions.

*Comb.*—With very small horns, but apparent from their projecting forwards.

*Deaf-ears.*—White and very apparent from the decided contrast of colour and their large size.

*Nostrils.*—Like the cock.

*Beak.*—Strong and long.

*Physiognomy of the Head.*—Very fine and intelligent, similar in many respects to that of the cock. The comb shaped like horns, causes it to be called in many parts of the country the horned hen.

Good and early layer, of remarkably large eggs.

Does not sit.

#### GENERAL CONSIDERATIONS ON THE BREED.

The thorough-bred La Flèche, or Horned Fowl, is peculiar to the country of Maine; its type has always remained pure there, especially round La Flèche, where the mode of feeding seems to agree with it.

M. Letrove, to whom I owe part of the information which has served for this article, thinks their origin is unknown.

"Their renown," says he, "may be said to date from the fifteenth century, according to the testimony of some old historians. I, nevertheless, think their origin still more ancient." It was at "Le Mans" that the beautiful and primitive Poulardes were made, then at Méséray, then at La Flèche. These products

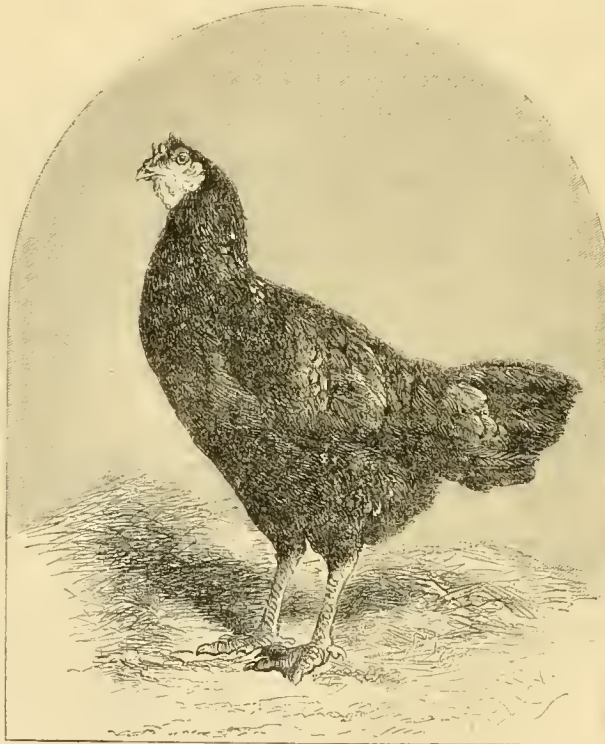
were known at different places under different names. The trade has long ceased at Le Mans, it is falling off at Méséray, and has only maintained its vigour at La Flèche and the surrounding country.

These fowls, so fit for fattening, are very robust, and seldom ailing. They acclimatise easily and preserve their purity, provided promiscuity is avoided—that is to say, that fresh blood shall be now and then introduced. They will take to any kind of food after they are grown up; but when young care should be taken to feed with food analogous to that they have in their native place. When reared at liberty they do not wander if they have grass at hand.

This breed of La Flèche may be classed as one of the two or three best French breeds. Although its plumage is uniformly black, it is extremely rich on account of its brilliancy, and of its fine green and violet tints. The bright red comb and wattles and the large white deaf-ear form as good a contrast with the black plumage as in a Spanish fowl.

The fine grain, the delicacy, and the peculiar taste of the flesh are very perceptible when the fowls are lean, and still more developed by fattening, to which cocks and pullets are alike subjected at the age of seven or eight months.

The ordinary food of these birds consists, in their own country, of three meals per day of wheat in the husk. It is necessary to limit the quantity as they are voracious, and at certain times would become too fat. After the peculiar and necessary food of the first week or two, and during the six first months hens and chickens should be fed on paste made with bran and meal. The older they get the more the bran may be increased and the meal diminished.



### THE PRESENT SEASON FOR BEES.

IN the neighbourhood of Exeter, and I believe in Devon generally, the season for bees is about the worst, up to this period, ever known. Towards the close of May, we had a week or ten days of very good honey-gathering weather; but, since then, bees have been living on their stores. A hive, which on June 5th possessed a considerable quantity of sealed honey, I found on the 22nd in a starving condition—bees lying about in hundreds, attempting to kill their drones, but almost too weak to accomplish it. A bottle of food was supplied them, and taken up in a few hours, to their very evident improvement. The queen is a Ligurian, substituted for the lawful head of the colony—a miscrably small black queen, which was at least four years old. The new queen had filled a great portion of the combs with eggs, most of which had shrivelled up from the incapacity of the bees to hatch them out. I should say that the hive is a unicomb, with a large population and many sealed royal cells, which were commenced prior to the introduction of the new queen, and have been gradually matured since. The bees deserted the upper combs, where this quantity of abortive brood and eggs is situated, and congregated towards the lower part of the hive, even clustering outside. Kept in the country at some miles distance from my own home, I was unable to see what was going on; but those who noticed it attributed the cause to the probability of a swarm being about to be thrown off. It was not until I was able to see for myself that the true cause was suspected. A number of dead and dying bees on the ground; a small cluster of very weak ones outside; the upper combs nearly deserted; the queen travelling in a very apathetic manner over the lower ones; the royal cells but scantily guarded by the workers, and apparently unnoticed by the queen; all presented a picture lamentably different from that which I had seen on my last inspection of the hive.

The bees in the apiary, more immediately under my own eye, had been liberally fed some days before, with manifest advantage.

With respect to artificial queen-raising, the season is sadly against us, and herein I am sure "A DEVONSHIRE BEE-KEEPER" will fully agree with me. Some hives, in which I commenced raising artificial queens on May 16th, have as yet remained queenless; numbers of cells having proved abortive, or the queens being lost during their usual flights in search of drones.

The reports from Kingsbridge, further south, generally a fine honey district, have been even more lamentable, and it would appear as if the bees had had a hard struggle for bare existence. Swarms are few and far between, and working in a super—a thing unheard of. Here we had some rare work done in supers for a short time, though much of the honey has been since gradually removed, all work being suspended, so that we have not had so great cause to complain as our Kingsbridge friends.

Should the weather now become settled, we have a chance of picking up a little, and supers pretty well furnished with combs may be completed; but, on the whole, I fear it will prove one of the worst seasons we have known for ten years past.—S. BEVAN FOX, *Exeter*.

### SWARM NOT WORKING—WAX-MOTHS.

I HAVE a swarm which has now remained for a fortnight hanging on to the side of the hive, exactly in the position which they took the day they were hived (June 8th). During this time they do not appear to have moved. For the first week I left them to themselves, but this week I have fed them a little with honey and sugar in hopes of rousing them, and thinking also that they would become weak; and since doing so a few bees appear to go out for food, but I can see no signs of comb-making. Ought they to be fed or not? And in what way can you account for this sluggishness?

The next hive has nearly filled a large glass during the time that this swarm has been sleeping away the days, so that the weather will not account for it.

Can you also tell me what is the best plan for getting rid of moths in hives?—M. H.

[You cannot do better than continue feeding, as the recent unfavourable weather may have had something to do with such unusual idleness. Should this not set matters right, there is probably something wrong with the queen, and in this case adding a small swarm to the bees already in the hive will prove an effectual remedy.

With either bar or frame-hives the wax-moth is readily extir-

pated by examining every comb separately, and cutting-out any damaged portions, which the bees at this season will readily replace. In common hives no remedy can, we believe, be applied by the apiarian; but the probability is that the bees themselves, if strong and vigorous, will succeed in expelling the intruders.]

### DEATH OF A QUEEN—HYBRID BEES—AND BEES AS CHEMISTS.

I SEND a dead queen which I should like "A DEVONSHIRE BEE-KEEPER" to dissect, as I think from her appearance she is a virgin. As she led off my best swarm on the 13th of June, she should, of course, have been an old one; but may have been a similar case to that of your Devonshire correspondent on the 4th. I am anxious to know, as on the 15th at five o'clock the bees became very uneasy; so much so, that I was satisfied there was something wrong with the queen or queens. My first thought was that she had taken flight on the 15th and got destroyed, and then that it might be a similar case to the one above referred to—that two had issued with the swarm. Of course these were only thoughts, as time proved; for, on Monday morning (16th) at seven o'clock, they brought her majesty from the hive, dead, and then commenced the return of the bees to the parent stock, where they were well received. I kept a few to strengthen an artificial swarm, with which they united peaceably. Many say that bees will not return to the parent stock after leaving with a swarm, but this case proves the contrary. They bore pollen up to noon on the 15th; and, on examining the guide-combs which they had scoured and added to a little, I found five cells full, and every available cell full of honey and syrup. The result of the investigation will greatly oblige, as it may upset some of our preconceived notions.

I also enclose a few crystals from the hive mentioned in page 37, which I should be glad to have examined.

I have had three swarms; and, as the weather is likely to take up (we had the first summer day since the first of the month yesterday, and to-day, the 17th, splendid), I expect them every day for a fortnight to come. I am looking for Mr. R.'s Italians every day, and shall very much like to see "the cloth of gold" upon a bush myself, as it is very likely I shall do if at home. I saw them yesterday, and there are now some splendid young ones coming out.

The hybrids\* vary much. The first that made their appearance I could not see any difference in, and then a fortnight after came some very good marked ones, and so on at intervals since.—A NORTH LANCASHIRE BEE-KEEPER.

[The box had been opened before it reached me, and all the crystals had disappeared. Fortunately, the dead queen, which appeared to have been a fine one, remained behind. I dissected out and examined her spermatheca, and found that she had been impregnated, so that there can be no doubt of her being the old queen. The cause of her death can only be guessed at. It does not appear that any eggs were deposited in the cells, which would probably have been the case had she been uninjured, and I should therefore surmise her death to have arisen from some accidental injury received in hiving, but not immediately fatal. I shall be glad to receive some of the sugar crystals from the hive to which you allude. It will be more satisfactory if they are accompanied by a few crystals of the same syrup before it was supplied to the bees. Both of these shall then be subjected to examination and comparison under the microscope, and the result reported by—A DEVONSHIRE BEE-KEEPER.]

### DRONE INFLUENCE.

IN the Number of the Journal for October 8th, 1861, my friend Mr. Woodbury related a very remarkable instance, in which a young black queen was impregnated by one of his Ligurian drones, at the distance of two miles in a direct line from his apiary. He also stated that he had preserved her life and given her to me to place at the head of a colony, to see what would be the result. This I succeeded in effecting, and a rare breeder she has proved herself. Some time since I removed more than half of the brood-combs from the hive (a large ten-framed one); subsequently, every comb, save a newly-formed

\* These are the offspring of a black queen bee which I presented to the writer last autumn, and which had been impregnated in an apiary a mile distant by my Ligurian drones.—A DEVONSHIRE BEE-KEEPER.

one, was taken away, and all the bees, an immense number, shaken off to form a swarm to begin the world anew. A large proportion of the bees were very decidedly marked with the distinguishing Ligurian signa. Some few could not be told apart from those bred by a true Italian mother; while still many thousands were in no way different from common bees. Here is a proof of the same queen giving birth to bees of three different shades of colour, and it is remarkable that we can often perceive this tendency even with first-class Ligurian mothers.

While engaged in depriving the bees aforesaid of their combs, I was curious to see the queen. I found her no different in appearance from ordinary black queens, although a remarkably large one.

Her drones do not in any way differ from common drones, which may be accepted as a proof of the correctness of the theory of the doctrine of parthenogenesis by its advocates.—S. BEVAN FOX, *Exeter*.

### “WHO FIRST ASCERTAINED THE SEX OF THE QUEEN BEE?”—(QUERIST.)

IN reply to the above pithy letter we will give all the information we possess.

Aristotle says that the *Basileus* of the bees is the parent of its own kind and of the working bees, but that the working bees generate drones. It is right, he also observes, that the *Basileus* (which by some was called the mother), should remain within the hive without labouring, being made for the multiplication of the species (*Hist. Animalium*, l. v., c. 21; *De Generatione Animalium*, l. iii., c. 10.) This opinion has been entertained by some moderns, among whom were Riem of the Palatinate Apiarian Society, and Wilhelmi of the Lusatian Apiarian Society. But being a point not now under our consideration, we pass on to remark that it is evident that Aristotle considered the *Basileus* of the hive is a female; and though *Basileia* would more decidedly have been synonymous with our word queen, yet *Basileus* may be interpreted by our word monarch, and include one of the female sex.

Pliny, on the contrary, leans to the opinion that the sovereign bee, “usually called the king,” is the only male in the hive, all the other bees being females (*Nat. Hist.*, l. xi., c. 16). Varro, Palladius, and Columella speak of the sovereign bee merely as “the king;” and Virgil does the same, but adds that bees gather their young from leaves and sweet herbs!

Thomas Hyll, in his “Profitable Instruction of the Perfite Ordering of Bees,” published during 1579, only speaks of “the king” of the bees; but the work is a mere compilation from other writers, ranging from Aristotle down to Hieronimus Carduus.

Butler in his “Feminine Monarchie,” published in 1634, asserts that “Reason and sense agreeing do show that the honey bees are the females, by whom the bees of both sexes (first the females and then the males), are bred.” In the same work he speaks of the queen “bringing forth many princes,” so that it is evident that he thought her progeny were all royal.

In “The Ordering of Bees—by the late unparalleled experience of John Levett, Gent.,” edited in 1634 by Gervase Markham, it is said, “The master bees breed or spat in their houses (the royal cells), as the other bees do in their combs or cells.”

Richard Remnant inclined to the same opinion. Writing in 1637 “A Discourse or Historie of Bees,” he there says, “The lesser bees are the females. Whether the queens blow (lay the eggs producing) the queens I am not very certain, but I take it to be so.” In Cromwell’s time it was not politic to discourse even of insects having either a king or a queen, so a work was published in 1655 entitled “The Reformed Commonwealth of Bees!” Its contents are a strange medley, and the only allusion to the production of these insects is in a detail of some experiments by a Mr. Carew, to show that they can be bred out of a dead calf!

Samuel Purchas, in his “Theatre of Political Flying Insects,” published in 1657, concludes that the working bees are females, producing workers and drones, and the queen only queens.

Rusden published in 1670 his “Further Discovery of Bees,” in which he maintains that “The king bee is a male and the only male in every colony.”

John Gedde in his “New Discovery of an Excellent Method of Bee-houses,” published in 1675, does not allude to the

subject; and Worlidge in his “*Apiarium, or a Discourse of Bees*,” in 1686, avoids the question, leaving such topics, as he says, “to the judgement of the most experienced and ingenious Butler.”

It is curious that from the time of Aristotle down to the end of the 17th century at which we have now arrived in due chronological order—that is, during a period of 2000 years, no naturalist had examined practically this subject, and that Aristotle was nearer to the truth than any of his successors.

The time had now arrived when men of science ceased from surmising, and addressed themselves to examining.

M. Reaumur examined bees anatomically; and in 1742 announced as the result of his researches that “the sole office of a queen bee is to produce a numerous progeny.” But he had been anticipated in this discovery; for Swammerdam in his “*History of Insects*,” published in 1669, states, “From one female, which is the only one of that sex in the whole hive, are produced all the three kinds of bees in nearly the following proportion:—10 to 14 females (queens), some thousands of the labouring bees, and some hundred males.”

Schirach, however, was the naturalist who most especially devoted himself to the study of the bee, and in his “*Histoire Naturelle de la Reine des Abeilles*,” published in 1770, he observes, “The queen is of the feminine gender, and is the mother of the whole race of bees.” He describes the two-branched form of her ovary, and the many thousands of eggs it contains. He states decidedly that the eggs are fertile without access of the male to her, and he details how artificial swarms may be made.

Warder, from whom we should have expected better knowledge, for he was a physician, is the last writer on bees who clung to old opinions on this subject; for in his “*The True Amazons, or Monarchy of Bees*,” published in 1720, he states that all the working bees are females, and that the queen produces only a royal progeny.

Other practical bee-keepers assented to Swammerdam’s discovery. Thus Thorley says in his “*Melissologia, or the Female Monarchy*,” published in 1744, “Without the queen they cannot breed;” and he is, like Schirach, a decided advocate of parthenogenesis.

John Mills, F.R.S., &c., in his “*Essay on the Management of Bees*,” published in 1766, says, “A hive of bees cannot subsist without a queen, as she alone produces their numerous posterity;” and Thomas Wildman, in his “*Treatise on the Management of Bees*,” published in 1768, observes, “What is commonly called the king is really a female, and the mother of all the bees.”

In fact, we know of no writer since that has maintained a contrary doctrine; and as he is the discoverer of a truth who proves it to be true, Swammerdam, we think, was the discoverer of the sex of the queen bee and that she is the sole mother of bees.

### OUR LETTER BOX.

**EAR-LOBES OF GAME BANTAMS (F. C. H.).**—There is no objection to their ear-lobes being white. Some judges prefer it. For example, in almost all Black Reds with yellow legs, the ear-lobe is a mixture of white, red, and yellow, the latter colour forming a bright edge to the lobe.

**EGGS RETAINING POWER TO BE HATCHED (A Young Beginner in the Poultry Line).**—We have the information from one who has tried the experiment, that few eggs will hatch when six weeks old, and that none can be relied upon after the fourth week. The fresher the eggs the stronger the chickens. Much depends upon the mode of keeping the eggs; laid upon their sides on bran, with the small end pointing rather downwards is the best position. Mark each egg with the date of the day on which it was laid, and put eggs of nearly similar age under a hen for hatching. This renders the hatching more likely to be simultaneous; as the older the egg the longer before the chicken attains strength to break the shell.

**WRIGHT OF EGGS (D. F. G.).**—The average weight of the eggs of the breeds you mention is as follows:—Dorking (Coloured), 2½ ozs.; Ronen Ducks, 3¼ ozs.; Game, 2½ ozs.; Golden-spangled Hamburgs, 1½ oz.; Malay, 2½ ozs.; Spanish, 3¼ ozs.

**DAMSON WINE (Lex).**—You will find a recipe in our paper to-day.

### LONDON MARKETS.—JUNE 30.

#### POULTRY.

We have nothing fresh to remark on the state of the market.

Large Fowls .....	4 0 to 4 6	Ducklings .....	3 0 to 3 6
Smaller do. ....	3 0 ,, 3 6	Hares .....	0 0 ,, 0 0
Chickens .....	1 9 ,, 2 3	Rabbits .....	1 4 ,, 1 5
Geese .....	0 0 ,, 0 0	Wild do. ....	0 6 ,, 0 9
Goslings .....	5 0 ,, 6 0	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	JULY 8—14, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.		Moon Rises and Sets		Moon's Age.	Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in inches.	m. h.	m. h.	m. h.	m. h.			
8	Tu	<i>Adesmia uspallatensis</i> , &c.	22.711—29.636	75—45	S.W.	.05	5 14	3 15	8 27	0 11	m. 8.	4 42	189
9	W	<i>Ageratum</i> s.	29.858—29.823	78—48	N.W.	.02	5 5	3 14	8 17	1 12	4	51	190
10	Th	<i>Aloc depressa</i> , &c.	29.915—29.866	75—40	N.W.	.01	5 6	3 14	8 23	2 13	5	0	191
11	F	<i>Alomia ageratoides</i> .	29.912—29.747	74—41	N.W.	—	5 7	3 13	8 rises	0	5	8	192
12	S	<i>Alonia obtusa</i> , &c.	29.664—29.555	81—57	S.	.06	5 8	3 12	8 36	a 15	5	16	193
13	SEN	4 SUNDAY AFTER TRINITY.	29.521—29.435	81—55	S.	.14	iv	11 8	0 9	16	5	23	194
14	M	<i>Alströméria aurea</i> .	29.605—29.514	78—53	S.	.08	1 4	10 8	20 9	17	5	30	195

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 74.8° and 51.1° respectively. The greatest heat, 93.4°, occurred on the 14th, in 1817; and the lowest cold, 37°, on the 9th, in 1856. During the period 153 days were fine, and on 92 rain fell.

THE CAMELLIA AND ITS CULTURE.—No. 7.



PROPAGATION. — Propagation and engrafting may be considered twin sisters, although in the general acceptance of the terms in a gardening sense, the one signifies simple multiplication, the other compound addition. The former method is resorted to to perpetuate genera and species, to supply the demands made upon any given establishment, and to promote progressive variation; whereas the latter is com-

ound in its nature and auxiliary in its tendencies. It is practised not only because it is a stimulant for the time being to the well-favoured, tender scion of probably a long line of illustrious ancestors, but because the stock with whose lifeblood it is commingled is generally selected as one of the hardest of its congeners, and, consequently, imparts a constitution to its weaker associate scarcely inferior to its own.

Well, then, in the first place, all Camellias are propagated either by seed, cuttings, grafting or layers; and then, generally speaking, the better sorts and the seedlings, if they turn out to be any way meritorious, are grafted in a variety of ways on these stocks before they are sent out to the market. So that all our fine varieties from the old white upwards undergo a twofold process, which, paradoxical as it may appear at first sight, in this case fully warrants the terms of affinity above prescribed. There is first the striking of any given number of stocks from cuttings, and, next, the grafting the desired and desirable varieties thereon before they generally fall into the hands of the amateur and gardening public as marketable commodities. Had we not entered so fully into details concerning this interesting tribe of plants, it might have scarcely been advisable to go into the *modus operandi* of propagation and grafting, as it more concerns the nurserymen than the gardener or amateur. A few pounds at any time judiciously spent will furnish the buyer with probably a better style of plants, and very likely at much less cost in the aggregate than trusting to his own efforts at successful manipulation. Besides, in the great majority of cases, including even some of our large garden establishments, there are not the same facilities for successful propagation, in all its phases, as there are in places that lay themselves out expressly for the purpose. Do not let the reader mistake me, however. I am not attempting to mystify the art, for most things are simple enough when any one knows how to do it, and this forms no exception to the general rule, and sometimes cost is only a secondary object, especially to the amateur, who loves to while away a spare hour at any pet project; besides, the gratification I had almost said is bewitching, at knowing that this beautiful variety of Camellia was grafted or inarched with his own hands, under his own eye, and in

his own estate, however circumscribed the latter may be. That idea just recalls to my recollection an incident in the history of my own life, where a gentleman whom I served a short time, contiguous to one of the great commercial towns in the West Riding of Yorkshire, had such an idea of the produce of his own garden, that go wherever he might to dine out, he found no vegetables so sweet and nutritious as his own. Of course, I, as an interested party, reserved my opinion; but a great many people living under the influence of a pure atmosphere will doubt the correctness of his taste, when I tell them that I was never able to cut a single vegetable, or pull a single fruit, that was not more or less coated and "burked" with smoke.

I remember perusing an article some three or four years ago, translated from the French. By whom, or in what locality of the Continent the article emanated from, I cannot now positively say, but it was to the effect that the finer varieties of Camellias, including the old white, would not propagate from cuttings. This is decidedly a mistake. It was contrary to my experience at the time, and after-years have only fortified what was then my opinion. Albeit, there are some varieties that are not so easily propagated in this way as others, and the old white is one of them, which may account for the false theory, if it might be dignified as such, promulgated. I and others whom I know, and very possibly many others whom I do not know, have propagated the finer sorts, aye, even from four-year-old wood, although if any one wishes to be in the highest degree successful, he had better select the wood of the previous season, which is consolidated sufficiently to maintain the balancing power until the inserted extremity begins to callus, and thus pave the way for the emission of roots. Cuttings from 6 inches to 9 inches long cut smooth across below the latent eye at the base of the leaf, and the leaves in turn for—say 3 inches upwards stripped off, and inserted in well-drained pots with a little fibry matter over the potsberds, and filled afterwards with pure sand, will root freely, especially if they can be placed in an intermediate stove-house, with a little bottom heat. They will require to be covered with either bell-glass, hand-light, or frame, just to meet the requirements of the several interested parties. To keep them air-tight for a series of days or weeks, as is occasionally the case, is fraught with no good results. Every careful observer knows that the moisture accumulates to such a great degree in these shut-up laboratories, that even to the succulent leaves of these plants, which, by the way, from their constitution withstand the maximum degree, it may do no small injury. Ventilation is necessary, and must be regulated according as circumstances require. The day, the position of the cuttings, and the temperature of the house, should all be considered. In most cases between the hours of six and nine in the morning is the best time, for absorption goes on rapidly during night, evaporation during day; but the cutting cannot withstand the fatigue of the heat of the day, and is thus shut up to keep good the life blood it had when cut from its parent. But I have been reading the novice a very nice

lesson about the propagation of these fine varieties, and I am now going to tell him that unless in some special cases, it is of little use propagating them in this way at all. The same lesson, however, is equally applicable to stocks, although they will root with much less attention, and almost by the simplest means conceivable, so that the advice may be useful after all.

As was suggested above, to engender and promote a healthy and vigorous constitution, and at the same time accelerate the growth of choice varieties, they had better be grafted upon stocks, or if the stocks are large, and the possessor wishes to get up fine sorts as quickly as possible, then they must be inarched or grafted by approach. To dabble away with cuttings, unless it be of such sorts as *Chandlerii* elegans, or *Centifolia alba*, which are as vigorous as the best stocks that have come under my cognisance, is simply wasting a season or two, not to speak of the delicacy of their constitution as compared with the original stock.

Layering is not much resorted to in this country; but in France, Belgium, and Italy, we are told, where climate is favourable, the stocks are planted out into beds of peaty earth and sand, in some cases in the open air, but more frequently into pits or frames, cut down the one season, and the young shoots layered the next, they are generally sufficiently rooted in the autumn to be severed from the stools, parted, and the following year used for grafting. There is no doubt, however, in our estimation, that good cuttings properly managed would supersede, in point of economy, the above practice, as they come away very rapidly, and occupy much less space than is requisite for layering. The fact is, that we have inserted cuttings in the autumn, parted them off the following spring, and engrafted them with fine sorts, which in turn required about from six to eight weeks to form a perfect union, and they grew with a vigour and rampancy unknown to these hard, hidebound, ayered stocks.

We have practised several methods with more or less success, among which might be mentioned what is called crown-grafting—viz., cutting down an old plant and inserting two or three scions at equal distances round its circumference, which is, in point of economy, one of the very worst methods you could hit upon. Inarching is the proper and by far the best method to make the most of a plant from five years old and upwards. For plants younger than this age almost any method which fertility of resource can conceive, is sure to be successful, provided the wound upon the stock and the wound upon the scion fit each other's component parts, so that the outer rind of the one may embrace the outer rind of the other as nicely as possible. This being firmly secured with matting, all that is requisite to observe is to keep the plants as close, or air-tight, as possible, always recollecting to let off superfluous moisture at the proper time, until the cambium oozing out from both wounds becomes solidified and organised, which will be, sooner or later, according to the state of the stock and scion, temperature of the house, and skill brought to bear upon their needs.

Supposing any amateur may have half a dozen of good, healthy stocks to manipulate upon, we would advise that the whole of them be beheaded about 6 inches above the pot, putting the tops in as cuttings if he has a mind. The best time to conduct such an operation would be from February up to the time the plants are making fresh growths. There will very likely be half a dozen sorts in his collection that he has a particular regard for, and these, of course, will be the varieties from which the scions are taken. The stocks, in the first place, should be cut smooth horizontally, just above a leaf-bud. The scions should in like manner be cut off from their parents immediately below the leaf-bud, and the leaves in either case retained, so that when the two wounded surfaces are joined together there is less chance of failures, for the continuity of the sap goes on, so to speak, unchecked, being reciprocated by the solitary leaf at the extremity in either case; whereas if the manipulator made the incisions upon the smooth wood of both stock and scion, and bandaged them together, it is possible that no union might be effected. These incisions spoken of should be made in a sloping direction, about  $1\frac{1}{2}$  inch long, with a sharp knife, and any leaves but the lower one that are in the way of the bandaging should be cut off, and the *modus operandi* thereafter is the same as suggested in the preceding paragraph. It is a good plan to cover the bandaging with a little sphagnum, this being a capital hygrometer for the novice, and accelerating the union of stock and scion. There is no quicker, easier, or more successful method than this for getting up vigorous plants to begin with;

and a corresponding state of things only requires to be maintained to make any one in a high degree successful as a Camellia-cultivator.

Particular stress must be laid upon grafting by approach or inarching, for it is an operation which every Camellia-grower within the circle of my knowledge resorts to. There are always some varieties that do not altogether suit the taste of the possessor, and these are marked out for inarching other favourites thereon. The greatest novice in the art cannot fail to reduce this into successful practice if the admirable gift of patience can be added to his other virtues. The union must be thoroughly effected before one endeavours to cut the connection, else the labour of more than one season is given for nought. So long as the stock with its, probably, numerous branches remains not cut down, the loss is not so great, although the scion when severed from its parent withers away; but patience for six, or even twelve months if necessary, will insure a perfect union. In the case of small branches put upon stocks equally small, two months in a moderately warm house will be sufficient; but in the case of branches, probably, nearly an inch in diameter, inarched on strong leading stems, which is generally the case, a far greater amount of time is required. Much depends upon the neatness of the operation, the caution displayed when cutting down the stock (for often a hoggling knife will cause an accidental slip against the scion, and at once sever the connection), and the vigour of the plants. To say that this stock, or that variety, you wish to propagate should be raised in pots so high, or be sunk so low, would be trifling with the space of this admirably conducted Journal. Every one is fertile enough in expedients to suggest and carry into execution his or her own requirements. The nearer the pot, in general, that any one can effect a union with the stock the better, as it the more discourages the emission of suckers, which, of course, are not wanted.

By far the best method we have ever attempted for effecting union to a nicety, is by using a carpenter's gouge, which hollows out the alburnum of the stock without disturbing a greater surface of outer bark than is requisite. All that it is necessary to do to the variety intended to be propagated, is to cut out the outer and inner bark to fit the cavity, and then you have stock and scion, so to speak, dovetailed together, thus promoting the object desired in a far more scientific manner than any other method we have ever practised.

Propagation from seed is a work of years, and well repays the amount of attention required to bring it to a successful issue. It is by working away in this direction that horticulture is in the greatest degree advanced, and there is really little to complain of, or cavil at, as to what has been already effected. Such varieties as those we have, in a previous paper, alluded to, as well as Countess of Derby, *Lavinia Maggi*, *Bonomiana*, and some others are practical examples of what is doing, and speak well for what is likely to be done in the same direction. It is well, however, to keep the "ball rolling" to incite the sympathies, the energies, and the skill of other growers in this direction, as there is a wide field before every one of us and no favour. Plodding minds are ever on the *qui vive*, and resources are as astonishing as their methods are elaborate. Much can be done by skilful manipulation. A great deal is effected without it.

Donckelaari and *Corallina* are the only two varieties which we have obtained seeds from, sometimes without manipulation, and occasionally *vice versa*. Pods after formation require from six to ten months to perfect the seed, which is generally in pairs, sometimes solitary, but we never obtained more than two seeds from one pod. They are of irregular oval form, and are perfectly black when ripe. We have sown some almost as soon as coming from the pod. A little bottom heat induces quicker germination. Peat and sand in equal proportions does its duty well, the grower requiring not to overwater the seeds, else they will fail to germinate, as was the case in one or two instances with ourselves. A good, moist medium, and stove heat in February, will germinate the seeds in autumn.—J. ANDERSON, *Meadow Bank, Uddingstone*.

#### THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION.—JULY 2ND.

A GOOD day for the haymakers about London, threatening in the morning to keep them to their staff, and in the afternoon a strong, rushing, gusting wind sufficient to drive the dews of June right out of their hayricks, and leave them sweet as Clover. And a mighty rush it did make, again, in the eastern arcades,

where the most luxuriantly gorgeous fine-foliaged plants that ever were staged were exposed, fierce as in June, to the elements "of all the arts the wind can blow."

The lowest 50 yards at that side, with only one stranger, were full of the most select plants with remarkable foliage or variegation, which puts the doctrine of disease in such rare and beautifully luxuriant markings right heels over head. The most luxuriant smooth-leaved Cayenne at Windsor, Trentham, or Dalkeith, is not more healthy in looks, or bigger in bulk of proportions, than the deeply variegated Pine Apple in fruit in that collection from the Exotic Nursery.

On towards the conservatory the next 44 yards were full of collections of stove and greenhouse plants, without a single stranger at all among them.

Then, what the amateurs had for their Roses the week before did for the fruit on this occasion, and the most remarkable "fruit" there was a dish of Love Apples. That was coming it too strong in botany for a dessert for decent folks, and was simply ridiculous. The *Nux vomica* is just as good a "fruit" as the Tomatoes; and unless it be the smell of Garlic, or of ripe Tomatoes, I can think of no other "fruit" that would be more likely to drive a party not only out of the dining-room, but right away from the mansion, as that Nut and those Apples. I wonder what the wedding party from Osborne thought of it.

Among all the plants on the east side of the conservatory there were only two with the names wrongly spelt—the two plants of the old *Heliclyraum proliferum*, and one *Dipladenia*. The former is now called *Phanecoma*, there it was *Phanecoma* and *Phanicoma*, and *Dipladena* for *Dipladenia*. The only wrong spelling I noticed on the west side was *Hedaroma macrostigia* for *macrostegia*—only another name for *crinoline*, a large covering.

The only stranger among the fine-foliaged plants was from Mr. Smith, gardener to the Duke of Northumberland. It was named *Duranta Baumgardi*, with little difference, however, if any, from the variegated form of *Duranta Plumieri*; and it struck me that *Baumgardi* was only a German name for that plant.

Among the greenhouse plants there was a fine specimen of *Mirbelia Meisneri*, which one seldom sees at an exhibition. All the rest of them were as familiar as "How do you do."

The Orchids occupied the one-half of the back part of the conservatory, and *Vanda Lowii* was the rarest of them. You know the tricolor, and teres, and the *Batenanii* run of *Vandas*: this was a fourth and a new form in the genus—long, hanging-down racemes from the top of a noble growth, exactly as the pack-of-hounds racemes come from the bottom of *Gongoras*. The flowers come along the whole length of the hanging chain, and there were twenty of them on this plant all open but one or two, and all fresh but the two top ones. They are exactly of the same colour as those of the richest *Gongoras*, and about four times the size. It was in the collection of the Messrs. Veitch, one of the richest collections of the family the firm ever staged, and the most few in generic numbers, which was a particular feature all over the Show; *Arides*, *Saccolabiums*, *Vandas*, and *Cattleyas*, comprising nine-tenths of all that were there. *Dendrobium*, only two sorts; *Lælia*, only *purpurea*; *Anguloa*, only *Clowesii*; *Cypripeds*, three sorts, of which *grandiflora* the rarest to the shows; *Phalenopsis*, the three sorts, but *Schilleri* not in bloom; *Oncida*, four sorts, three puny ones, and one *ampliatum* major in bloom, from the May show; while of *Cattleya* there were *Mossia*, *lobiata*, *superba*, *crispa*, *Leopoldi*, in almost all the best lots; then there were *Arides affine*, *odoratum*, and *roseum*; and major, *Blumei*, *Lobbi*, *cornutum*, *Lindleyi*, *nobile* (a fine creamy kind), *maculoseum*, *speciosa*, *Fieldingii* or *Fox-brush*, and *Larpentæ*; and of *Saccolabiums*, *Blumei*, and *Blumei major*, *guttatum*, and *Holfordiana*. *Vanda Lowii* was the only Orchid at which the wedding party from Osborne looked particularly, and of them only the Princesses took the least notice of the Orchids; but the Princess Charles of Hesse did not miss a plant out of all the popular kinds. The Princess Anna of Hesse did not seem quite so fond of plants, but Her Highness was the second European lady who first smelt the grandest new flower that was at the Show, which is a most magnificent new Lily from Japan, among the rarest novelties from the Exotic Nursery. The Princess Charles was the first lady in Europe who smelt that flower in public, and she seemed delighted with the fragrance, and with the size and beauty of the flower. You may depend upon it, the Princess Charles of Hesse is as fond of flowers as any lady in England, and she was the only one of the whole party who looked at them as a gardener would.

As luck would have it, the *Fuchsias* were never one-quarter so fine or so numerous at any of our shows as on that day, and the Princesses admired them as much as anything at the Show. I did not see how they seemed about our fruit-tent; but somehow or other the fruit does not look nearly so well at the new garden as we used to have it at Chiswick, and you will see by the prize lists the winners are not all in the usual run.

I never saw so many new things at one show—that is, newish, for most plants are old with us up here before you can make out what they are like down with you; and if you had been there, my word for it, you would see, even among the Japanese novelties, many plants of which no one ever yet gave you the least hint. There was a Fern-leaved Oak in each of the Japanese collections—that from the Exotic, and that from the Bagshot of Mr. Standish, also a Fern-leaved Maple, both from Yeddo.

The white *Lapageria rosea* is out at last. I told you of it, if you recollect, five or six years back as being up with Mr. Low at Clapton. It was here from the Exotic, however, and with two flowers open right over the sensation Lily, which was the flower of the day. In the first place, this Lily is more of a Tulip shape towards the bottom, and more like a flower-vase in the top than any Lily you ever saw; from the edge of the vase the segments curve back or reflex very much; the ground colour all over and under is light; there is a deep broad band of yellow up from the very bottom to near the top of each division or segment in the centre; and the whole face of the flower is as regularly studded with prominent pink processes as the drum of a musical box, and quite as far raised from the surface of the flower. The plant which produces all that is of very genteel and slender make at present, and there are more than forty kinds of new Lilies from Japan, and some of them are said to eclipse even this one.

But I shall take a lot of the novelties just as they stood. *Heleclium macrophyllum* from M. Verschafield would put you in mind of a young vigorous sucker of a *Paulownia imperialis*. Then the said Fern-leaved Oak and Maple from Yeddo, *Zebra-stemmed Caladium* and a most beautiful new *Zebra Dracæna*, all from the Exotic Nursery. *Phyllanthus rotundifolius* in bloom from the Messrs. Jackson, of Kingston. A cream-coloured *Dendrobium* from Moulmein, with a yellow eye, from the Messrs. Low. A large blush *Cattleya*, with yellow down the lip, from the same firm. Some new *Tydasæ* from Mr. Bull. *Anthurium Scherzerianum*, the queerest thing you ever saw—from the top of a slender flower-stalk hung down a crimson flap-like spathe, like a piece of Morocco leather, and above it, twisted up, an inch and a half of crimson pigtail, and that was all the flower; but where the botany of it was goodness knows, unless it was in the pigtail twist of the spur or spadix. It was from the gardener of the King of Hanover. Then the new *Rhodanthes* from Mr. Thompson, of Ipswich. The little pale purple sweet *Calceolaria* in the habit of *arachnoides* is now *C. auavis*; and *Chamæbatia foliolosa* is one of the prettiest of the fine-foliaged plants, and like some *Selaginella*. A curious *Vaccinium*, with inflated grey pendulous flowers; the Bornean *Plocostemma lisanthus* and *Genæra refulgens*, the darkest lot of the *G. zebra* race, all from Messrs. Veitch's Exotic Nursery. Three plants of *Retinospora retusa* from Mr. Bull. A large mass of *Anætochils* and Orchids from Mr. Williams. Then a most capital thing, a lot of window-sill flower-boxes in full bloom; and none was ever better done than the first-prize one from the Messrs. Veitch, which was in the true cottage style, thus:—Three rows, the back row of mixed *Calceolarias*, *Stocks*, and *Fuchsias*; then a row of Variegated *Geraniums* and a fringe of blue *Lobelia*. In another window-box the plants were just as far wrong, being *Ferns* and *folies* all over, even for the inside of a cottage window, but I shall not mention the exhibitor's name.

Then a fine lot of fine-leaved *Begonias*, without one of the *Rex* race among them; and next, the grand *Disa grandiflora*, with flower-stems stronger than for Japan Lilies, from J. C. Lesch, Esq., of Clapham Park. One little plant that has been fifteen months in water, and out in the open air since the middle of last April was in bloom, and throwing-up the first side-sucker over the rim of the pot. A shallow bed of the cocoa-nut refuse by the side of a pond, which would supply the roots with constant moisture from May to October, and protection being given from frost by some slight covering, would make this splendid plant grow and bloom like a *Disa magnifica* to a certainty.

Then, a large *Goodyera*, like the cross at the June show, was named *Veitchi*; then a lot of little plants of bedding *Geraniums* from Mr. McIntosh, of Hammersmith. But I

shall propose to the Floral Committee, at our very first meeting, that all new bedding plants whatever be exhibited in boxes, like the window-boxes aforesaid, and only in May, June, July, and August, or else not to call them bedding plants. Who will give a ten-pound note for the first start, in three prizes of £5, £3, and £2 for seedlings not more than twelve months out, or if never out at all to be all the better? The boxes to be not less than 18 inches long, 9 inches wide, and never more than 6 inches deep, but any length to a yard would do. There is no other certain way of judging of a new bedding plant; and ladies or their gardeners must help us at these shows, to decide the merits.

Then an Alberti-like new Heath, from the Clapton Nursery, with four very large double Petunias; and a host of single Petunias and fine-leaved plants from Mr. Bull, reached along that side of the long tent. The other side was filled with the two large collections of Japanese plants. That from Messrs. Veitch was edged with their new *Amaranth*.

There was a fresh new *Lonicera reticulata* in the Japan collection of Mr. Standish, the very best of the Japan plants to my eye. It has the leaf of our own larger Periwinkle, when veined or reticulated with golden network; and the *Euonymus radicans variegata* in the Messrs. Veitch's Japan collection is my next favourite, for an edging plant in-doors or out. Then a silvery white variegated *Hemerocallis* in the same collection next; and there was a silver variegated *Tradescantia*, with the habit of a *Torenia*, which will make one of the best hanging-basket plants. I am not sure if I should not be proud of a hedge of the golden variegated Privet from Japan as well; and it strikes me, moreover, that one by one I should be tempted to buy them all, if I could afford the "siller" and the room.

The top of this side was full of cut Roses, Verbenas, Pinks, Picotees, and Pansies, and with them I am quite satisfied.

The Fuchsias were the pride of this Show. If there was a bad one among them all, it was a great deal better than the best Fuchsia I ever saw staged. You never saw anything like it. It was that *Disa grandiflora* that must have opened the ball, for the first, the second, and the third prizes went straight on to Clapham Park, where the *Disa* found the first home in England. Madame Cornelissen and Rose of Castille were the two best whites in two distinct strains, Madame having on a crimson erinoline reflexed. By-the-by, they say it was from our reflexed Fuchsias the ladies took their notion of tucking-up to see the petticoat; and Madame Cornelissen is, therefore, strictly in the fashion, as well as in the first rank of reflexed Fuchsias. But have you seen Maria Cornelissen and Mrs. Scott, two Merrimaes for such as Madame Cornelissen is? I have them both, as well as Madame and the rest of the cream of the flock; but, after seeing the Fuchsias in this competition, I must hold my tongue to them. The plants in the first-prize collection were not more than one-half so tall as some of them. It was the natural style of growth in which they were trained which gained them the day, and here is how it was. Catherine Hayes, not over 5 feet high, but about as much through, and the tops of the bottom shoots flowering to within 4 inches of the ground, all round the pot, and not the slightest sign of training about them. Prince Alfred, Isa Craig, Madame Cornelissen, Rose of Castille, and Wiltshire Lass were the rest in the first collection. The second-prize collection was more fat, much taller, and bigger every way, but not a quarter so nature-like; and the third prize collection was of medium-sized Fuchsias. Madame Cornelissen and Rose of Castille were in almost all the collections. One of the latter, a magnificent plant from 10 feet to 12 feet high, in a collection from the Messrs. Lee was, without exception, the best bloom of Fuchsia I ever saw. The next best I had myself two or three times on Ricartoni, but then it was in a rich border, and growing against a conservatory wall. Stove and greenhouse plants in collections filled the rest in the west arcades, after the *Pelargoniums* and Fuchsias.

*Hoya bella* was the only stove plant not out in June. Lower down the western arcades were two collections of orchard-house plants from the Messrs. Lane & Son, one of them being different Plums, the other all to the sorts of pot fruits; and there was a large and a well-grown collection of fruit trees in pots, from the Society's garden, from Apples and Pears to the best Peach in the book; and down there was the battle for the Ferns. Mr. Ivory and the Messrs. Veitch were beaten out and out at last by a gardener—Mr. Lavey, gardener to E. A. De Grave, Esq., Fetcham, near Leatherhead. He had a span new Surrey Fern there which you must have, if you have only two others out of

all England. It is an extra form of our *Athyrium filix-femina*, the most sportive Fern nearest to Epaoon Downs, and called Fieldie, after Miss Field, who first found it in Ashurst Park, near Tunbridge Wells. Mr. Ivory had a whole edging of it from seeds, and he has a thousand of them without the least variation, and is selling them cheap as Verbenas, at least his foreman offered it to me at so much per dozen, as if I were a Fern man. Mr. Lavey had another new sport British Fern, from *Lastrea filix-mas*, found by Miss Bolland, of Fetcham Park, in their own woods. This is named after Miss Bolland. Mr. Lavey is a British botanist as well, for he had a very large collection of cut wild flowers there from all parts within his reach, and where he could not go he sent his wife or his first-born for a posy of some good thing, and he had a prize for the lot and likewise for *Lycopoda* in pots. I knew a gardener's daughter, twelve miles out of Perth, on the way to Dunkeld, who knew the names of all the plants in the British Flora, but this is the first time I ever heard of a gardener's wife going out botanising in the country. Mr. Appleby, the foreman to Messrs. Ivory, is my authority for that wife, and for the prize of Miss Field's Fern, and for my beautiful specimen of it, the very finest Fern, now in my herbarium, and the very first.

D. BEATON.

### FRUIT.

THE show of fruit was good, but not equal in quantity to that brought forward in some previous years, when we have seen a hundred Pine Apples staged. Many of the exhibitions, too, were deficient in flavour—a circumstance doubtless attributable to the cold sunless weather which has prevailed throughout the season. The gardener can produce any amount of heat requisite for growth in size, but he cannot create light, which is essential for the proper maturation of his fruit; and, consequently, when grown under disadvantageous conditions in this respect, it will prove more or less watery and insipid as well as deficient in colour.

The only two collections of Grapes came from Mr. Standish and Mr. Henderson, of Trentham. The former received the first prize, his exhibition comprising not only the best old varieties, such as the Black Hamburgh, Muscat of Alexandria, Chasselas Musqué, Royal Muscadine, Frontignans, Sweetwater, Charlesworth Tokay, &c.; but also Gros Bleu, Early Saumur Frontignan, General Marmora, Muscat Troveren, Ingram's Hardy Prolife Muscat, Due de Malakoff, Groa Colman, Long noir Durant, Sarbelle Frontignan, and several others, either entirely new or but rarely seen in this country, and making in all twenty-five varieties. Mr. Henderson, who was second, had excellent bunches of the Black, Golden, and Victoria Hamburgh, Trentham Black, and Chasselas Musqué.

In the next Class, collections of fruits, there were likewise only two competitors, Mr. Tillyard, gardener to J. Kelk, Esq., Stanmore Priory, and Mr. Henderson; the former receiving the first, the latter the second prize.

Mr. Tillyard had three Pines, two Queens, and a Providence, Black Hamburgh, and Muscat Grapes, two kinds of Melons, Elton and Black Tartarian Cherries, a very fine dish of Green Gage Plums, Violette Hâtive Peaches, and Nectarines; four sorts of Strawberries, and very good Fastolf Raspberries. Mr. Henderson showed Trentham Black, Golden Hamburgh and Black Hamburgh Grapes, Black Eagle, and Bigarreau Cherries, in both of which respects he had a superiority over Mr. Tillyard; whilst his Peaches, consisting of the Royal George, Violette Hâtive, and Magnum Bonum varieties, with Violette Hâtive and Murry Nectarines were equally good; but his Pines, being two Montserrat, were not considered so good. He also had Trentham Hybrid Melons, two sorts of Strawberries, and some very good Jefferson and Victoria Plums.

In Pines, the first prize for Queens was taken by Mr. Tillyard, with one weighing  $4\frac{1}{2}$  lbs.; the second by Mr. Bwey, gardener to R. Crawshay, Esq., Cyfarthfa Castle, which weighed 3 lbs. 7 ozs.; and the third from Mr. Young, gardener to C. Bailey, Esq., Aberdare, was 3 lbs. 13 ozs., but not so well grown and ripened as the preceding, and it had also a larger crown.

In the next Class, Mr. Allen, gardener to J. B. Glegg, Esq., Withington Hall, received the first prize for a Providence weighing  $7\frac{1}{2}$  lbs. Mr. Ruffett, gardener to Lord Palmerston, was second, with a good fruit of the same kind, weighing  $6\frac{1}{2}$  lbs.

Of Black Hamburghs there were several very fine bunches, the best being from Mr. Henderson; Mr. Petch, gardener to R. Barron, Esq., Chesterfield, and Mr. Jackson, Taxhall Hall, were second and third, with very good exhibitions of the same kind.

In other varieties, three large bunches of Black Prince weighing more than 7 lbs. were shown by Mr. Hill, of Keele Hall, and obtained a first prize; Trentiam Black, very fine, from Mr. Henderson, came next; and Mr. Brooks, gardener to J. Lee, Esq., Dillington, was third with three good bunches of Black Prince, but the bloom was rubbed.

Muscats were not sufficiently ripe; the best were from Mr. Beck, Tedworth; Mr. Horwood, gardener to G. Turnbull, Esq., Bromley; and Mr. Standish. The latter obtained the first prize in the next class for Chasselas Musqué, Mr. Allen being second.

Among Peaches and Nectarines many dishes were very fine, besides those which obtained prizes. Mr. Rawbone, gardener to C. Campbell, Esq., Stoke-upon-Trent, was first in three dishes with Royal George, Grosse Mignonne, and Violette Hâtive. Mr. Maclellan second.

Of single dishes there were seventeen in competition. Mr. Snow, of Wrest Park, was first, the variety shown being the Violette Hâtive. There were also several fine exhibitions of the Royal George, Grosse Mignonne, and Bellegarde; as well as of Nectarines, such as the Violette Hâtive, Elruge, and Pitmas-ton, the best coming from Mr. Rutland, Mr. Horwood, and Mr. Allen. Altogether 12 single dishes of this fruit were shown.

In the Class for three dishes Mr. Tegg was the only exhibitor.

Strawberries were in some instances very fine, notwithstanding the unfavourable nature of the season, which has rendered the crop of those out of doors almost a failure near London. Mr. Turner, of Slough, exhibited a collection of nearly forty sorts, and received the first prize for four dishes, and an equal first for collections. Mr. Widdowson, Chorley Wood House, had also a first prize for his collection; and Mr. Lydiard, of Bath-easton, obtained the third award in this class, and the second for four dishes.

There were some very good Melons, especially those of the Bromham Hall breed. Mr. Weir and Mr. Kaile had Scarlet Gem, taking the first and second prizes in that class; and in Green-fleshed, Oscar from Mr. Kaile and Golden Perfection from Mr. Maclellan were the best two.

There was also a hybrid from Mr. Meredith with very delicate flesh, but rather too far gone, which received an equal second; and a similar award was made to Mr. Tegg.

Vines in pots were shown by Mr. Smith at Syon, Mr. Standish, and Mr. McPherson: those from the former being very good examples of this mode of culture.

Some very good Figs were shown in the Miscellaneous Class by Mr. Ruffett and Mr. Cross; and large well-ripened Tomatoes forced in pots by Mr. G. Smith, Liscard Hall.

The only collections of fruit trees in pots were from Messrs. Lane, of Great Berkhamstead, and from the Society's garden at Chiswick, the latter being very well grown, but, of course, not for competition.

## THE CRYSTAL PALACE ROSE SHOW.

It is impossible to convey by words a just idea of the superb display of Roses which was brought together at the Crystal Palace on Saturday last. The Exhibition occupied one-half of the long nave, extending in a double row of stands along the centre, the interval between which was filled with Dracaenas, Ferns, &c., and, notwithstanding the length of the line thus formed, so great was the interest taken by the numerous visitors, and especially the ladies, that a near approach to the tables was almost impossible—in fact, the only period of freedom which we enjoyed was during M. Blondin's performances.

The stands came almost exclusively from southern growers, and comprised admirably-grown blooms of all the leading varieties, among which *Senateur Vaise*, *Lord Raglan*, *Souvenir de la Malmaison*, *Général Jacqueminot*, and *Jules Margottin* were everywhere conspicuous.

In the Nurserymen's Classes for 96 and 48 varieties the chief honours were, in both cases, carried off by Mr. Cant, of Colchester. In single trusses of 24 varieties Mr. Turner was first with a magnificent stand; that from Mr. Cant, which was also very fine, coming in second. The best 12 trusses came from Mr. Francis, of Hertford; and in the succeeding class for 24 varieties, 3 trusses each, he was equally successful, notwithstanding a close competition from Mr. Keynes and Mr. W. Paul, who had both admirable exhibitions.

In the Amateur's Classes were numerous stands of great excellence, only a few exhibitions falling below the standard of merit. Mr. J. T. Hedge was first in the three classes for 36,

24, and 18 varieties in single trusses; Mr. J. Hollingworth, Mr. Grant, and Mr. A. Moffat being respectively second. Mr. S. Dobree, of Wellington, and Mr. Corp, of Milford, Salisbury, gained the first and second prizes for 12 varieties; and in the same class there were several other very good stands.

The best collection of new Roses was shown by Mr. Cant, who had *Madame Furtado*, *Belle de Bourg-la-Reine*, *Admiral Nelson*, *America*, *John Waterer*, *Victor Verdier*, *Senateur Vaise*, *Madams Boll*, *Triomphe de Lyon*, *Madam Standish*, *General Zachargersky*, *Baron Gonella*, *Eugénie Lebrun*, and some others. Messrs. Paul, who were second, had also a fine display of new kinds; and from the same firm there came a good collection in pots.

Orchard-house trees in pots were shown by Messrs. Lane and Son; double Sweet Williams by Mr. Jarman; and several baskets of artificial Roses by Adcock & Co., of Princes Street, Cavendish Square, so life-like that they would almost deceive any one. Annexed is a list of the awards on the occasion.

### GROWERS, FOR SALE.

Class 1.—96 VARIETIES, ONE TRUSS OF EACH.—First, Mr. B. R. Cant, St. John's Street Nursery, Colchester. Second, Mr. J. Mitchell, Pitdown Nursery, Maresfield, Sussex. Third, Messrs. Paul & Son, Old Nurseries, Cheshunt. Fourth, Mr. W. Paul, Nurseries, Waltham Cross. Fifth, Mr. J. Cranston, King's Acre Nursery. Extra, Mr. J. Keynes, Salisbury.

Class 2.—48 VARIETIES, ONE TRUSS OF EACH.—First, Mr. B. R. Cant, St. John's Street Nursery, Colchester. Second, Mr. C. Turner, Royal Nurseries, Slough. Third, Mr. J. Keynes, Salisbury. Fourth, Mr. J. Cranston, King's Acre Nursery, near Hereford. Fifth, Mr. E. Eley, Bath.

Class 3.—24 VARIETIES, ONE TRUSS OF EACH.—First, Mr. C. Turner, Royal Nurseries, Slough. Second, Mr. B. R. Cant, St. John's Street Nursery, Colchester. Third, Mr. R. Laing, Twickenham. Fourth, Messrs. Paul and Son, Old Nurseries, Cheshunt. Fifth, Mr. E. P. Francis, Nurseries, Hertford. Extra, Mr. J. Keynes, Salisbury.

Class 4.—12 VARIETIES, ONE TRUSS OF EACH.—First, Mr. E. P. Francis, Nurseries, Hertford. Second, Mr. B. R. Cant, St. John's Street Nurseries, Colchester. Third, Mr. J. Keynes, Salisbury. Fourth, Mr. C. Turner, Slough. Fifth, Mr. G. Clarke, Nursery, Streatham Place, Brixton Hill.

Class 5.—24 VARIETIES, THREE TRUSSES OF EACH.—First, Mr. E. P. Francis, Nurseries, Hertford. Second, Mr. J. Keynes, Salisbury. Third, Mr. W. Paul, Nurseries, Waltham Cross. Fourth, Mr. B. R. Cant, St. John's Street Nurseries, Colchester. Fifth, Mr. G. Tiley, Nurseryman, Bath. Extra, Mr. R. Laing, Twickenham.

### AMATEURS.

Class 6.—36 VARIETIES, ONE TRUSS OF EACH.—First, Mr. J. T. Hedge, Reed Hall, Coleher. Second, Mr. J. Hollingworth, Maidstone. Third, Mr. A. Moffat, Easton Lodge, Dunmow, Essex. Fourth, Mr. H. Grant, Cleve House, Midford, Bath. Fifth, Mr. W. Corp, Milford, Salisbury. Extra, Mr. G. Wortley, gardener to Admiral the Hon. P. Cary, Norwood; Mr. T. Laxton, Stamford; Mr. Terry, Wades Mill, Youngsbury.

Class 7.—24 VARIETIES ONE TRUSS OF EACH.—First, Mr. J. T. Hedge, Reed Hall, Colchester. Second, Mr. H. Grant, Cleve House, Midford, Bath. Third, Mr. J. Hollingworth, Maidstone. Fourth, Mr. A. Moffat, Easton Lodge, Dunmow, Essex. Fifth, Mr. W. Corp, Milford, Salisbury. Extra, Mr. J. Dennis; Mr. J. Churchfield.

Class 8.—18 VARIETIES, ONE TRUSS OF EACH.—First, Mr. J. T. Hedge, Reed Hall, Colchester. Second, Mr. A. Moffat, Easton Lodge, Dunmow, Essex. Third, Mr. J. Bristow, gardener to G. Orme, Esq., South Farm Mansion, Broadwater, Sussex. Fourth, Mr. W. Corp, Milford, Salisbury. Fifth, Mr. J. Dennis, gardener to H. S. Hayward, Esq., Hurst Green, Sussex. Extra, Mr. J. Hollingworth, Maidstone.

Class 9.—12 VARIETIES, ONE TRUSS OF EACH.—First, Mr. S. Dobree, Wellington, Somerset. Second, Mr. W. Corp, Milford, Salisbury. Third, Mr. J. T. Hedge, Reed Hall, Colchester. Fourth, Mr. John Cranwell, gardener to R. Pelling, Esq., Penge. Fifth, Mr. J. Bristow, gardener to G. Orme, Esq., South Farm Mansion, Broadwater, Sussex. Extra, Mr. H. Hodson, gardener to — Hardcastle, Esq., Park Place, Lenton, Essex.

### OPEN TO ALL.

New Roses of 1860 and 1861.

Class 10.—FOR THE BEST COLLECTION, ONE TRUSS OF EACH VARIETY.—First, Mr. B. R. Cant, St. John's Street Nursery, Colchester. Second, Messrs. Paul & Son, Old Nurseries, Cheshunt. Third, Mr. J. Cranston, King's Acre Nursery, near Hereford. Extra, Mr. J. Mitchell, Pitdown Nurseries, Maresfield, Sussex.

Class 11.—30 TRUSSES OF ROSES, VARIOUS, EXHIBITED IN A VASE OR OTHER ORNAMENTAL STAND, SUITABLE FOR TABLE DECORATION.—First, Mr. C. Turner, Royal Nurseries, Slough. Second, Mr. E. P. Francis, Nurseries, Hertford. Third, Mr. T. Varney, Weston Villa, Upper Norwood.

### Roses in Pots.

Class 12.—10 ROSES, 10 VARIETIES, IN POTS NOT EXCEEDING 13 INCHES IN DIAMETER.—(No competition.)

Class 13.—FOR THE BEST COLLECTION OF ROSES, IN POTS OF ANY SIZE.—First, Messrs. Paul & Son, Old Nurseries, Cheshunt.

## MEETING OF WORKINGMEN-BOTANISTS.

In the manufacturing districts there is a goodly number of men who earn their bread amidst the whirl of wheels, the noise of the forging hammer, and in the midst of circumstances which in themselves are enough to distract man's mind from the beauties of nature; yet they find time to become, not only well versed in botany, but to have a good knowledge of entomology and of other natural sciences. They have their meetings periodically in their different localities, to which they bring their specimens for examination and for the information of others.

For the last five years those who study botany have made a

practice of meeting once a-year in some central place, so that the plants indigenous to a district some fifty or sixty miles in diameter are brought together. This year the meeting is at Ashton-under-Lyne, on Sunday, July 13th, and from two to three hundred working men are expected to be there from various parts of Lancashire, Yorkshire, Cheshire, and Derbyshire.

The custom of meeting on a Sunday was established when the hours of labour in our mills were very long, and Sunday was the chief time that the operatives had for mental improvement. The above meeting will be in the Odd Fellows' Hall, at two o'clock, P.M.—J. H.

[We willingly insert this announcement, and shall be glad if our correspondent will send us a report of the Meeting, with the names of the rarer plants exhibited. We shall be glad if he will send us his address, as we may wish to write to him. We think these most praiseworthy men will see the propriety of now changing their day of meeting.—EDS. J. OF H.]

### VINE FROM THE ELYSIAN FIELDS.

A Subscriber requests advice as to the cultivation of a Vine brought from the vineyard near Naples, which occupies the site of the old Elysian Fields of Virgil. It is the common Vine of the country, and the soil is dry there. On being brought to England in November, 1860, it was planted against a south wall in one of the midland counties, but soon gave no sign of life in any part of it. Yet, in May, 1862, a shoot from the root came up, which is now 9 inches high and appears to be the only part alive. How can it be encouraged to grow? Does it require the shelter of glass in this climate? Will it bear removal? Or can any particular treatment be advised to insure its flourishing?

[We think the top of your Vine was killed by the frost. Part underground had so far escaped as to be growing now. Though the soil was dry in its native climate, there is no saying where the roots went in search of moisture. We have little hopes of your plant succeeding well in a midland county unless the place is sheltered and warm; but there will be no doubt of its growing. The difficulty will be to get the wood ripened enough to be fruitful. For this purpose you must encourage moderate instead of strong rampant growth. It would, no doubt, be improved if under glass, with or without artificial heat. It may easily be moved and replanted in the autumn when the leaves are falling. If you refer to the page in which this answer is given, and tell us what you decide upon doing, then we will publish the details of how you should proceed.]

### COCOA-NUT FIBRE REFUSE GENERALLY USEFUL AS A MANURE.

FOR the last seven years I have been telling how good I found the cocoa-nut fibre refuse for all plants, and when I suggested it the other day as a good speculation for nurserymen to get truck-loads of it down into the provinces, I was certain it would be much better for all kinds of soil, and pay better than guano. That I am quite sure of; but I did not expect to be asked privately how to use it, as I am in a letter from "F. D." I said at least a hundred times the way I did use it, but the best way to use it is probably not yet discovered. Indeed, the best of us do not know yet one-fourth of its value; but I put it only higher in importance than guano. Although sixty years of age I expect to live to see it coming in shiploads from Ceylon and other places, after the farmers have exhausted the supply of it in Europe. There is not a kind of soil but it will improve. The very stiffest clay, if you drain the water from it, might be rendered as mellow by it as to do for potting Cinerarias in, or Ferns, or any plant; and the sand of the desert is not so dry but it will cool and moisten it, and keep it so if it is well covered with it. For all market-garden plants, and for Asparagus in particular, I have full testimonials that nothing can excel it. My own garden, which was a poor black sand, is now one of the most fertile in Surrey—by mixing two parts of the stuff to one part of the black sand to the depth of 18 inches; but I have it mixed twice that depth.

Use it like leaf mould, or in lieu of peat, mulch and mix with it all manner of soils; sift it and put half an inch of it over all your grass land, and it will give such a "bottom" as it never had before. The rankest clay in England could be made into potting loam by mixing twice its bulk of the refuse with it in two

seasons. When mixed spread out as thin as possible to get it well frosted and sunned, and when it is quite dry in July or August run a roller over it, and then give it another frosting and summering, and see if it does not do anything you require.—D. BEATON.

### SULPHUR VERSUS RED SPIDER.

In your answers to correspondents you say that the air of a house impregnated with fumes of sulphur, without burning the sulphur, is fatal to red spider. Have you proved this by experiment? I have repeatedly placed a pan of sulphur on a warm flue, strewed leaves covered with red spider on the surface, covered the whole with a bell-glass, and found that the insects were alive and lively after an exposure to the fumes for twenty-four hours, the leaves in the meantime being dried to chips.—E. T., *Solihull*.

[We have proved the matter often, but as stated in "Doings of the Week" lately, what will kill insects at one time will not do so at another; but, at any rate, this is one of the most effectual means we know. Are you sure the sulphur did give off its fumes? We have smoked a place with burning sulphur when we wished to kill everything alive in it; but though the vast majority of all living things were dead, we found some young thrips and red spiders hatched after the burning; and though some lizards and a prized toad or two were killed when we opened the place, we found a robin chirruping, though how he escaped we never knew. If fumes of sulphur and moisture will not destroy red spider, and if fairly got a-head, it will not do so without continued applications. Prevention is better than cure. Are you sure the insects were red spider?]

### THE BIRMINGHAM ROSE SHOW.

A ROSE Show in Birmingham? Anything so poetical in so matter-of-fact, practical, smoky a metropolis of iron as Birmingham? Yes, truly, and what is more, a Show which in point of beauty of arrangement, excellence of flowers, and general character, may vie with any that have been as yet held in honour of the queen of flowers. I have seen all the Rose shows, been deafened at the Hanover Square Rooms, squeezed at St. James's Hall, pushed about at Kensington, and enjoyed the Crystal Palace with all its charms; but I have not seen one which afforded me more real pleasure than the Birmingham one, projected, I believe, by the staff of the *Midland Counties Herald*, and adopted at once by the Rev. Reynolds Hole, who waived his own project of a Midland Show in order to give greater effect to this effort. And so, when from this centre of England went forth the proclamation, it was no wonder that from fifteen different counties should have come up a bevy of fair maidens and gallant knights to show their allegiance to her floral majesty.

"Well, but was it a good Show?" was the first question I was saluted with at Kensington the following day (where, according to the *admirable wisdom* that arranges the proceedings of the Royal Horticultural Society in the very height of the Rose season, not a single prize was offered for Roses, and this though the Society took £800 at the doors on the days of the Rose Show! They, of course, could not afford it, and made amends to the floral world by giving a prize for a fresh-water aquarium!) Yes, it was a capital Show, and the Roses were finer, especially those of the nurserymen, than at Kensington on the 11th.

Nor were the Roses the only things that were good. So beautiful a collection of electro-plated flower-stands, parian vases, and glass stands for flowers I never saw collected together. Garden implements, too, of all kinds were there, wire baskets and terra cotta stands, all catalogued and priced, so that any one could at once ascertain the important information what each article would cost; and when to this one has to add that courtesy and kindness (not snubbing and high-and-mightiness, as in more fashionable localities), marked all concerned, it is not to be wondered at that I felt the enjoyment of being there to be a great one; nor was it without some feelings of hearty thankfulness either. Two and thirty years had elapsed since I was in Birmingham before; and one could not look back on the many years during which one had "been led," without being grateful to Him to whose care and love all was due.

And who were the successful competitors? Amongst amateurs, our trusty and well-beloved brother the Rev. Reynolds Hole;

and amongst nurserymen, our excellent and clever friends, Mr. Cant, of Colchester, and Mr. Turner, of Slough, were the principal ones, and beautiful their flowers were.

The Birmingham folks have adopted some plans new in execution, if not in idea, and they are, we think, well worthy of imitation. They have abolished the (to my mind) absurdly large class of 96 trebles, and made it 96 singles. They offered, also, prizes for the best 6 blooms of any new Rose; and also (though this is more questionable), for 6 blooms of expanded, and the same of cupped Roses. There is the difficulty in the latter case of deciding which a Rose belongs to, some being cupped in a young state, and expanded when old. Then it was a good thought to offer a prize for *haud-bonquets* of Roses; and altogether their plan displayed great judgment and taste, and reflected great credit on all concerned. The taste of the Committee, Secretaries, and of Messrs. Hole and Perry, on whom a good deal of it devolved, being no light one; it will not be so heavy another year, when things are in better working order.

Mr. Cranston took the first prize for the best 6 blooms of a new Rose of 1859-60-61 with Madame Furtado, which were magnificent blooms; and Mr. Keynes second, with Senateur Vaisse. Three of these were very fine, the other three not quite open enough.

In stands of 24 varieties of new Roses of 1859-60-61 Messrs. Paul & Son, of the Old Nurseries, Cheshunt, were first, with James Dickson 1861, a forcing Rose; Madame Boll, too apt to show a green eye; Prairie de Terre Noire; Lord Canning, seedling, pink flower, likely to be good; General Washington; President; Victor Verdier; Mr. Pierson, will not do; Madame Pauline Villot, good; Mademoiselle Bonnaire; George Peabody; Alexandrine de Belfroy; Lord Clyde, scabby; Belle de Bourg-la-Reine; Madame Charles Crapelet, excellent; Catherine Guillot; Mademoiselle Julie Darzins, 1861, very good; Agatide; Senateur Vaisse; Louise Darzins, 1861, a pretty white; Mademoiselle Eugénie Verdier; William Pfitzer 1861, good; and Madame Furtado. Mr. Cant's were François Lacharme, 1861, large and excellent; Parmentier; Eugène Appert, very good; Marguerite Appert; L'Enfant Trouvé, very good Tea; Victor Verdier; Madame Furtado; Louisa XIV. good; Regulus; Triomphe des Bagatelles; Amiral Gravina; Modèle de Perfection, good Bourhon; Vainqueur de Solferino; Comte de Beaufort; Baron Gonella; Céline Forestier, good Noisette; Madame Boll; Rubens; Marquise de Foucault; and Princesse Mathilde.

In the Nurserymen's Class of 96, Mr. Cant held the first place with a beautiful collection of Roses. Some of the individual blooms I have never seen excelled, if indeed equalled. There was one bloom of Colonel de Rougement which was a perfect model: it was large without being faint, and most regularly formed. I mention this because I am afraid that the desire to have large blooms is leading to a deterioration in character and colour. His flowers were Senateur Vaisse, Bougère, Marquise de Foucault, Princesse Mathilde, Vicomtesse de Cazes, Madame Furtado, Eugène Verdier, Madame Boll (a very fine bloom), Triomphe de Paris, Gloire de Vitry, Madam Standish, Mathurin Regnier, Victor Verdier, Adelaide Fontaine, Céline Forestier, La Ville de St. Denis, Kean, Madame Tredeaux, Souvenir de le Leveson Gower, Lamartine, Comtesse Cécile de Chabillant, Anna Alexieff, Baron Gonella, Prince Léon, Regulus, Madame William, Vainqueur de Solferino, Col. de Rougement, Général Jacqueminot, Devoniensis, Pauline Lanzezeur, Anna de Diesbach, Géant des Batailles, Madame Vidot, Jules Margottin, Adam, Lord Raglan, Caroline de Sansal, Baronne Hallez, Maréchal Beaugard, Triomphe de Lyon, Madame Knorr, François Lacharme (one of the new Roses, and likely to be a good one), Pauline Leberté, General Forey, Niphotos, Baronne Prevost, Madame Bravy, General Simpson, Souvenir d'un Ami, Madame de Cambacères, Empereur de Maroc, La Fontaine, Triomphe de Rennes, Madame Pierson, William Griffiths, George Peabody, America, Model of Perfection, Victor Emmanuel, Julie Mansais, Etendard des Amateurs, Comtesse de Labothe, Victor Trouillard (a wonderfully fine bloom), Duke of Cambridge, Odeur Vital, Eugène Appert, Rubens, Belle de Bourg-la-Reine, Duc de Cazes, Solfaterre, Robert de Brio (very dull), Madame de St. Joseph, François Premier, Coupe d'Hébé, Louis XIV., Buffon, Comte de Nanteuil, Evêque de Nîmes, Bellonie, Comte de Beaufort, General Zachargersky, and Mrs. Bosanquet. The second was awarded to Messrs. Paul & Son, of the Old Nurseries, Cheshunt.

In the Class of 48's three trusses, there were some finely-bloomed specimens in the boxes of Mr. Francis, of Hertford, who was first, and Mr. Keynes, of Salisbury, who received the second prize.

In 24's, three trusses of each variety, Mr. Charles Turner, of Slough, was first, and Mr. Cant, of Colchester, second.

In 24 varieties, single truss, Mr. Turner was again first. His varieties were La Reine, Victor Verdier, Boule de Nanteuil, Duchesse d'Orléans, Senateur Vaisse, Souvenir de la Malmaison, Madame Charles Crapelet, Gloire de Dijon, Général Jacqueminot, Anna Alexieff, Jules Margottin, Madame Willermoz, William Griffith, Comtesse Cécile de Chabillant, Lord Raglan, La Ville de St. Denis, Paul Ricaut, Victor Trouillard, Lamartine, Louis XIV., Madame Boll, Madame Hector Jacquin, Narcisse, and Madame Furtado. Mr. Keynes was a worthy second.

In the Amateur's Class of 48's, the Rev. Reynolds Hole was first—no slight testimony to the zeal and skill of a connoisseur, who lost 1000 out of 1200 Roses in the winter of 1860-61. He had some fine blooms, especially his Cardinal Patrizzi, which was in finer condition than I ever saw it. He had besides La Ville de St. Denis, Madame Vidot, Devoniensis, Anna de Diesbach, Prince de la Moskowa, Joseph Vernet, Comtesse Cécile de Chabillant, Madame Hector Jacquin, Victor Verdier, Mathurin Regnier, Evêque de Nîmes, Dr. Bretonneau, Louise Perony, Paul Ricaut, Comte de Nanteuil, Jules Margottin, Souvenir d'un Ami, Duchesse de Cambacères, Grégoire Bourdillon (a fairish Rose, very like Géant), Odeur Vital, Baronne de Heckeren, Céline Forestier, Reynolds Hole (very bright lively pink), Chateaubriand, Madame Knorr, Madame Boll, Madame Bravy (Tea), Eugène Appert (very fine), Duc de Cambridge, André Desportes (a good purplish-rose), Caroline de Sansal, Noemi, François Arago, Charles Lawson, Géant des Batailles, Gloire de Dijon, Duc de Cazes, Coupe d'Hébé, Louis XIV. (very fine), Madame Furtado (a splendid bloom), Senateur Vaisse, Triomphe de Rennes, and Gloire de Vitry. Mr. Evan, gardener to C. N. Newdegate, Esq., M.P., Arbury, Nuneaton, was second; and Mr. Alfred Henderson, of Joywell House, Durdham Down, Bristol, received a third (extra).

In 24's Mr. Hole was again first with Triomphe de Rennes, Madame Boll, François Arago, Mrs. Rivers, Paul Desprez, Coupe d'Hébé, Général Jacqueminot, Charles Duval, Oriflamme de St. Louis, Madame Furtado, Caroline de Sansal, Vainqueur de Solferino, Souvenir de la Malmaison, Reynolds Hole, Senateur Vaisse, Madame Knorr, Paul Ricaut, Madame Hector Jacquin, Géant des Batailles, Charles Lawson, Cardinal Patrizzi, Mathurin Regnier, Lord Raglan, and La Ville de St. Denis. The Rev. P. M. Smythe, of Solihull, was second; Mr. E. Hunt, highly commended; and Mr. Brown, gardener to W. C. Abeton, Esq., Elmden Hall, commended.

In 18 varieties Mr. E. Sage, gardener to Earl Howe, Gopsal, Hall, was first with La Reine, Souvenir de la Reine de l'Angleterre, William Griffith, Madame Furtado, Céline Forestier, Coupe d'Hébé, Madame Willermoz, Alexandrine Bachmeteff, Léon des Combats, Anna de Diesbach, Gloire de Dijon, Lord Raglan, Caroline de Sansal, Madame de Cambacères. The Rev. S. Reynolds Hole was second; and Mr. Evans third.

In 12 varieties Mr. Hunt was first. His Roses were Charles Lawson, Comte de Nanteuil, La Ville de St. Denis, Lord Raglan, Jules Margottin, General Simpson, Général Jacqueminot, Madame de Cambacères, Madame Vidot, Madame Boll, and Souvenir de la Reine de l'Angleterre; Mr. Sage was second; and Mr. Hole third.

In 6 varieties Mr. Sandford was first with Triomphe de Paris, Madame de Cambacères, Paul Desprez, Souvenir de la Malmaison, Senateur Vaisse, and Lord Raglan; and Mr. C. J. Perry, of the Cedars, Castle Bromwich, was a good second.

It will thus be seen that whenever a Rose show is held, there are some kinds which are sure to hold a leading place; and that all over the country Général Jacqueminot, Eugène Appert, Madame Vidot, Jules Margottin, and other well-known names are certain of victory, or of a place in the victor's triumph.

There were so many things in the ornamental way for holding flowers that it is impossible to particularise. I cannot, however, forbear noticing a beautiful pair of ceramic parian ware vases, ornamented with tourquoise and gold, and painted with beautiful groups of flowers, which were made expressly by Messrs. Turner, Banby, & Hassall, of Stoke-upon-Trent, to do honour to this Exhibition. Some idea of their beauty may be obtained from the fact that they were 42 guineas the pair, about 15 inches high.

I hope that financially the Show was a success; for it would

be a great pity that so excellent, liberal, and well-managed an Exhibition should fall to the ground. Personally I have to thank all concerned for the attention I received, and have only to regret that I could not remain to drink (although a teetotaler) at their Rose-show dinner, "Success to the Birmingham Rose Show."—D., Deal.

## A FEW DAYS IN IRELAND.—No. 25.

HAM WOOD.

(Continued from page 254.)

THE kitchen garden is one of the useful old-fashioned kinds that it is now becoming a rarity and a pleasure to meet with, reminding us of times when gardeners prided themselves on having the best of flowers, fruit, and vegetables all within one enclosure, and when employers did not think there was so much of the incongruous between a first-rate Cauliflower and a splendid Tulip or Carnation. Looked at in this light, not the least striking things were arches of Roses, beds of Roses, and long, spacious borders of mixed herbaceous plants. Here nothing was more perceptible than that if it be possible to have a mania for the beauty of flowers, there is no necessity for that merging itself into a monomania. We use the word "mania" here, not in its more generally received acceptation, but as denoting a stronger passion of admiration than could be described by the word "enthusiasm." Listen to Mr. Hamilton descanting upon the shades and contrasts of colouring in massed grouped flower-beds, and you would be led to imagine that plants that could not be so used were of little value in his estimation. It is not seldom we form wrong estimates by merely looking at one side of things, or beholding the mere partial development of character. Who could imagine that these mixed borders of fine old herbaceous plants would, if anything, be still dearer to the heart of their possessor than his grouped beds? We should like to chronicle every instance in which these fine old favourites of our fathers were receiving again their full meed of deserved attention, and that, too, without any unnecessary undervaluing of the grouping system; though it may not be easy to combine and develop, as in the case of the proprietor of Ham Wood, such an earnest love for all forms of the beautiful.

These fine old perennials have, no doubt, for Mr. Hamilton an extra charm, as blended and associated with the times and the loved ones of the past. The Michaelmas Daisies (Asters), Aaron's Rods (Solidagos), Veratrums, Phloxes, &c., seem so much more beautiful as he tells you he inherited his love of gardening and of these flowers from his mother, who collected them with great care and diligence, and must have shown her enthusiasm for them to have wheeled a slip or a cutting from the worthy but crusty old man that presided over the Liverpool Botanic Garden half a century ago, or the equally worthy but eccentric predecessor of my friend Mr. Niven, at Glasnevin Gardens. And then, forgetting for the time his enthusiasm for the distribution of colours as seen at the Crystal Palace, Trentham, and Enville, you will be told of the great difference as to effect on individuals—between the love of mere gaudy colours and the love of the plants individually for their own sake—that the hundreds and thousands massed together for display may be good friends at a grand review, but hardly friends for a chit chat *tête-à-tête*. Then, again, the rearing of such numbers of plants merely to perish when winter comes, yields few of the pleasures arising from association in the culture of perennial herbaceous plants; as after you have carried a slip home and watched over its infantile growth, it will then pretty well look after itself, and every time you see it you think of the place and the friend from which it came. True, the finest herbaceous border will not be in a blaze at one time, and some things will need cutting down when others are in their glory; but there need be no great gaps but what might be supplied with annuals, Sunflowers, Dahlias, &c., and a few bedding plants as Calceolarias and Geraniums for variety.

Mr. Hamilton contends, and we fear with too much justice, that if the bedding system become the all-in-all, gardeners will not only pride themselves in numbers and gaudy display, to the neglect of the individually interesting, truly refined, and symmetrical; but so few plants—that is, in variety and species, being cultivated, the taste for geographical study as respects the locality and the distribution of plants would be endangered, and thus one of the greatest charms connected

with their cultivation would be apt to be lost. Finally, you may expect to be asked, If not neglecting the new friends—the bedding plants, would it not be wise policy not to lose sight of the old ones—the herbaceous perennials? Coming from such a keen bedder, we answer in the affirmative; and feel sure that a place will be set apart in many gardens for these loved plants of our fathers.

In addition to nice crops of vegetables and fruit trees, rather scanty of fruit this season as elsewhere, and a new wall of considerable length with nice, healthy, young trees growing against it, and the fresh-made border cropped with Strawberry plants, which we hope by this time have fulfilled the promise they made last September, the kitchen garden had several houses for Grapes and bedding plants, built chiefly on the plan of Mr. Rivers, and in them were some good Grapes, which had not been much assisted with artificial heat. In addition to these was a nice span-roofed orchard-house, constructed as Mr. Rivers advises, 64 feet long, 12 feet wide, and 8 feet high at the ridge, and being entirely of wood and glass, it cost £26. In this house the trees were planted out (Peaches and Nectarines chiefly) on raised borders on each side of the central path. They had borne a heavy crop in pots—too heavy the gardener and proprietor said, in 1860. They were planted out in February, 1861; and to the heavy crop of the preceding year, the lateness of the planting-out, and the sunless summer of 1861, they attributed the fact, that though there was plenty of bloom it did not set well, and the fruit was rather deficient; but we hope all this was rectified this year, as the shoots in September were getting well ripened, and clustered with fine, well-swelled, rounded buds. A flow and return hot-water pipe has also been introduced.

At the west end of the garden is a broad slip backed by a dense wood of Conifers and deciduous trees; and in front of these some of the finer of the Conifers and Cyresses, &c., are receiving a fair trial, and as the wall of the garden is here covered with the tenderer and more beautiful creepers and shrubs, the place will have an interest of its own. If Mr. Hamilton should catch the prevalent mania for rockwork and ferneries, here would be the suitable and appropriate position for them, feeling convinced that at no time will a visitor see a rough heap of stones in the centre of the pretty flower garden or lawn at Ham Wood.

Mr. Hamilton has entered somewhat largely on trying the best Pinuses and other so-called hardy plants, and it was gratifying to notice many plants that were destroyed north of London, in high health fourteen miles west from Dublin, 300 feet above the sea, and in a soil not naturally propitious. An account of these will be found at page 136, for May, 1861; and as belonging to the place, we will make the following extract, merely premising that the plants from growth were larger on our visit, but that the *Libocedrus chilensis*, which seemed in a dormant state in the severe frost, died about the middle of May. The following plants had been planted eleven years:—

Two fine specimens of *Pinus insignis*, one 26 feet in height, spread of branches 15 feet, girth at 2 feet from ground 4 feet. The other was 27 feet high, girth at 2 feet from ground 3 feet. *Pinus strobus*, 24 feet high, girth at 2 feet from ground 30 inches. *Pinus excelsa*, 18 feet. *Pinus monticola*, 12 feet. *Pinus Pallasiana*, 16½ feet. *Pinus rigida*, 15 feet. *Picea cephalonica*, 15 feet. *Picea nobilis*, 15 feet, growing freely and gracefully. *Cedrus deodara*, 21 feet, elegant specimens. *Taxodium sempervirens*, 20 feet, girth 2 feet from ground 3 feet; a compact specimen. *Cupressus thurifera*, 20 feet. *Araucaria imbricata*, 15 feet, with many smaller ones. Of plants grown from four to ten years, there were nice thriving plants of *Cupressus Lawsoniana* and *McNabiana*, *Thuja Lobbi*, *gigantea*, &c., *Thuja borealis*, *Cryptomeria Lobbi*, *Wellingtonia gigantea*, *Abies morinda*, *Picea Nordmanniana*, &c. Of shrubs, there were *Desfontainea spinosa*, but not healthy; *Myrtus apiculata*, injured; and the following in full health, *Weigela rosea* and *amabilis*, *Berberis Darwini*, *Philæa buxifolia*, *Eurybia alpina*, *Grisolinia littoralis*, *Escallonia macrantha*, *Hibiscus syriacus*, *Spiræa*, the newer and tenderer varieties, &c. The cold in the winter of 1860 and 1861 ranged from 12° to 20° Fahr.—a rather different thing from being below zero with us, and showing how many plants may succeed in Ireland that will not endure the general range of cold in our winters. All round this neighbourhood scarcely a *Pinus insignis* had escaped, while many were completely killed, and as fine as Mr. Hamilton's.

"There, now, what a rambling fellow you are! Commencing with arousing our attention about Turnips; and here you have been leading us a dance about flowers, and taste, and everything.

else except the one thing chiefly interesting to me as a small farmer." Well, we know more about such matters than Turnip-growing by the many acres. However, we may state that the large field of Turnips was a sight worth going to see: the crop was so regular and level throughout, as if no allowance could be given for a single miss or blank. There was a peculiarity also in the mode of cultivation which we observed here as well as at Lough Crew and Woodstock. The rows were much the same as to distance from each other—from 27 inches to 30 inches; but the bulbs were much closer to each other in the rows than generally prevails on this side of the water. These huge, clean, well-shaped globes almost touched each other; and when taken up to be pitted or given at once to the young sheep (the lambs of that spring looking at a distance like two-year-olds), the Turnips thoroughly covered the ground. That ground, whatever its texture naturally, was as fine and clean as an Onion-bed, and was to be sown directly. The largest of these white Pomeranian Turnips weighed 19 lbs. We have it in our note-book, that from weighing small portions of the crop the average weight was computed to be 60 tons per acre, and that the Swedes swelling fast would average 40 tons. Mr. Hamilton, however, has no faith in such averages, and the result of weighing every earload exactly was 35½ tons to the statute acre. An acre of Swedes, including two headlands and a narrow farm road in the measurement, gave 34 tons to the statute acre, every load being carefully weighed. There was not a weed to be seen in the field, and no harbour for such in the fences round it. We regret we did not inquire the minutiae of culture; but for the sake of many small and amateur farmers who feel a sort of patriarchal pleasure in attending to and making the most of their few acres of a farm, we hope that Mr. Hamilton will furnish such readers with a few practical hints on the subject.

One secret, no doubt, consists in the goodness of the manure used—not poor washed material, the good properties of which have been conveyed to the nearest ditch or rivulet. The farm and domestic offices close to the mansion are a nice combination of the suitable, the convenient, and the economical. The receptacles for keeping and preparing food are so placed as to economise time and labour. No steam power is used; as, more horses than are required for the farm being kept, occasion is taken, when not wanted otherwise, to use them for working the necessary machinery in grinding, threshing, bruising, and cutting. The stalls of the byres and stables are elevated sufficiently to permit of a shallow waterproof gutter behind, so that all the rich manurial liquid shall be conveyed at once to suitable tanks. There is nothing of the *ferme ornée* about such buildings, but there is the greatest cleanliness and attention to the health of the cattle combined with the economical. The whole of the manure from the buildings is taken to a yard, nicely mixed, and trodden; and if too dry to undergo a very slow decomposition, it is turned over in wet days, and the rich pure liquid manure added to it as necessary. Why do this in a wet day? Because the men will be in the dry, as the dungyard is all covered with a shed-roof, so that no rain shall deteriorate the manurial material. Contrast such a mode with that which too often obtains in England amid all our boasted improvements, where the rains that would naturally fall upon the dungyard and from all the sheds and buildings surrounding it, are allowed to soak and percolate through the manure, until, when thrown together, it is little better than mere decomposed litter, and fitted to act upon the land more as a mechanical than an enriching agency.

The waterproofed shedding-roofs are quite a feature at Ham Wood; and though in the places of rich gentlemen and noblemen we would like to see such sheds and buildings covered with slate, &c., we have no doubt that many will be indebted to Mr. Hamilton for the hint how to make such sheds, so as to be somewhat lasting and combine the great requisites of efficiency and economy. We saw all the corn under these sheds; and we understand, that since we were there Mr. Hamilton has resolved to do away with all thatching of ricks and substitute sheds, as being in a few years by far the more economical, besides being in every way more neat, serviceable, and convenient. Some sheds we saw had been standing from eight to ten years, and seemed as sound as the day they were put up. The shed in which the corn was placed was 60 feet long, 20 feet wide, and 20 feet high. The flooring of this, consisting of strong pieces of wood, was placed about 18 inches above the ground, supported in the middle chiefly by short posts of wood fixed in the ground, and standing up to that height, and having their tops covered with a piece of tin or iron projecting 2 inches or 3 inches

all round, so that neither mouse nor rat could get up into the corn.

These usually called "baulks," supported the rough flooring. The stout outside posts supporting the building had a piece of the same material nailed on, beat or bevelled, so as to project in the same way. Our neighbour, Mr. Ross, who superintends the splendid farm at Luton Park, has much more substantial buildings for a similar purpose, but for keeping out rats and mice similar pieces of zinc or plate-iron are fastened all round the posts for some 18 inches deep, without any projection, and he thinks they are quite as efficient in preventing the destruction of victuals. This by the way, only any such system does show something more of carefulness than building stacks on the ground, and letting rats and mice devour what ought to be carefully saved as human food.

The roofing, however, is the chief thing we have to specify. The ridge-board and rafters are managed in the usual way. On these rafters the boards are nailed, placing them close, edge to edge, the boards being about three-eighths of an inch in thickness; in other words, five boards are cut out of a batten or plank 2 inches thick. On this board roofing stout unbleached double-width calico is stretched, and tacked neatly, covered over with gas tar, which soaks through the wood, and when that coating is dry a second coating is given, and when wet a pretty liberal dusting of rough sand or dry road drift thrown over it. There seemed to be no comparison between neatness, lastingness, and efficiency between this mode and such plans as asphaltum at 1d. per foot. The whole cost for this shed, 60 feet long, 20 feet wide, and 20 feet in height, was £25. The rafters, roofing, &c., ready sawed, cost £22 16s., and the calico, gas tar, &c., about £2 4s.

Since then 10 feet have been added to the length, and other two sheds adjoining to it built, each 70 feet long; so that there is now a space enclosed by waterproofed roofs of 70 feet by 60 feet, and the whole will cost about £70. These latter have been erected in addition to the usual labour on the farm. Those who pay for thatching similar spaces every year, and put a value on the straw so used, will be able to judge how soon such sheds will pay the cost of thatching, whilst the damp, unseemly litter will be all got rid of, and the expense of canvass in wet weather avoided. We forget in how many years, we think six or eight, Mr. Hamilton deems it advisable to give a fresh coat of tar, but which at 1d. per gallon, or so, involves little expense but the labour of putting it on. All straw and hay will now be thus stored at Ham Wood.

The few pleasant hours we spent at Ham Wood not only tended to show the truth of the old adage that "short accounts insure long friendships," but demonstrated a principle of still greater importance—that a man of activity and perseverance may prove a thorough philanthropist, in elevating and improving the condition of his countrymen, and yet never be insensible to the charm of having a good balance on the right side of the ledger.

R. FISH.

## A PLAN OF A DUTCH GARDEN AND GREENHOUSE.

THE subjoined plan is a modification of the ground plan of the Dutch greenhouse and garden at Redleaf, and affords many facilities, not only for the production of effect, but also for a great diversity and choice of plants.

The chief interest, and indeed beauty, of these kinds of gardens is peculiarly intrinsic. They possess no features by which they can be moulded into a combination with natural scenery, and, therefore, are only appropriate as accompaniments to architectural embellishment, or to be placed in some warm secluded nook, where the boundary (to be presently remarked upon) may legitimately form a portion of the general scenery, without offending the taste by placing the extreme artificial in juxtaposition with the purely natural. The form of the boundary, marked in the plan No. 1, must be determined by circumstances. If only a square plot is to be operated upon, and the exterior is of no moment, it may be a border bounded by a conservative wall for choice climbing plants and Roses; or, if room will serve, it may be a low wall with iron palisading, and the border planted with evergreen and deciduous shrubs; but, if it is placed in any part where a formal boundary is inadmissible, I would have it formed of Azaleas, Andromedas, Rhododendrons, and other American plants in combination. The interior line being of course quite straight, the exterior may be varied in a

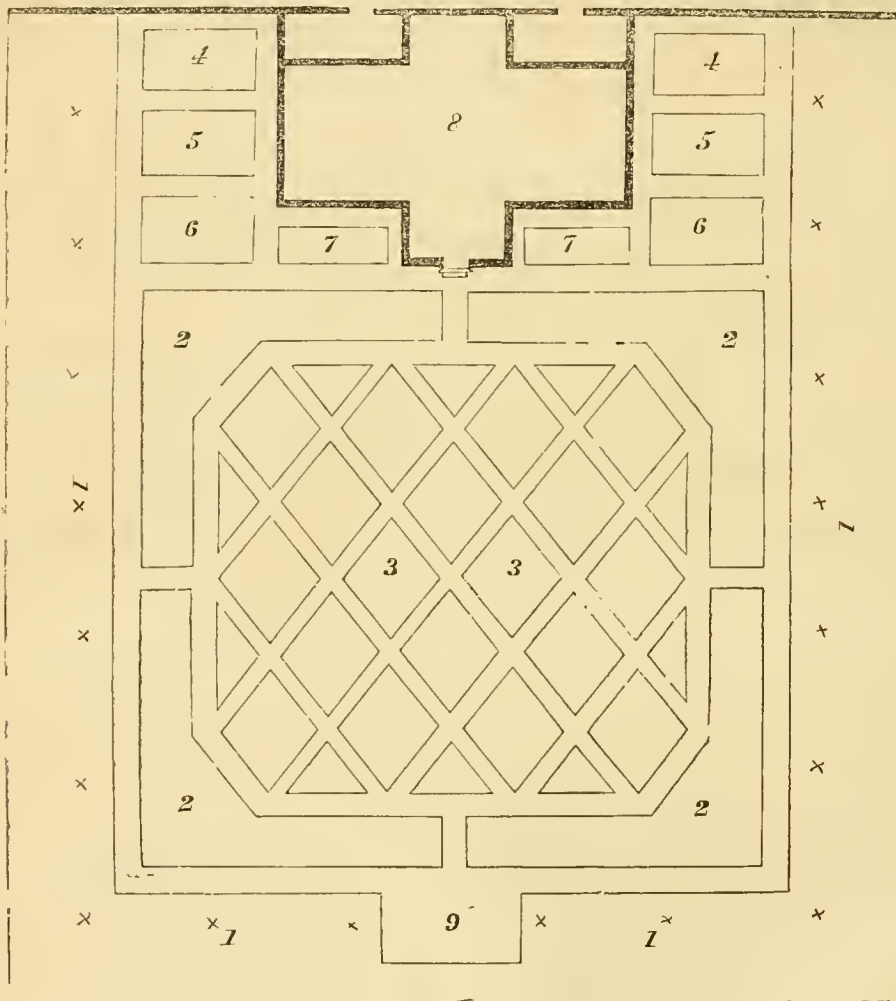
multitude of ways by indentations and projections, so as to appear part of a general design, and in keeping with surrounding scenery.

In order to assist the effect of this boundary, it would be as well to throw up a mound of earth suited to the growth of American plants, and by planting some large specimens on the top, some of which should be standards, and filling up the intermediate spaces down to the ground level with evergreens and deciduous shrubs intermixed, an appearance will be produced which it would take many years to arrive at, if the plants were all started from a level surface.

Near the interior line of the outside border I have placed crosses (+) at intervals where the taste of many persons might lead them to approve of a plan which would produce a unique and fine effect—viz., to plant at each + a strong-growing climbing Rose, to be trained up a pole 12 feet high, and when they

reach the top to be guided across by means of a strong wire, so as to meet each other; they would thus form a beautiful living festoon. Near this interior line also, the Chinese Pæonia Moutan, and varieties, should be liberally distributed; a sheltered situation of the kind suits them well. The beds, No. 2, may be filled with choice herbaceous plants, to be assisted during summer with plants from the greenhouses and pits. Double White Rockets are very conspicuous in such a situation in spring, so also are the herbaceous Phloxes in summer. Conspicuous showy plants of such kinds will require a certain degree of uniformity in the arrangement to be in keeping with the artificial character of the garden. No coarse or common plants should be admitted. The interior octagonal portion of the plan (No. 3) may be devoted to bedding plants in masses, in the summer and autumn.

No. 4, Beds of hardy Fuchsias. No. 5, Beds of Roses.



A PLAN OF A DUTCH GARDEN AND GREENHOUSE.

No. 6, Choice plants from stores, with some ornamental trellises covered with *Lophospermum*, *Maurandya*, *Tropæolum*, and other rapid-growing creepers during the summer, and *Hyacinths* in spring.

No. 7, Bright dwarf Scarlet Geraniums in summer, *Turban Ranunculus* in spring.

No. 8, The greenhouse. This, of course, as well as the whole plan, may be varied and modified so as to suit particular circumstances: as, for instance, instead of a greenhouse the garden might be formed in front of a cottage ornée. Taste will easily suggest a different arrangement, only the style must not be departed from, and neither circles nor curvilinear figures admitted.

No. 9 Affords an excellent situation for a small architectural temple, where seats may be arranged, or it may be formed of rustic woodwork, and covered with *Roses*, &c.

In a garden arranged according to the above routine, there will be, except in severe frost and snow, some objects of interest in flower all the year round; whilst, at certain times of the year the effect will be truly gorgeous.

Lastly, with regard to the formation of the walks and borders, I must observe that the walks here are formed of paving-bricks laid flat, and the edges with a smaller brick set up end-ways, and it affords a dry and comfortable walk all the year round, which is a great desideratum; but they may be formed with gravel and edged with Box or slate, or whatever the taste may fancy, except grass, which, in such a situation, would be as inappropriate as it would be difficult and troublesome to keep neat.—J. Cox, gardener to W. Wells, Esq., Redleaf.—(*Gardeners' Magazine of Botany.*)

ORNAMENTAL PLANTS.

**BEJARIA COARCTATA** (Close-headed Bejaria).—*Nat. ord.*, Ericaceæ. *Linn.*, Dodecandria Monogynia.—A beautiful half-hardy evergreen shrub, the branches of which are shaggy with spreading hairs. The leaves are oval-acute, on short stalks, closely imbricated, glaucous beneath. The flowers are in close

terminal corymba; the petals, seven or eight in number, erect, nearly parallel—that is, not spreading; the colour, deep crimson. From the Andes of New Grenada, and the mountains of Peru. Introduced about 1818, by Mr. Purdie. Flowers about May.



1. *Bejaria coarctata*.

2. *Bryanthus erectus*.

3. *Hypocyrrta gracilis*.

**BRYANTHUS ERECTUS** (Upright Bryanth).—*Nat. ord.*, Ericaceæ. *Linn.*, Octandria Monogynia.—A charming little hardy shrub, more impatient of heat and dry air than of cold. It forms a compact dwarf bush, with erect much-branched stems, bearing linear-obtuse, obscurely-serrated leaves, and flowers, eight or ten altogether in corymbs from the ends of the branchlets. The flowers are campanulate, resembling miniature *Kalmias*, of a delicate pink or flesh colour; very pretty indeed. It is said to be a hybrid between *Rhodothamnus* (*Rhododendron*) *Chamaecistus*, and *Phyllodoce taxifolia* (*Menziesia cœrulea*); and Dr. Lindley thinks it may be a cross between these plants, though he would rather refer its origin to the *P. empetrifomis* (*M. empetrifomis*). The north side of walls where the sun never shines, and low, but thoroughly-drained places, suit this and allied plants; better still, damp, cold, shaded pits in which the air

remains always damp. A garden hybrid, obtained by Mr. Cunningham, of Edinburgh. Flowers in spring.

**HYPOCYRTA GRACILIS** (Slender *Hypocyrrta*).—*Nat. ord.*, Gesneraceæ. *Linn.*, Didynamia Angiosperma.—A pretty creeping stove plant, with branched purplish-brown stems, rooting from below the insertion of the leaves. The leaves are opposite, an inch long, thick, fleshy, ovate, on short petioles; dark green above, paler and often blotched with red beneath. The flowers grow singly or in pairs, on short red peduncles, from the axils; the corolla is rather large, between funnel-shaped and bell-shaped, with a curved tube; creamy white, spotted with orange on the under side of the tube within; the limb consisting of five nearly equal, rounded segments. According to Dr. Lindley, this is, probably, an *Alloplectus*. From the Organ Mountains of Brazil. Introduced before 1850 by Messrs. Backhouse, of York. Flowers in spring.

DESTRUCTION OF RED SPIDER BY VAPOUR OF SPIRIT OF TURPENTINE.

HAVING read in the *Cottage Gardener's Dictionary* (an excellent and cheap publication, by the way, that I would recommend to every amateur in gardening), that "the vapour of spirit of turpentine is said to be as effectual as sulphur" in destroying red spider, and having destroyed some plants in applying it, I send you an account of the means I used, in the hope that you will publish my failure for the warning of novices like myself, and at the same time give some instructions how it should be applied if really a useful agent in the destruction of that gardeners' pest—the red spider.

The plants I operated upon were six plants of *Thunbergia*—two of them large plants in flower in 5-inch pots, the others

small plants in 4-inch pots, and one *Brugmansia* in a 10-inch pot, These I put at night in a box 32 inches long, 17 inches wide, and 11 inches deep, and with them three small pieces of cotton wool, each about the size of a pigeon's egg, saturated with about a dessert-spoonful of spirits of turpentine, and covering the whole over with waterproof oiled calico, thus making the box almost air-tight, left them until morning. On first uncovering them they seemed but little injured, except that the leaves of the *Brugmansia* drooped considerably. I syringed the whole to help to get rid of the red spider, and in the afternoon found the plants all dead, the leaves looking as if they had been dried with considerable heat. They had been carefully shaded, so that I

attribute the loss of the plants entirely to the effect of the spirits of turpentine. As I had applied the remedy once before with considerable effect in destroying red spider, and without the loss of my plants, with this difference—that in the other case the spirit of turpentine was in an open saucer, and not nearly so much was evaporated as from the cotton wool, I write you these particulars in the hope that you will point out what was the probable cause of my failure, and give some hints on the application of this remedy for red spider, as I have proved that it is efficacious in the destruction of this pest, and think my failure arose from my want of skillfulness or judgment in applying the remedy.—COUNTRY CURATE.

[We have no personal experience of the use of the fumes of spirit of turpentine as an insect-slayer; but it is very evident that the fumigation was too strong and too long continued. The evaporation from the saucer was quite rapid enough. Much must depend, however, upon the temperature. We shall be obliged by reports of experiments upon this subject.—Eds. J. of H.]

### GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE Annual Dinner in connection with this Institution was celebrated on Thursday, the 26th ult., at the London Tavern, under the able presidency of Sir Arthur Buller, M.P., who was supported by a considerable number of gentlemen, amongst whom were the Rev. J. M. Bellow, R. Wrench, Esq. (Treasurer), — Wodehouse, Esq., Morgan O'Connell, Esq., Messrs. Oram, W. S. Barton, C. A. North, W. N. de Matton, R. Marnock, G. Childs, F. Ledger.

After the usual loyal toasts, the Chairman proposed the toast of the evening—"Success and Prosperity to the Gardeners' Royal Benevolent Institution." To appreciate, he said, thoroughly the progress that had been made within the last few years, even in the science and practice of gardening in this country, were indeed a task of difficulty. For himself, he must say that, in endeavouring to do so, he could not but feel that it was a great advantage to him having been abroad for many years; because on his return he remembered well the astonishment he felt at the advancement he found in the practice of which he spoke. Wherever he went, whether to a county, a house, or to a cottage in some country village, there were palpable evidences of progress in the business of gardening. Gardens had sprung up, too, in busy cities, and even many lodging-house windows in dark, dismal, dingy streets, possessed floral decorations which were in other times considered but the fair products of the greenhouse. Fruits, too, which in his time had been deemed but small and insipid, had now become of enormous size and of the most delicious flavour. Indeed, it almost seemed as though Flora and Pomona had again come amongst them, and had again taken into their own hands the culture of the earth. These vast results, as they could bear witness, were the results of the untiring energy, industry, and ingenuity of those hard-working classes, the poorer and worn-out members of which it was the object of this very Institution to assist. Whilst those who sought to carry on this excellent work recognised and enjoyed the fruits of their success, they should ever bear in mind and endeavour to alleviate illness, which might often be the result of the means exercised towards the achievement of that success. In many cases the poor gardener had but little indeed to set aside out of his scant resources towards provision for the infirmities of age. And, in addition to this, they must not forget to what risks he was subject in going from heated atmospheres into cold—say, for instance, from theinery or the greenhouse, into, it might be, frost and snow, or rain. He (the Chairman) believed that King Rheumatism had more subjects amongst gardeners than amongst almost any other class of the community. In aid of such sufferers, then, he had on the present occasion to appeal. It was for such that this Institution was founded; and he was proud to add, and rejoiced indeed to say, that in cases where sympathy and help was needed it was administered both with integrity and discretion. Referring to the report which had been placed in his hands, and to which he would beg to call their attention as a very gratifying document, of which even Parliament might be proud on account of the clear and intelligible figures in its balance-sheet and of its unmistakeable surplus, he would add that, however agreeable it was, more money was yet wanted. It still appealed to the

benevolence of the public for support. As it was customary, therefore, on such occasions as this to embrace any opportunity of indulging in any exuberance of generosity which the circumstances which accompanied the occasion might inspire, lists had been provided, and which would be handed round, in which the names of any gentlemen who so wished it might be recorded. The process of subscribing they would find extremely simple. There was a column on the left for the name of the subscriber; columns next to that on the right for his address, &c.; and further still to the right, columns in which persons so disposed might put down certain figures representing money, for which the officer duly appointed to that business would call in due course. If any gentleman present felt so nervous that he had not the courage to do so at the present moment, he (the Chairman) might reasonably suggest that a glass or two more of wine, which was said to have an effect on the human eye, might perhaps render his the brighter, and he might thus see more clearly his way to do that which he had the pleasure to suggest. Seriously, however, he could not sit down without adverting to a paragraph in the Report to which he had referred, and which ran as follows:—

"Your Committee notice with pleasure that year by year they continue to receive the patronage of gentlemen interested in horticulture; but at the same time they regret that the class of persons for whose benefit the Society has been specially formed, should respond in such a lukewarm manner. Your Committee find that among the gardening world there are a great many whose names ought to be in the list, and to whom the amount of an annual subscription would scarcely be felt; and they are sure that many more gentlemen would become donors to the Society were they to see the names of their gardeners on the list of subscribers. The Committee earnestly appeal to gardeners holding good situations to support this Society; they would then be assisting their poorer brethren, and at the same time laying by for themselves a small provision in the hour of distress and need, if overtaken by misfortunes, to which all are alike exposed."

With these remarks he would leave the toast he had already named in their hands. The Chairman sat down amidst loud cheering, and the toast was duly honoured with "three times three."

The other toasts were the "Secretary," the "Treasurer," "Literature and Art," the "Seed and Nursery Trade," the "Stewards," and the "Ladies."

The sum subscribed during the evening amounted to £200.

### THE PLAGUE OF SLUGS, AND HOW TO REMEDY IT.

THE destruction of plants in fields and gardens by grubs, slugs, and insects of all kinds this season has considerably exceeded the average loss from this cause, and drawn the attention of agriculturists and gardeners to the subject. There have always been partial and local attacks both of grub and insects, but the complaint this year is general, and may even be called national. From all quarters the cry is still, "They come, they come;" and though the ravages which have been already chronicled are, of course, merely a tithe of the actual loss, yet they are sufficient to make us view the subject with all the seriousness which it deserves. Some seasons are prolific of insect and animal life, just as they are of vegetable life. This year the wet and moisture seem to have been favourable to the development of slugs and grub. There is little doubt that the open winter also fostered, if it did not stimulate, the propagation of insects of all kinds. A keen black frost, or even one with a sprinkling of snow, would have thinned the insect ranks materially. There was no frost, however, of any great severity, and the principal assistance in keeping the insect tribe within due bounds was to be expected from the feathered race. Unfortunately, however, birds of all kinds, from rooks and magpies down to sparrows, are scarce, and they seem destined to become scarcer. The country is almost as bereft of birds as the town. The fashion among boys for collecting eggs, and the wholesale destruction of rooks and other large as well as small birds, has reduced the feathered race to such a degree that the hedgerows and forest glades are all but deserted. Indeed, with the exception of the lark and the house-sparrow, there is scarcely any bird to be seen. Birds which used to be quite common twenty, and even ten years ago, are now seldom to be met with, and it is only too evident that they are dying out altogether. The balance of power between the feathered race and the insect tribe has suffered an infraction, and as Nature never allows her laws to be broken with impunity, we are now reaping the fruits of our own wanton acts. In these circumstances it is scarcely to be wondered at that the slugs and snails have it very much their own way.

With this rapidly decreasing list of the *feræ natura*, it has been found beneficial to supplement it with domestic fowls. This, of course, can only be done to a very limited extent, but, so far as gardens are concerned, the system is quite practicable. Indeed, our own experience this season, as well as that of a number of others, is quite conclusive on the subject, and goes far to prove that the ravages of insects are to be attributed more to the want of birds than to anything else. Last summer a kind friend presented us with a pair of chickens, a cock and a hen—beautiful spangled Hamburgs. Having an eye to the flower parterres in particular, and to the amenity of the grounds in general, we must confess that we looked somewhat askance upon the gift, and wished that our friend's generosity had taken another shape. However, there they were; and as our motto is, "Live and let live," they were permitted to go about, and soon became general favourites with every one except Punch, the terrier; whose jealous spirit would "brook no rivals near his throne." They grew in beauty side by side," and, as they were neither addicted to scraping or burrowing, they had the run of the garden for the whole season. Throughout the winter and spring they have been almost constantly in it, and, with the exception of walking over a flower-plot or an Onion-bed, they have done no damage. The result of the experiment is that there is scarcely a slug or snail to be seen in the garden; and all those who have adopted the same plan are rejoicing in an almost complete immunity from the plague which has eaten up their neighbours' plants. Broods of ducklings have also been introduced into several gardens for the same purpose. They do not scrape, are keen on the hunt for slugs, and very few escape them. Those who have not made the trial may be apt to suppose that the cure is worse than the disease, and may incline rather to "suffer the ills they have, than flee to others that they know not of." This, however, is not the case; and, if farther proof were required, it might be enough to state that in several instances there is only a garden wall between the healthy and luxuriant plants preserved by means of the chickens and those eaten and destroyed by the unchecked slug. The lesson to be learned from the whole matter is the preservation of our small birds, and it is to be hoped that it will not be lost upon

"The rude, unfeelin' gang  
Wha teir the nestlins e'er they flee,"

stirring up the eggs, or waging indiscriminate war upon the old birds.—*Scottish Farmer.*

### IMPROVEMENT OF COTTAGES.

*On the Establishment and Management of Cottage Improvement Societies.* By W. A. GREENHILL, M.D., Oxon. London: Longman & Co.

So entirely convinced are we that one of the most efficient agents in improving the condition of the labouring classes, both morally and physically, is by improving their dwellings, that we hail this and every other effort to promote that improvement with much heartiness. It is true that such societies as Dr. Greenhill teaches "the proper management" of, restrict their exertions chiefly to town cottages; but these cannot be improved without a lesson being taught to the owners and builders of country cottages: therefore, we are very willing to give our aid to the promotion of such societies, and recommend all who wish to establish one to read this pamphlet.

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

TAKE advantage of dry weather to eradicate the weeds which may have sprung up during the late rains, and where the soil is not sufficiently dry for hoeing, hand-weeding should be adopted. Carrots, make a small sowing, if they are in request, for drawing early. Celery, the main crops to be got out without delay, the plants to be well supplied with soft water, and shaded for a few days if necessary. The early crops to be liberally supplied with liquid manure, and the soil about them to be frequently stirred with a fork, but the moulding of them up to be postponed until they have nearly attained their full growth. Onions, sow a few for drawing young; the Tripoli answers best for that purpose. Potatoes, the spaces between the rows of early sorts to be forked-up, and planted with crops of Brussels Sprouts, Kales, and Coleworts. Turnips, keep up good successional sowings, of which a large breadth may now be got in. Bear in mind that charred

refuse suits them well, and that dried wood ashes sprinkled on them when they are wet is a good preventive against the fly.

#### FLOWER GARDEN.

Fill up vacancies caused by the removal of hulba or early-flowering annuals, with German Asters, Stocks, Zinnias, or any other such plants in reserve. Decayed blooms to be removed from Perpetual Roses, and the young wood cleaned from insects. Continue to propagate Picotees, Pinks, and Pansies; clip Box-edgings in cloudy weather, bud Roses, roll and mow lawns, and follow up assiduously the extirpation of weeds. Proceed with pegging and otherwise training young plants as they advance. See that Dahlias, Hollyhocks, and the tall-growing herbaceous plants are properly secured to stakes as they grow.

#### FRUIT GARDEN.

The principal operations here will consist in keeping the young wood of wall-fruit trees constantly nailed-in, the laterals from the young wood of Peaches and Nectarines to be spurred down to the first joint, which spurs will often produce fruit, but do not trust to the laterals for filling up the walls, as they seldom get sufficiently ripened to produce good fruit. A considerable portion of the young wood of Gooseberries and Currants to be spurred-in at this season, which will both increase their productiveness and the size of the fruit.

#### GREENHOUSE AND CONSERVATORY.

Shading to be used sparingly except on bright days, as during dull, unsettled weather plants require all the light that conservatories (the roofs of which are generally shaded by twiners) afford. The plants in the greenhouse should now be carefully looked over for the purpose of affording such of them as may require it a final shift for the season; by shifting them now the plants will accumulate before winter a sufficient mass of roots to support them through that trying season. Allow conservatory border plants the full advantage of favourable weather, that a compact, hardy habit may be produced. Regulate the shoots of Passifloras and other climbers, repressing irregularities of growth, and giving, where necessary, support by judicious tying, and sufficient supplies of water to the roots. Continue Epacris under glass till their growth is complete, but more air and light should be allowed them, increasing them as the wood gets firmer. Towards the end of the month they may be placed out of doors in an open situation, but where they can be protected from heavy rains. The last batch of Achimenes may now be potted and placed in a cold frame for a last show of bloom. Balsams, Thunbergias, &c., for decorating the conservatory for the next two months, should be finally potted in light, rich soil. Keep down red spider by frequent applications of the syringe. Brugmansias, Neriums, and similar plants of vigorous habit should be frequently assisted with manure water. Introduce Liliun lancifolium, L. eximium, and a few of the more forward Gladioli, and other Cape bulbs, to supply the places of the Pelargoniums, &c., now on the decline. Lechenaultias should be carefully examined for green fly, and smoked at once, if at all infested, and the flowers to be picked off the young plants as they appear.

#### PITS AND FRAMES.

Chinese Primulas, especially the double varieties, if at all backward, should be placed in a close frame, shaded from the sun, where they will make rapid progress, especially if the pots stand upon a slight bottom heat. Cinerarias for early blooming should also be potted and started at once, choosing the strongest suckers and placing them in a close, shady frame till rooted. The general stock here will now be growing freely, and should be frequently examined to see that they do not suffer through any neglect in watering. Young specimens of hard-wooded plants should be carefully trained, keeping the shoots neatly tied-out or pegged-down in order to secure close, compact foundations, upon obtaining which future success will, in a great measure, depend.

W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

SOWED Lettuce seed and Endive, this being early enough for the latter, unless where Endive is preferred to Lettuces. Planted out Lettuces against the north slope of a bank, and others on the level ground, to succeed each other; watered those nearly fit for use to make them crisp, as though the weather has been dull and showery, there have been no rains to reach the roots to any extent. Watered young Canflowers, and planted out more,

and will prick out young ditto, that the plants may be some size before planting, and also to enable the ground to be cleared of other vegetables. As stated before, would always prefer sowing Lettuce thin, and allowing them to attain maturity where sown, but that would take more ground than I could well spare at a time. Hoed all Onions, Carrots, &c., once more, as shortly there will be no room for the hoe, and hand-weeding is a miserable affair. Planted out some beds of *Celery*, fine stout plants, mostly two or three rows in a bed. These would have been out before, but could not get the ground earlier. The plants though large from being pricked out some 3 inches apart, in loose earth and leaf mould, rise with large balls, and never feel the removal. As to curtailing leaves or roots as used to be done in the days of old, that is now out of the question, but the bottom of each plant should be carefully examined, and every vestige of a sucker-like appendage carefully removed. It is much easier doing it now than after the plants are growing freely in the beds, and if not done, instead of having one nice, solid plant of *Celery*, you will have a principal one in the centre, and ever so many smaller ones all round, disputing the pre-eminence with the central one, and of no use but to be cut away when the *Celery* plant is wanted for use. A little leaf mould, or very rotten hotbed dung are the best manures for *Celery* that you wish to be presented at table crisp and sweet. If size is the object, you may give dressings of guano or superphosphate of lime, and if the rotten dung is scarce, a little of the latter may be used to give extra strength; but, as a general rule, *Celery* thus rendered extra luxuriant is deficient in sweetness and crispness. Find to my sorrow that Potatoes lately so healthy showed signs of withering in some places, after a few sunny days, and though they had been planted shallow, found on examination that the stem below the ground was quite gone, the withered skin only remaining, and on looking carefully found numbers of *Julus complanatus*, one of the snake millepedes. It is doubted whether these do anything to a plant but feed upon its previously decayed parts. If they cause decay I feel a little doubtful what remedy to apply, believing that lime or ammoniacal liquid from the gas works, if it destroyed the insects, would also be liable to hurt the crop. It is quite a new mode here of interference with this crop, and I attribute it partly to the fact, that from close and constant cropping the ground had not received the exposure and aeration it ought to have done. With the exception of Carrot ground, &c., I can give a great portion of mine no such treat. I should feel disposed to ridge such ground in winter, and dress it with lime, and a little of the refuse lime from gas works. On pulling up a *Cucumber* plant, we found the heart nibbled with a harder gentleman of something of the same nature, but which had not hurt the plants much, and, therefore, could scarcely be the cause of a curl and brownish blotches in the leaves again making its appearance, after I flattered myself I had got rid of that, and also a gummy secretion which troubled me for two years, as, until just now, the Cucumbers have borne well, and looked healthy. A two-light box strong and healthy, which along with others I meant to succeed these older ones, is also showing yellow points at the end of the fruit, without any apparent cause. For many years we found it easier to get plenty of Cucumbers, with less trouble, than a good early supply of Turnips; but for three seasons there have been times in which I could scarcely get the necessary supply, and after a number of experiments, I am forced, in answer to many complaints on this subject, to say I know of no remedy but fresh air, fresh soil, sweet and rather light, and planting frequently, so as always to have younger plants to fall back upon. It is true, these plants have been grown in pits and lights, with light merely above them, and the season, as a whole, has been very deficient in light and sun, but in many places the plants grow as healthy as ever, whilst in other places they can scarcely be made to grow at all. To make more certain I procured seed from a distance, and of people who had plants from me, some have done well, and others not so well. In span-roofed *Cucumber*-houses I hardly know an instance of such diseases manifesting themselves.

#### FRUIT GARDEN.

Much the same as last week. Have had and still have a good supply of *British Queen Strawberry* in pots under glass, and in this dripping weather they are far superior in flavour to any we have had as yet out of doors. Few *Queens*, however, are yet ripe with us in the open air, and if the weather does not change, I do not hope they will at all equal those in pots which have

come in as change with *Keens'* for the last month. Hit upon two dry days to gather lots for preserving, and among these a good portion of *Cuthill's Black Prince*, which is much liked for that purpose, it is so firm and hard when not over-ripe.

#### ORNAMENTAL DEPARTMENT.

Proceeded with shifting *Fuchsias*, some hardwooded plants, chiefly, however, encouraging their growth. Potted *Geraniums* for autumn blooming, *Balsams*, *Browallias*, *Amaranths*, *Feather Cockscombs*, &c. Cut down large plants that bloomed early, as variegated *Geraniums*. Syringed such plants as *Cytisus*, *Genista*, &c. Watered everything as required, and in the flower garden chose a dull day to give all the plants, and especially *Calceolarias*, a good drop of water at their bottom, the skill of showers doing nothing but refresh the foliage. *Calceolarias* are a mass of bloom, but the ground is too cold to enable us to say the same of *Geraniums*, &c., though showing what they would do with a little more warmth. The small weeds have come so much that we were obliged to hoe again, using three-inch Dutch hoes, which permit of a good workman stirring the ground amongst the beds. A few sunny days would prevent much use of the hoe, as the ground would be so covered that the weeds could hardly get light to grow. Finished planting borders and out-of-the-way corners pretty well for the season, and filled a number of vases, set out of doors, that used to be placed in glass-covered verandahs. When so used these vases and verandahs, were as the very apple of my eye, and exhibited a very artistic and unique style of gardening. All the higher vases, some of them with their pedestals 6 feet and more in height, were filled with large, lofty, flowering plants, and creepers depending all round them. One part of this verandah connected with the library, was an elegant lofty structure, glass all in front, and a hipped-roof of *Hartley's* fluted patent, so that a leaf was never burned. The other part was merely glass in front, 10 feet in height, and a circular zinc roof, and acted as the approach to the other, altogether some 150 feet in length. These overlooking a sunk Italian garden, had (from their uncommonness, not a red pot being seen, and each vase being a little picture in itself), a very striking effect, and there was a pleasure in getting up fine showy plants to occupy them. But it is possible to have too much of a good thing, and my worthy employer giving full credit for their beauty, &c., came to the conclusion of having them all removed, as though the sight was very pleasing to a visitor, the scent and the damp, and the necessary attendance became too much when presented to a person every day, and every hour of the day. I mention this just to show that gardeners must not expect to have everything their own way. That I was vexed at such a style of gardening being abandoned is no doubt true, but I could also see there was much force in my employer's objections, the seeing plants at a time being very different from having them damp, and their scent thrust on you whenever you opened the door of the sitting-room, or hearing the rattling of blinds, or the squirting of a syringe, when reading some very interesting part of a book. The verandah for the present will be transferred into a sort of corridor, furnished with seats, and if plants are to be banished, might be made ornamental in an artistic point of view.—R. F.

#### TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

PLANTS IN ROOMS (*J. R. Ridley*).—No plants, except Cactuses and other succulent-leaved species, can be kept long in vigour in a dining-room or drawing-room. The air is too dry for them; and the only reason why they decline sooner if the room is lighted with gas is because the gas gives out more heat than a lamp or candles, and consequently dries the air more and faster. This is taking for granted that the room is properly ventilated. The only way to keep plants vigorous for a protracted time is in a plant case. The air in that is kept moist by evaporation being checked.

**VARIOUS (A Go-a-head Doctor's Boy).**—Your plants potted now in 9 inch pots will bloom better if not potted again, and will look better too. Give them manure water, and get them to the greenhouse in a fortnight or three weeks. Take all the flowers off the Balsams, pot into 9-inch or 10-inch pots, in rich soil, give liberal watering, and pot again if you like. Keep the flowers off till August. You will do with the Scarlet Geraniums. Better stop and prevent flowering for two or three weeks. Any sort will do; and they will stand either out of doors or as much heat as you like, provided they have sun and air. Calceolarias will be of no use except shrubby ones. The best is all fancy, the growth will be the thior. Verbenas may still be potted and do first-rate. They have two months to do well in. The largest flowers are best for pots. Kidney Beans and Turnips would come in if sown now. It is too late for Peas to do any good that would be worth showing. Were we to enter fully into all your questions it would require a little volume, and then we could merely repeat former instructions.

**SUMMER-PRUNING ORANGE AND LEMON TREES (J. S.).**—Pinch back the strong shoots, so as to induce from them two or three weaker ones. If only a few and they are not wanted, cut them out altogether, and the strength will be taken by the other and weaker shoots.

**CHERRIES FALLING (A. R.).**—Cherries usually set multitudinously, and fortunately thin themselves—that is, they fall off because the tree does not supply sufficient sap for the growth of all. If they all remained, and by a supernatural exertion the tree sustained them to ripeness, it would probably never recover from the consequent exhaustion.

**PONO MEO (A Constant Subscriber, Mud).**—We answered a precisely similar question last week. You must not add lime to the mixture if the terrace is to be planted with Rhododendrons or other American shrubs. For other evergreens you may add a bushel of lime to each single horse-cartload.

**DISSOLVING BONES (Quiz).**—The mode with oil of vitriol (sulphuric acid), is as follows:—On a small scale, 6 lbs. bone-dust, 3 lbs. oil of vitriol, 1½ lb. water. Sprinkle the water on the bones first, and then add the vitriol. Be careful, for it is very corrosive. Use a cask large enough to hold twice the quantity. As such ashes or water may be mixed with the dissolved bones as will enable you to sprinkle it over the plot of ground regularly. The above quantity of oil of vitriol would be enough for 100 square yards. If you purchase the sulphuric acid in large quantities, you may obtain it for three-half-pence per pound. We advise you to try to reduce the bones to powder as the Americans do, by putting a layer of bones broken small, and a layer of potash alternately in a cask. Hensley's "Rudiments of Botany" is the best book for a beginner. The other author you name disgusts by his dry technicality.

**WORKS ON FERNS (Harry A.).**—A volume is now going to press, which, with Johnson's "British Ferns" will give you full information relative to the species and culture of both exotic and native Ferns.

**EARTH-NUTS, &c. (M., St. Ives).**—The gentleman you referred to obtained a supply at the time—thanks all the same. If you mix the old sawdust with lime, it is well decayed, the grubs, &c., will be destroyed. It will form a good manure for your Strawberries, and the Potatoes in a heavy soil. As the Wild Strawberry thrives in the peaty soil you mention, it may do as a dressing for your cultivated Strawberries; but we would try it on a row or two before using it generally. Peat is not considered a good soil for Strawberries. Hurts or Whorls is a common name for the Whortleberry.

**GRUBS IN COWDUNG (C. E. Lucas).**—Mix it thoroughly with freshly-slacked lime, one part by measure of lime to two parts of the dung. Before adding it to the other ingredients take care you do not over-ferd your greenhouse plants, for then you will have more foliage than flowers.

**GRAPES SPOTTED (W. G. B. Newark).**—The answer we gave at page 262, last week, relative to spotting in Muscat Grapes is applicable to your case. Inactivity in the roots is the usual cause of spotting.

**CAPE GOOSEBERRY CULTURE (Norwich Z.).**—There are several kinds of Physalis called Cape Gooseberry, but all requiring much the same treatment as Tomatoes. If we knew the kind you mean we would give you a full statement of its management. The treatment of the common kind was given fully four or five years back, when the fruit was exhibited before the Horticultural Society, both in Regent Street and Willis's Rooms.

**CARROTS AND PARSNIPS (F., Hitchin).**—We presume that "the grub" attacking your Carrots and Parsnips is the wireworm. It is the larvæ of the click beetle (Elatér). Gas lime mixed with the soil is said to protect the crop, and that growing white Mustard drives them away. We have no faith in those remedies unless they are obnoxious to the parent insects, and prevent them depositing their eggs in the soil.

**SHRUBBY CALCEOLARIAS (Andrew).**—Many varieties have been of late raised very much in the style of yours, and their value would entirely depend on their habit if they were dwarf—i.e., about 9 inches or a foot high, and stout in the stem and floriferous; they might be desirable, but they must have these qualities to be at all thought of now.

**ROSES NOT THRIVING (B. Z.).**—Your Roses from the market came out of a forcing-house, and the sudden change chilled them; but they will get over it though you put them in the wrong stuff—cocoa fibre refuse. It is the refuse from the crushing of the nut shells which is the real stuff, and in which our Roses luxuriate without any other assistance for the last two years. To make it more plain to you, we may observe that every Rose in the catalogue, if it is on its own roots, is just as easy to grow and to bloom in a greenhouse as any of the new Fuchsias; and the very same kind of soil, the same sized pots, the same quantity of water (weak and strong), and the same quantity of air and sunlight will do for all Fuchsias and for all Roses. The only difference is, that Roses are more liable to flies and smut than Fuchsias; but so they are out of doors, and there is no better remedy than dipping the tops into a basinful of very moderately strong tobacco tea.

**ASPARAGUS-BEDS (A Subscriber, Duxford).**—Sprinkle salt over them once a-month during all the growing months, from March to October, about a pound to 4 square yards. Draw a trench about 3 inches deep between each two rows of the plants, and fill it with strong liquid manure once a-week during the same period: this is our own mode of culture, and by this, and avoiding the old atrocious system of digging the pathways between the beds, we have grown the finest Asparagus possible. We put about 1 inch deep of thoroughly-decayed manure over the surface in autumn when the seed stems are cut down, but eschew the old mode of burying the crowns deeply with earth. We let the shoots rise fully 6 inches high before we cut them for table. Make the cut only just below the surface of the soil, and thus

have about 5 inches of eatable full-flavoured Asparagus, instead of a little tip of insipid stuff, such as is upon the drum-sticks usually brought to market.

**LEAVES OF MOSCAT OF ALEXANDRIA (W. R. J.).**—The Vine was, if anything, too luxuriant, and the roots more active than the leaves, &c. We do not think there is anything unwise with the Vine; but it is impossible to say from one leaf. The white Salvia patens, as you say, is one of the best whites we have, and the blue of the patens is also the best blue we have of that tint; but like Roses, they do not come in so tidily as others, and people get tired of tramping them.

**TODIA HYMENOIDES (L.).**—This, one of the filmy Ferns, a native of New Zealand, requires a cool close treatment under a bell-glass, exactly in the same way as Hymenophyllum and Trichomones. For these tiny Ferns the cocoa-nut refuse is particularly useful, and heat is particularly dangerous to this kind of Todia.

**COCOA-NUT-FIBRE REFUSE FOR CYCLAMENS (St. Mary Church, Torquay).**—The dry pericarp which envelopes the hard horny shell of the cocoa-nut is crushed into powder in order to get the fibre out of it, that fibre is then dressed like Flax, to make all manner of things with, from a brush to a cable, and the sawdust-like powder obtained when crushing the pericarp, is what is so good for all plants, and not the refuse fibre. One-half of that dust and one-half of very good loam is a first-rate compost for Cyclamens. We have hundreds of them in it now, and the last batch from our Sardinian correspondent are now resting on a whole mass of it, pure and simple, and macrophyllum is just putting out the first leaves. We put all our Cyclamens while at rest between two layers of the cocoa-nut refuse, the top layer only 1 inch thick, the bottom may be any depth. This keeps them not dry or wet, as all the Cyclamens ought to be kept, and at whatever time young leaves begin to come, we lift the roots and pot or box them in half-and-half, as above specified. We have been thus particular again, because of mistakes made and samples sent to us for identification.

**NAMES OF PLANTS (J. S.).**—1, an Ornithogalum, but the specimens sent are inaudible; 2, the common Lastrea filix-mas. (A Subscriber).—It is not Tartagon but the common Hyssop. (M. H., Timperley).—Aralia trifoliata. (J. C.).—Your Lycopods look as if the same species in different stages of growth. No. 2, which is the only perfect one, is one of the forms of Selaginella Martensii, of which there are several in cultivation. (C. Y.).—1, Orehis pyramidalis; 2, Bunium flexuosum; 3, Lastrea filix-mas; 4, probably Fipactis grandiflora, but not enough advanced to be certainly recognised.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

JULY 9th, 10th, and 11th. LEEDS AND WEST RIDING. Secs., G. Newton and J. Wade. Entries close June 21st.  
AUGUST 2nd, 4th, and 5th. SHEFFIELD. Sec., Mr. George Westerholm, 49, Queen Street.  
AUGUST 25th, 26th, 27th, and 28th. CRYSTAL PALACE. Sec., W. Houghton. Entries close July 26th.  
SEPT. 4th. WAKEFIELD AND WEST RIDING. Sec., Mr. J. Crosland, jun. Entries close August 23.  
SEPTEMBER 9th. WORSLEY AND ARMLEY (near Leeds). Sec., Mr. Robert Hoyle, Armley, near Leeds.  
DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.

### FATTENING YOUNG FOWLS.

THE process by which fowls are fattened is no secret in the district which produces the fowl so well known, and so much esteemed, called the "Poularde du Mans." This trade, singular from its surprising results, and justly appreciated by the most refined "gourmets," is confined to the following districts:—Mésery, which formerly was first but is now somewhat fallen, Arthezé, Courçelles, Bousse, and Vilaine; the last takes first rank for fine productions and numerous feeders. There is no falling-off at Crosniere or Veron, or the adjoining villages. All these places belong to the district of La Flèche. It is to the chief town all the feeders bring their productions on market-day, and they are offered for sale by hundreds. Seeing this trade is specially local, should not the fowls be called "Poularde de la Flèche," rather than "Du Mans"?

The origin of the trade is forgotten in the country, as well as the author of it. It must be left for some learned gastronomist to throw light on the subject.

The special work of fattening belongs principally to country dealers and small farmers, who are called "poultersers." They buy at the markets or of their neighbours the pullets that are called "gelines," and which appear the finest and the likeliest to fatten. When aged between seven and eight months they are considered old enough to fatten. Those which are called virgin cocks are as much esteemed as the gelines. They are birds of the year that have never been used as stock; they are put up in an entire state, and differ from the others only in requiring more time and food to fatten.

The finest poulardes sometimes attain the weight of 7 lbs., and virgin cocks 10 lbs. They have been seen heavier.

Feeders have from fifty to a hundred fowls under treatment at the same time. The season generally begins in October and ends

at the Carnival. A room or any other convenient place being chosen, small coops are placed all round. These may be made with laths or rods of the commonest wood, plainly sawn or even chopped out with an axe. Nothing is too common to make sides and open divisions. Some of the coops may be made fixtures and others moveable. They are generally rudely constructed by the poulterers themselves, and involve little more expenditure than the time employed and a few nails. There are no fixed dimensions: the largest, however, should be only large enough to contain six fowls, and afford only sufficient space for each bird to stand easily without being able to move about.

All light coming from without is intercepted, the doors and windows are papered in order that fresh air shall not penetrate freely.

In order to accustom fowls to the diet and the confinement to which they are about to be subjected, they are shut up during eight days in a darkish place, where, for only food they have a thickish paste made with the same flour that serves for making the crams, and mixed with sometimes a third, sometimes a half of bran. During this first trial they are allowed to eat and drink as much as they will.

The meal of which the crams are made is generally made as follows:—Half of buckwheat, a third of barley, and a sixth of oats. The bran is taken from it. This should be mixed every day with fresh or with sour milk, each time enough should be prepared for the feed at night and in the morning.

Some people add lard to the composition of this paste, especially towards the end of the fattening, and this paste, which should be neither too slack nor too stiff, should have the form and size of an ordinary olive. The poulterer, or feeder, at the feeding time, which should be very regular, takes three fowls at a time, ties them all three together by the legs, puts them on his knees, and by the light of a lamp he begins, but once only, by giving them a spoonful of water or of skimmed milk. Some give no drink at all. Then he puts a cram in the mouth of each of the fowls, and to facilitate the immediate introduction of this cram he exercises a slight pressure with the thumb and two first fingers, sliding them down from the mouth to the crop of the bird. This does away with all danger of the rejection of the cram. By treating three fowls at once they have sufficient time to swallow, and each is crammed in turn at short and equal intervals.

In the early stage of cramming the crop of the fowl should be only partially filled at each meal, the quantity should then be gradually increased. Thus at last the number of crams reaches twelve or even fifteen. Every cram should be dipped in water before it is given, it facilitates the operation.—(*Le Poullailier*, by C. Jacque.)

### COOKING OLD FOWLS.

I HAVE followed your receipt for old fowls, to cook them with bread, &c; but this way they must be served cold, to turn in a nice-looking shape out of the stew-pot. If you think the following worth insertion, it may be a saving to those, who, having old fowls, would rather eat them than take the low price offered for them. Take one or two old fowls, and, having roughly plucked them, skin and cut into pieces, put them in stew-pot with odd pieces of meat, bones, or gravy, onions, and whole pepper, cover with soft water, and let the stew-pot be placed in a slow oven; if not tender at night, leave in all night. When tender, put them in pie-dish, with or without hard-boiled eggs; cover with crust, and bake as for a common meat-pie.

I have cooked several dozen in this way, and find it much liked. The care must be to cook slowly—to stew, not to boil.—B. B.

CRYSTAL PALACE SUMMER POULTRY SHOW.—An announcement of this will be found elsewhere in our columns to-day, and its list of prizes we observe in the schedule are as liberal as heretofore, and with a few additions. Thus there is a class for Bantam cocks; and in Pigeons one for Agates, Kites, Duns, and Grizzles. The only fault we have to find with the classification is in the Rabbit classes. It is a palpable absurdity to offer distinct prizes for Rabbits, the sole difference of which is their colour. The classification ought to be—1, longest ears; 2, greatest weight; 3, combining all properties, any colour; 4, Chinchilla; 5, Angora, and so on for any distinct valuable variety.

### PRESCOT POULTRY EXHIBITION.

THE Exhibition of poultry just closed is the ninth annual meeting of this Society. It is gratifying to report that the Show just held was by far the best of any, whether regarded as to numerical amount of pens, or the universally excellent character of the specimens entered for competition. The reasons productive of success are twofold—the locality being in the first place that in which are resident a considerable number of our principal exhibitors, and, again, the well-deserved confidence reposed by those of more distant parts, has never, throughout the long period of nine years, been in anyway trespassed upon.

We think it right as strongly to express our approval of the Prescott arrangements, as it is unhappily compulsory on us in too many instances to speak reprehensively of committees who permit the prize money, nay, further the very sums paid for "claimed" pens, to remain unforwarded for months, and even years after the time of exhibition! We repeat, such defaulters may vastly improve public confidence to themselves by closely treading for the future in the footsteps of the Prescott Committee, for, certainly, such delays admit neither of palliation nor justification. With these passing remarks, we trust to hear that at least some of those committees, whose prizes, though won, have never been remitted to the successful exhibitors, will allow no longer so palpable a stain on their proceedings to remain as a subject for universal censure.

*Spanish* were appointed as Class I. The class was numerous; but, with the exception of the two prize pens, the birds were not unusually meritorious. Mr. Martin, of Claines, Worcester, and Mr. Rodbard, of Wrington, respectively proved the winners. There cannot be a doubt that the hens in the second-prize pen were the best exhibited, but the cock belonging to them appeared suffering from being over-shown.

So good were the *Grey Dorkings*, they are always first-rate at the Prescott Meeting, that every pen throughout the class is favourably noticed in the prize list.

The *Cochins* were a most praiseworthy class, and every variety of colour was well represented.

Both varieties of Spangled *Hamburghs* were shown together, and most excellent they proved themselves. We much regretted to notice in this class a pen of Golden-pencilled birds wrongly entered by the exhibitor's oversight, that had they been correctly sent in would have held a very different position in their proper competition. Entries can never be made too carefully. In the Golden and Silver-pencilled *Hamburghs* were many superior pens, and barring the one always fatal mistake (a wry tail in the cock), undoubtedly the best feathered pen was compulsorily passed over on account of this single failing. Another exhibitor in this class showed a most extraordinary male bird, the product of interbreeding the Spangled and Pencilled ones together.

In *Polands*, the Black White-crested ones were decidedly the most perfect of any shown.

Perhaps one of the highest features of the Show was the *Game* fowls, and, undoubtedly, we never saw a collection so universally excellent. We must again guard exhibitors against the so-constantly-repeated faults of jenned fowls of various coloured legs in the same pen. However good otherwise, this must disqualify them.

In the *Cochin-China* chicken class were exhibited (Pen 78) the two best pullets we have seen for years past, but the male bird is ruined for show purposes, by some untoward accident to the comb.

The *Spanish chickens* are deserving of the most favourable mention.

As every breed of *Bantam* was eligible in a single class, of course the competition was beyond precedent. Every pen appears noticed save one. Surely this may influence an increased amount of premiums to these general pets at future meetings.

The *Ducks*, though good, as might be expected, did not, on account of the time of year, weigh well. The plumage of most of the Rouens was, however, faultless.

In all our experience we never saw a more excellent competition with the same amount of entries as among the *Pigeons*. The exhibitors seem to have entered from nearly every part of the kingdom; and we must add, that those of our readers who did not visit the Prescott Meeting lost sight of a perfect treat, for class after class of those birds was unexceptionable.

As the Show is only held during one day, of course favourable weather is all-important. At daybreak the sun betokened a favourable change of the weather from that of the late week's, but about eight a severe fall of rain damped the ardour of all

parties. Long before the time of public admission, however, the sky became unclouded, and, consequently, the Show was ultimately well attended, and successful every way. The tent in which the fowls were exhibited is a peculiarly good one, and the view from it is extensive. We might suggest, that for Pigeons pens somewhat smaller than those used on this occasion would, undoubtedly, be the most effective arrangement, besides presenting less danger when the repacking rendered their recapture imperative. With this single change we really think the Prescott arrangements are not open to even a single quibble.

**SPANISH.**—First, J. Martin, Church Cottage, Claines, Worcester. Second, J. R. Rodbard, Aldwick Court, Wroughton, near Bristol. Highly Commended, J. Mangnall, Leigh; J. K. Fowler, Prebendal Farm, Aylesbury.

**DORRING.**—First, Capt. W. Hornby, R.N. Knowsley Cottage, Prescott. Second, J. Friar, St. Helens. Highly Commended, C. H. Wakefield, Malvern Wells; Master E. Sergenson, Huyton. Commended, Capt. W. Hornby, R.N.

**COCHIN-CHINA (any variety).**—First and Second, T. Stretch, Marsh Lane, Bootle. Highly Commended, Capt. W. Hornby, R.N., Prescott; R. E. Ashton, Limefield, Bury, Lancashire. Commended, Miss V. W. Musgrove, West Tower, Aughton, near Ormskirk; G. Green, Knowsley; H. Bates, Harbour Health Cottage, Edgbaston, Birmingham.

**HAMBURG (Gold and Silver-spangled).**—First, N. Marlor, Denton, near Manchester. Second, J. Dixon, Bradford. Highly Commended, G. R. Tate, Driffield; J. Dixon, Bradford; J. Kellett, Widnes Dock, near Warrington.

**HAMBURG (Gold and Silver-pencilled).**—First, J. Martin, Claines, near Worcester. Second, A. Nuttall, Newchureh, near Manchester.

**POLAND (any variety).**—First and Second, J. Dixon, Bradford. Commended, S. Farrington, Chat Moss, Astley.

**GAME (Black-beasted Reds).**—First, H. Adams, Beverley. Second, H. M. Julian, Beverley. Highly Commended, E. Archer, Malvern; H. Worrall, Spring Grove, West Derby. Commended, C. Chaloner, Steetley, near Worksoop.

**GAME (Brown Reds).**—First, C. Chaloner, Steetley, near Worksoop. Second, H. Adams, Beverley. Highly Commended, C. W. Brierley, Rochdale; H. M. Julian, Beverley.

**GAME (Duckwings).**—First, P. Howard, Knowsley. Second, H. Worrall, West Derby.

**GAME (White and Pile).**—Prize, T. West, Eccleston Place, near St. Helens.

**GAME CHICKENS (any variety).**—First, C. Chaloner, Steetley, near Worksoop. Second, G. Green, Knowsley.

**DORRING CHICKENS.**—First, C. H. Wakefield, Malvern Wells. Second, Capt. W. Hornby, R.N., Prescott. Highly Commended, S. Farrington, Chat Moss, Astley; G. Green, Knowsley; J. Rowlandson, Hawkshead, Windermere.

**COCHIN-CHINA CHICKENS (any variety).**—First, T. Stretch, Marsh Lane, Bootle. Second, J. B. Walthew, Aughton, Ormskirk.

**CHICKENS (any other variety).**—First, J. R. Rodbard, Wroughton, near Bristol. Second, A. Nuttall, Newchureh, near Manchester. Highly Commended, J. K. Fowler, Aylesbury.

**BANTAMS (any variety).**—First, G. C. Whitwell, Kendal. Second, T. H. D. Ray'ey, Ickwell House, near Biggleswade. Highly Commended, G. Green, Knowsley; C. Martin, Fairfield, near Liverpool; C. W. Brierley, Rochdale; N. Marlor, Denton, near Manchester; J. Holden, Westhoughton, near Leigh. Commended, P. Howard, Knowsley.

**DUCKS (Aylesbury).**—First, J. K. Fowler, Aylesbury. Second, G. Green, Knowsley. Commended, J. K. Fowler.

**DUCKS (Rouen).**—First, H. Worrall, West Derby. Second, G. Green, Knowsley. Highly Commended, H. Worrall; J. K. Fowler, Aylesbury; R. E. Ashton, Limefield, Lancashire. Commended, R. Tate, Driffield, Yorkshire.

**DUCKS (Buenos Ayres).**—First, F. W. Earle, Edenburs. Second, J. R. Jessop, Hull.

**SINGLE GAME COCK.**—First, E. Archer, Malvern. Second, W. Doyce, Beverley. Highly Commended, Capt. W. Hornby, R.N., Knowsley Cottage; E. Archer; J. S. Butler, Ponilton-le-Fyde; C. W. Brierley, Rochdale; B. W. Bretherton, Rainhill.

**GAME BANTAM COCK.**—First, T. H. D. Bayley, Ickwell House, near Biggleswade. Second, E. Holdsworth, Leeds. Highly Commended, H. Adams, Beverley; J. Holden, Westhoughton, near Leigh. Commended, W. O. Kenyon, Mossfield, Wavertree.

#### PIGEONS.

**CARRIERS.**—First, D. Thwaites, Rock Ferry, Cheshire. Second, G. Green, Knowsley. Highly Commended, A. L. Silvester, St. Paul's Square, Birmingham; H. Yardley, Market Hall, Birmingham; D. Thwaites. Commended, R. Dyson, Filch Lane, Knotty Ash.

**ALMOND TUMBLERS.**—First, A. L. Silvester, Birmingham. Second, T. D. Walker, Liverpool. Highly Commended, E. Holdsworth, Calls, Leeds. Commended, D. Thwaites, Rock Ferry.

**TUMBLERS (Rough Leg).**—First, H. Yardley, Birmingham. Second, J. Sephton, Prescott.

**TUMBLERS (any other variety).**—First, J. Sephton, Prescott. Second, E. Holdsworth, Calls, Leeds. Highly Commended, F. Else, Bayswater, London; Lady Emma Talbot, Knowsley.

**BARBS.**—First, E. Holdsworth, Calls, Leeds. Second, Lady Emma Talbot, Knowsley.

**TURBETS.**—First, J. Beesley, Prescott. Second, F. Else, Bayswater, London. Highly Commended, H. Yardley, Birmingham; J. W. Edge, Ashton New Town, Birmingham.

**OWLS.**—First, F. Else, Bayswater, London. Second, F. Kay, Beverley. Highly Commended, D. Thwaites, Rock Ferry; J. W. Edge, Ashton New Town, Birmingham. Commended, E. Holdsworth, Calls, Leeds; H. Yardley, Birmingham.

**FANTAILS.**—First, D. Thwaites, Rock Ferry. Second, G. Green, Knowsley.

**RUETS.**—First, F. Kay, Beverley. Second, E. Holdsworth, Calls, Leeds.

**POWERS OR CROPPERS.**—First, F. Else, Bayswater, London. Second, D. Thwaites, Rock Ferry. Commended, R. M. Brocklebank, Aigburth, near Liverpool; H. Yardley, Birmingham.

**TRUMPETERS.**—First, F. Else, Bayswater. Second, F. Kay, Beverley. Highly Commended, D. Thwaites, Rock Ferry. Commended, D. Thwaites.

**JACOBS.**—First, D. Walker, Liverpool. Second, D. Thwaites, Rock Ferry. Highly Commended, R. M. Brocklebank, Aigburth, Liverpool.

**ANY OTHER NEW OR DISTINCT VARIETY.**—First, A. S. Bretherton, Hamilton Square, Birkenhead. Second, J. W. Edge, Ashton New Town, Birmingham. Highly Commended, Miss M. Sergenson, Huyton (White Doves); T. D. Walker, Liverpool; Lady Emma Talbot, Knowsley (Brown Shields).

Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, as on many previous years, officiated as poultry Judge.

#### MORTALITY AMONG CANARIES.

I was formerly very successful in rearing mules from the Goldfinch and Canary, and latterly have been anxious to get a breed from the Bullfinch hen and Goldfinch cock; but having for two successive seasons lost my Bullfinches, I venture to ask your opinion as to the cause, or the experience of any of your readers on the subject would be appreciated.

Last year in April, a young cock Canary paired with a hen Bullfinch; she laid two soft eggs and died on her nest. Some months later, another hen of the same species mated with a Goldfinch, when she suddenly sickened and died without laying. This spring I had a Goldfinch hen, two years old, which would have paired with a cock Canary, but he showed no wish to do so, and I then gave her a cock Goldfinch. They soon paired, and so beautiful were they that I had intended exhibiting them at a bird show; but the hen suddenly became bloated and short-breathed, and in a fortnight died. The cock was then put up with a Bullfinch hen, and in about three weeks she took to a ready-made nest, laid one egg, which the Goldfinch unfortunately destroyed, and then another (now under a Canary hen), but immediately after this, much to my mortification, she sickened, and the day after died. They had plenty of groundsel and watercress, but do you think the egg and bread-crums, which they ate of very freely, was the cause? I gave each of them two drops of sweet oil, but it did no good. As I sell my young birds for a local charity, this disappointment has much vexed me. With the Canary I have been very successful this year, though indeed among my disasters I must mention, as a warning to others, that a large slug destroyed four fine young Cinnamons of a few days old. They disappeared out of the nest all but one, which was left there without his head. On taking down the cage we found a huge slug as large as a finger.—E. C.

[The most probable, and perhaps the only cause that we can assign for your birds dying so suddenly, is that they were in too high condition, caused by being fed on too much fattening and oily food, such as hempseed, rape, and flaxseed. Finches, and especially Bullfinches, are very fond of hemp, which should be given sparingly, as, unless the birds have plenty of room to exercise, they soon get fat upon it, the result of which is apoplexy, or, in case of sudden fright, blood to the head. Apoplexy, if taken in time, may be relieved by cutting the toonail until it bleeds. Egg and bread alone would not kill the birds, although too much egg is not good for old birds.]

#### BIRDS AND BEES.

I AM happy to say we are smothered with small birds, for the more the merrier, as they are the best friends we have got here, and we adopt the modes I described in 1851 to protect our small fruit.

My bees are going on very well—that is, as well as the weather goes, not making honey very fast, though I have some fair-filled glasses of honeycomb; and I have made a great improvement for the bees to ascend thither, which I will take the first opportunity to acquaint you with.—UPWARDS AND ONWARDS, *Woodstock*.

**CAUTION.**—A person named W. G. Ridgway, writing from "Berwick Lodge" and "Berwick Brewery," near Manchester, lately obtained some valuable Rabbits from me, promising to remit the amount on receipt of the goods. Deceived by the printed headings of his letters I complied with his request, and now find that he is well known. I trust you will protect your advertisers by publishing this.—T. C.

[We have repeatedly warned our readers not to part with live stock to unknown applicants without prepayment.—EDS.]

## DO BEES CONVERT SUGAR INTO HONEY?

BEFORE complying with "A DEVONSHIRE BEE-KEEPER'S" request to test by the saccharometer the contents of the honey-bag of a bee, in No. 60 of THE JOURNAL OF HORTICULTURE, page 147, I waited, thinking others might suggest some other test. None having done so, I will now inform your readers of the result of the trial.

I first took some honey I had by me and prepared it, and put it into the saccharometer-tube, when it clearly indicated uncrystallisable sugar. I then made some loaf-sugar syrup, put it into another tube, and it gave just the reverse, showing it to be crystallisable sugar. I then poured a little of the same syrup on the landing-board of a hive in the morning as the bees were leaving the hive, and as soon as one filled itself and was about to return into the hive, it was killed, and the honey-bag taken out and broken into a little water, and applied to the saccharometer, when I am bound to confess, notwithstanding I imagined the change would have taken place, it had not done so, as it still indicated crystallisable sugar. I must own, however, that the instrument acted in the same manner with the broken honey-bag as it did when I tried the treacle, showing there was both crystallisable and uncrystallisable sugar present; and I am still of the opinion that when put into the bell the change has taken place. But how to prove that remains the difficulty. I might have kept the bees for a time after being filled, still I thought they would immediately go and empty their honey-bags at once, and, therefore, I did not try it in that way. I repeated the experiments on two different occasions, and both with the same results, along with a neighbour, who is a great apiarian, and who takes great interest in the matter, and who is likewise of opinion that when the syrup of sugar is laid in the comb it is changed into honey.

I shall be very willing to try any experiment your correspondents may suggest. I confess I do not see my way to how we are to succeed in getting, for certain, from the comb that same syrup they have just been fed with, so that there can be no cavil about it.

But I have hopes that your correspondent "A DEVONSHIRE BEE-KEEPER," will be able to suggest some plan wherein it may be tested; or if he and one of his opponents to the theory agree on any plan and send down the honey to me (three drops in a small phial of water are sufficient), I will put it to the test; and if they have any doubts as to the correctness of the instrument, or myself, if they send the same quantity of the sugar-syrup, of honey, and one phial of pure water, and mark the phials in numbers, or otherwise, that they may be distinguished, I will detect them when it is utterly impossible to do so by the taste.—ALEX. SHEARER, *Yester Gardens.*

## DO BEES VARY?

LIKE Colonel Newman, I have often been assured when purchasing swarms that the bees were of a better sort than ordinary. Generally, the recommendation urged in their favour has been that the bees are smaller and more active than the larger and more lazy "varmints" of their neighbours. To argue them out of their fond belief I have never attempted, knowing that my labour would have been vain; but that there is any difference in the ordinary English hive bee, further than may be seen in any apiary or single colony, I do not for a moment believe. I have been an ardent apiarian, and a tolerably close observer of the species, for nearly twenty years, four of which were spent in Ireland, and have never met with an instance in which there was any difference of colour or size, further than an accidental or a merely temporary one. Occasionally the bees of a hive would appear both of a lighter grey colour and of a smaller size than those of the other stocks; but in a very short period the peculiarity disappeared. To theorise, I should imagine that the stock had lost its queen, and between that time and the exit from their cells of the young bees bred by the young successor of the defunct queen (a period of nearly two months), a great proportion of the old bees had disappeared: consequently, the majority of the foragers were of a light colour compared with the rest of the apiary. That old combs are the cause of a difference in the size of bees I think can hardly be disputed. Many years since I had a singular proof of the influence the dimensions of cells exercise in this respect. The bees and some of the combs were transferred from a straw hive into a glass globe, of the peculiar form drawn by Wildman or Thorley, and which had

been used as a honey-glass sixty years ago. There was no aperture in the top of the bell and no cross-stick, or other support to the combs was supplied. The combs rested on the floor-board, and the bees built upwards to the top of the glass; but they were never able to reach it so as to make their work adhere. Want of ventilation, and consequent great heat, caused the combs to collapse and sink downwards as fast as they were carried upwards. To live at all, the poor bees were obliged to gnaw away the wax at the bottom, which at length bore the appearance of an almost solid mass, perforated with passages for communication with the upper portion of the hive. But the most singular result of all was, that in time a number of most diminutive bees made their appearance. I am sure I do not go too far in asserting them to have been no larger than a good-sized house fly; they appeared perfectly formed, and ran to and fro on the alighting-board. I do not now remember seeing any of them take wing, and in a few days they had all disappeared, probably being found incapacitated to perform the duties expected of properly-constituted bees.

We know how great an influence the capacity of the cell exercises with respect to the size of drones. Until my attention was more particularly drawn to the subject within the last year or two, I had no idea of the numbers of drones which are bred in worker-cells. Thanks to the introduction of the Italian (or as I still like to call them, the Ligurian bees), I have learnt within the last two years from actual experience respecting the artificial rearing of queens, and the scientific manipulations which arise therefrom, much more than in my whole previous career. Drones so small issue from the worker-cells as to appear quite pigmies in comparison with their more-fully-developed brethren. In transferring brood-combs from common bees into hives of Ligurians, where it is desired that no common black drones should exist in the apiary, it is requisite to keep a sharp eye on the cells whose projecting caps indicate the presence of embryo drones within, and destroy them all. Their position and size may easily cause the operator to overlook them.—S. BEVAN FOX, *Exeter.*

## A BEE-KEEPER'S PERPLEXITIES.

IN the spring of 1860 I bought a swarm of bees, which I kept through the severe winter of 1860-61 on a shelf in my coach-house, feeding in the spring by an inverted bottle, as taught in your Journal. My neighbours, old bee-keepers, lost nearly all their stocks that winter. I had a good swarm on the 11th of June, and a flight on the 19th; the former hived themselves in a very old skep in a neighbouring garden, the latter I hived in a box with three drawers as supers, patented by King, of Cambridge. In the autumn of 1861, my swarm in the old skep seemed so weak, and suffered so much from robbers, that I fancied it had no queen; I therefore fumigated with fungus, took the honey, and, as I could find no queen, added them to the parent stock. I had therefore two very good stocks to keep through the winter of 1861-62. I bought this spring one of Neighbour's cottage-hives, and a Woodbury comb-bar box. Now, here I come to a difficulty. Early in the spring I let the bees in King's box into two of the drawers (one filled with comb last autumn), hoping to prevent swarming; but no, that box sent out two strong swarms early in May, since which they have done nothing. They seem to have no life or energy. Now, did I go the right way to prevent a swarm? and, if so, why did it fail? Would you advise me to add a swarm which I expect daily to this King's box?

I ordered this spring some shallow, flat-topped straw hives and small straw supers, and requested the maker to get me a swarm in one. I got these home by the middle of May, the super already on the hive. The swarm seemed weak, the bees much smaller and rather more grey than my own. Last week I raised this super, and, instead of finding it still empty as I expected, it was quite full, so I took it off rejoicing in so rich a harvest; but to my surprise it was entirely full of brood in various stages, and I could see what I believe, from the drawing in Taylor's "Manual," to be a partially constructed royal cell. It was like an egg-shell cut across about three-parts down, and hanging from the side of a comb. I immediately replaced the super, and now the whole hive is so full of bees that for several days they have been hanging out in a great bunch, even remaining there during rain, so that one day a few were drowned. Why did these bees breed in the super instead of storing in it? Is it

because it was put on too soon? Shall I leave them to their own devices, or try to drive? I would have done this before, but did not know how to fix the super safely to the hive when I turned them over.

Yet again, I observe in your Journal of June 24, in replying to Edwd. Fairbrother, "A DEVONSHIRE BEE-KEEPER" talks of the injurious effects of fumigating, and of the facility with which he drives and shifts bees without it. Will he in pity explain the manipulation to a beginner? Last week I particularly wanted some honey. A super was full of brood only, and, as my bar-box (a second swarm of this year from King's box), seemed quite full, I determined to try and extract the two outside bars. Enveloped in a bee-dress and buckskin gloves, and armed with a fumigator, I boldly removed the lid of the box and got the honey; but I made an awful mess of it, my knife was too large to cut the end-combs clean away, and when I began to lift the bar the comb separated in the middle. I then had to remove a second comb and put my hand down and lifted out the broken comb as well as I could, getting my gloves stuck full of stings, three or four of which went through and made my hands twice too big, besides drowning several bees in the honey that escaped, and making that hive so savage that I cannot go anywhere near them without getting stung, though before I could walk among them as I liked. I do not much mind the pain, which I feel I deserve for my awkwardness; but it is a nuisance to have one eye or other periodically closed, and, worst of all, my workmen, who began to think some of the new dodges really might be better than their old plan of burning every autumn, will soon turn to their evil ways unless I can triumph over my present difficulties. One question more: I cannot get the bees to work in bell-glasses. I have tried, awkwardly enough, to put in guide-combs, and one glass I have smeared with melted beeswax to give them a hold; but they do not seem to like it.—A. W. B.

[We are not acquainted with the construction of King's hives, but you appear to have gone the right way to prevent swarming by giving additional room. *Why* you failed is a far more difficult question, and one which we believe no apianarian can answer with certainty. The fact is there is very often, especially in seasons like the present, so strong a disposition in bees to swarm, that no amount of care in affording room and ventilating will suffice to prevent it. All you can now do is to accept circumstances, which you cannot control, until you attain sufficient skill in your turn to play the tyrant, as pointed out in the reply to "A DISAPPOINTED BEE-KEEPER" in another column.

If the queen be dead in your King's hive, by all means add a swarm; if not, your doing so may produce a fatal quarrel. But how, you will probably ask, am I to ascertain this important point beforehand? This is just what we cannot tell you. If the hive has either bars or frames there will, of course, be no difficulty in deciding; but, if not, you must form your own opinion from external appearances, and act upon it whether right or wrong.

The small super was put on too soon, and the bees, therefore, commenced by building combs in it, which the queen at once filled with eggs. Had the honey season been a good one, you might probably by this time remove the super full of honey, and the combs be not very much the worse for having had brood in them. Perhaps in two or three weeks you may yet be able to do this, but the probability would be much increased by feeding regularly in the meantime. We should be inclined to adopt this plan (giving the room which appears to be required by placing an eke under the hive), in preference to driving.

We have submitted your letter to "A DEVONSHIRE BEE-KEEPER," who says, "'A. W. B.' does not appear to have done so much amies for a first attempt. He obtained what he wanted, which is a great point, but he appears to have mortally offended his bees. Had the matter been managed more adroitly they would have manifested a much more forgiving spirit. Premising first that in speaking of the injurious effects of fumigation, I meant only when it is pushed so far as to produce insensibility. I will briefly describe how he should amend his proceedings in future. Let him by all means envelope himself with a bee-dress and arm himself with his lighted fumigator, but in mercy to himself and his bees, exchange his buckskin for Indianrubber gloves, such as are worn by photographers, and take with him a sop for Cerberus in the shape of some sweetened water. Commence proceedings by slightly raising the crown-board at the back and blowing under it two or three good whiffs of smoke. Then close

it down and wait a minute or two whilst the bees are filling themselves with honey. Next lift it boldly off and stand it safely on one side so as not to crush any bees which may adhere to it, and liberally sprinkle the interstices between the exposed bars with sweetened water. Should the bees take this in good part without commencing an attack the operation may be at once proceeded with; but if their pugnacity be not quite subdued, a second subsidy of sweets should be accorded them, and the crown-board replaced for a few minutes to give time for their acceptance of the proffered bribe. All these manipulations are based upon the fact, that when bees are alarmed they immediately fill themselves with honey or such other sweets as may be at hand, and that if we can once induce them to do this they become as inoffensive as house flies. No provocation short of absolute crushing will induce them to sting. Your correspondent will do well to provide himself with a bent knife adapted for severing the side-attachments of the combs; but much better if he adopts frame-hives in which there are no side-attachments to sever."

With regard to bell-glasses, we can only recommend you to insert decoy-combs in such manner as you find most convenient. If filled with honey they—*i.e.*, the combs, may prove more attractive; but, after all bees will seldom work with freedom in bell-glasses. Why not try glazed bar-supers such as were described by Mr. Woodbury in page 74?

In conclusion, we would warn you and bee-keepers generally against over-deprivation in so bad a season as the present.]

### EXCESSIVE SWARMING.

Will you inform me if any remedy can be applied to make bees collect honey, instead of incessantly swarming. I have been a bee-keeper three years, and have never tasted or gathered any honey yet. I have tried Taylor's amateur's bar-hive, Neighbour's cottage and Stewarton hives, but all with the same result. All goes on well for three or four weeks after a swarm is hived, then just as the hive is overflowing, and room necessary, caps put on, and beautiful comb made, all is spoiled by swarming. One hive swarmed on the 30th of April, and four or five swarms have since left it. It is now a perfect wreck, with not a particle of honey remaining. A swarm of this season (double, as two swarms issued together from two hives on the 29th of May), have filled a box and a 10-inch glass with comb and honey; and just before the combs are sealed all work is suspended, the honey taken by the bees about to swarm, and the business of the season ruined.

I have tried shading the hives, giving additional room, &c., and I am rapidly coming to the conclusion that all the books tell us of caps, supers, and bell-glasses is "bosh," and that the old straw hive and burning the bees is the only way to secure having any honey. I am quite sure that I speak the experience of all or most amateurs.

As to cutting the queen out after fumigating with the pipe and tube, there is such a certainty of injuring the bees by the smoke and small particles of the puff-ball which are blown into the hive that I do not think it desirable to try this plan.—A DISAPPOINTED BEE-KEEPER.

[Your stocks appear to have been ruined by over-prosperity, their hives also being probably too small for the locality, which seems to be a first-rate one. We are perfectly aware that when bees are disposed to swarm no increase in the size of their domicile will at all times prevent it; but much may be done by the good management which is best attained by practice and experience. It is too late in the day to doubt that large harvests of first-rate honey may often be obtained in supers, whether of wood or glass,\* although bees will sometimes thwart the intentions of the apianarian by perversely swarming in the most provoking manner. We know of but one way of avoiding these occasional disappointments, and that is by adopting frame-hives and bar-supers, as recommended by Mr. Woodbury in page 73, endeavouring at the same time to attain sufficient skill in their manipulation to enable you to gain a thorough insight into their internal economy. When this facility has once been attained, the rest is comparatively easy. Drone-breeding may be curtailed by diminishing the combs in which it can be effected; and during the filling of a super the disposition to swarm may be nipped in the bud by the excision of queen-cells, without having

\* Messrs. Neighbour & Sons show some very handsome supers in their stall at the great International Exhibition. They are from the apiary of our correspondent, "A DEVONSHIRE BEE-KEEPER," and are the first worked in England by Ligurian bees.

recourse to fumigation. Even if an unlooked-for swarm should make its appearance, either the young queen or the old one may be removed at your option, and the swarm returned to its hive after cutting out all the royal cells which it contains. If none of these have been overlooked, no second issue will probably take place; or if it does, sufficient time will have elapsed to admit of the completion of the super. The same means are equally effectual in preventing a strong stock from destroying itself by over-swarming.]

#### A CHAPTER OF WELL-SETTLED FACTS.

1. All stocks of bees should be kept strong in numbers.—A well garrisoned city may defy assault.

2. A moderate increase of swarms will keep them strong, and secure the largest yield of honey.—As the calves are raised at the cost of butter and cheese, so bees are multiplied at the expense of honey.

3. Bees filled with honey are not inclined to sting.—As the robber's knife is stayed by your purse, so bees are bribed with profured sweets.

4. In natural swarming bees fill themselves with honey.—Emigrants to a new country carry their treasures along as capital to begin with.

5. Bees alarmed with smoke or otherwise, instinctively seize upon their stores.—The householder at the cry of fire secures what he can.

6. There should be no communication between occupied hives, allowing the bees of one to pass directly into the other.—“No house is large enough for two families.”

7. A swarm of bees destitute of a queen fast dwindles away; and, unless supplied with one, soon perishes either by robbers or moths.—A country without a government, a farm without an owner.

8. Swarms having combs insufficiently protected by bees, furnish a retreat for “millers” \* and food for worms.—Un-guarded treasures invite thieves.

9. An excess of drones should be avoided by discouraging the construction of the cells that produce them.—Drones are the “dead heads” of the hive—the useless males in the farmer's herds.

10. The building of drone-comb may, to a great extent, be prevented—first, by securing the construction of new combs in hives containing young queens; and, second, by placing frames to be filled, in other hives, near the centre.—“An ounce of prevention is better than a pound of cure.”

11. Queens are most economically reared in small swarms.—Who would employ ten men to do what one could do better?

12. Small swarms, if united in the fall, winter more safely and consume less honey.—“In union there is strength.”

13. Bees of colonies containing fertile and unfertile queens, should not be put together without first “breaking them up”—i.e., inducing them to fill with honey, and destroying the unfertile queen.

14. Natural swarming, always uncertain and perplexing, exposes the bee-keeper to much loss of time and money; while artificial swarming, securing at all times the presence of a worker-laying queen, doing away with all watching and loss by flight to the woods, is both sure and economical.—*Metcalf's (American) Key to Bee-keeping.*

**A NOBLE AUSTRALIAN DOG.**—The dingo, or wild dog of Australia, although he has none of the nobleness of eye and gesture of the beautiful cooley terrier, nor attains generally to his size, is yet a dog far from being unlike him in general outline and feature. But the dingo in his wild state, and the domesticated cooley, are as unlike as Nero and Howard. I well remember a beautiful cooley at Bong Bong; he was the property of an aged couple, and his old mistress, who was sadly addicted to intemperance, fell a victim to this awfully besetting sin. She was bedridden; and smoke being observed to issue from her dwelling, parties ran, and discovered that, in crawling to the fire to light her pipe, some articles of apparel had become ignited. She never rallied; and a day or two afterwards a few neighbours assembled to follow her remains to the pretty little graveyard of Bong Bong. One followed in the train who wore no mourning

\* *Anglicæ*, wax-moths,

garb; his coat, which I have often patted, as it hung so beautifully around him bore no funereal hue—it was a bright fawn—but who shall say there was no real mourning in the heart of that dog when he reads this canine reminiscence to a close? The remains of his old mistress being deposited in her grave, the earth was turned in, and all but one of the mourners departed to their homes; they returned to their varied avocations; he found one on the spot; it was the cooley dog, who stretched himself upon the grave, the guardian of the manes of his mistress. There kept he his post, in sunshine and in storm, by night and by day; and, gentle as he was, it perhaps would not have been well unguardedly to have invaded the privacy of that spot. He just visited his home and ate the food given him, and was away to his post again on the grave of the poor old woman, who had won his heart by long acquaintance, and a crust of bread. Months had elapsed since her death, but when last I heard of the noble cooley, he was yet the guardian of the grave of his mistress. That dog drew many an emotion from my heart. So fast a friend for so few favours, and I so failing a servant of “the Friend who sticketh closer than a brother,” whose mercies have indeed been far and infinitely more to me, in any moment of time, than the whole burden of those dispensed by that erring woman to her dog.—(*Rev. R. W. Vanderkiste.*)

#### OUR LETTER BOX.

**DORKING FOWLS** (*A Subscriber, Eslington*).—You have hatched very good chicken, measurement and weight are both good. When you get these two last qualities you need not be so particular about colour. From the feathers sent, the match pullets appear perfect in that respect. Had we to choose or describe, we should like the cock darker on the breast; but it is necessary to say no painstaking will insure the colour of chickens, and it is also notorious the largest and best birds are not, generally, perfect in colour. This fact has caused the institution of Silver Grey classes, where colour is the chief point. Your birds will not do to exhibit in these, but they bid fair to stand well for open competition.

**FOWLS LOSING THEIR FEATHERS** (*P. W. T.*).—It is possible, but not probable, as you suggest, that they may be moulting, but we rather incline to think that the loss of feathers arises from a fevered state occasioned by overstimulating food. Cease altogether from feeding with maize, and give them very little barley, but as much of the barleymeal and boiled potatoes as they will eat without wasting any. We would also give each of them a table-spoonful of castor oil. You say they have plenty of green food, but if it is in the form of Cabbage leaves do not let them have any more; for uncooked Cabbage leaves are acid and stimulating. Let the fowls have as much of Lettuce leaves and grass as they choose to eat.

**TRAVELLING-BASKETS FOR FOWLS** (*A Debtor*).—We have always been advocates for round baskets closed round, and made of wickerwork; they should be 35 inches high, 18 inches in diameter for a single cock, 24 inches for a pen of three birds. If any alteration, rather larger in the latter case. The top to be covered with stout canvass.

**VULTURE HOCKS IN COCHIN-CHINA FOWLS** (*Idem*).—Vulture hocks do not disqualify, but they are not desirable, and experience will tell most breeders that it is easier to perpetuate defects than merits in a strain. We advise all amateurs to avoid them as much as possible.

**CAROLINA DUCKS—SPANISH PULLETS' COMES** (*A. H., Calne*).—We do not know where you can buy the eggs of the Carolina Duck. They are not very difficult to rear, but they require a good deal of attention. It is not necessary to feed Spanish pullets on meat to induce growth of comb. It will always be developed when they first begin to lay, and it is possible to have too much of it. No amount of food of any kind will make an upright comb fall over. It is a defect, and the bird should be got rid of.

**KEEPING POULTRY AND PIGS** (*Columbus*).—They may be advantageously kept at the same time. The same land would do for them. Cows are not very liable to lose their hoofs unless kept many together and closely confined. Of course you can buy corr. &c., of farmers near where you settle. The advertisement would be 2s. 6d., or 3s. 6d., or more, according to length. Judging from your questions, you must know more about the subject than you seem to do now before you will be able to keep your family upon the produce of pigs, poultry, and a cow, though it is all simple enough.

**ROCK-WORK MAP OF THE WORLD.**—*J. McD.* intends copying a map of the world in rockwork, size 3 feet by 2 feet, having a sheet of glass for a foundation, and to represent the ocean he will first paste a map of the world on the glass, and then edge round the land part of it with a knife, rubbing away that part which represents water. His chief difficulty is this—he wishes to represent the different vegetation of different parts of the earth. We can get a chemical substance to represent snow. Moss would do to represent palms. How is he to represent grain, tea, and different other plants which would require to be represented? Sand will represent deserts. *J. McD.* has got a phythographical map of the distribution of plants. He could do it by having numbers with a reference, but he does not want numbers.

**KILLING MOTHS AND BUTTERFLIES** (*J. S.*).—For an entomological collection no mode of killing them is so immediate and non-damaging as putting them into a glass pickle-jar, tightly closed, in which jar some laurel leaves, previously bruised with a hammer, have been put, and covered over with a thin layer of cotton. The fumes of prussic acid emitted by the leaves are rapidly fatal, and all the quicker if the glass jar is put into a dark place. It is desirable to have a glass jar, because the effects may be readily ascertained. If it is kept closed, the laurel leaves do not require renewing very frequently. Put in enough to emit a strong fume.

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week	JULY 15—21, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.	Sun Sets.	Moon Rises and Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.						
15	Tu	Amellus lychnitis.	29.621—29.553	77—50	W.	.02	m. h.	m. h.	m. h.			
16	W	Anacampseros angustifolia.	29.714—29.611	72—42	S.W.	—	2 4	9 8	39 9	18	5 37	196
17	Th	Anomatheca eruen'a.	29.881—29.787	74—55	S.W.	—	4 4	7 8	17 10	20	5 49	198
18	F	Anthericum pilosum, &c.	29.750—29.650	73—52	S.W.	—	5 4	6 8	38 10	(	5 53	199
19	S	Nerium splendens.	29.688—29.640	74—57	S.W.	.02	7 4	5 8	2 11	22	5 58	200
20	Sun	5 SUNDAY AFTER TRINITY.	29.668—29.648	77—52	S.W.	.10	8 4	4 8	32 11	23	6 1	201
21	M	Sun's declin. 20° 30' N.	29.749—29.682	73—52	S.W.	.03	9 4	3 8	morn.	24	6 5	202

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 74.5° and 51.1° respectively. The greatest heat, 91°, occurred on the 18th, in 1859; and the lowest cold, 39°, on the 18th, in 1851. During the period 127 days were fine, and on 118 rain fell.

THE FRUIT-ROOM.



AMONGST the various appendages to a garden an efficient fruit-room is certainly not the least important, yet such a room we seldom see. Generally some back shed is fitted up with shelves in a very rough manner, and on these the winter Apples and Pears are laid, more or less thick as the crop may have been. In too many instances they are obliged to be laid too thick for their keeping well; as they are likely to be all wanted, there is no alternative but to place them so,

if the space be too limited for their being kept more thinly. Although we all know that good-keeping fruit will remain sound a considerable time, even when subjected to this treatment, there is no doubt but it would keep much longer if allowed more room from the first, and those instances in which fruits have been kept for long periods will be found to be where plenty of space was accorded them; some other conditions seem necessary for the well-keeping of fruit, and it will be advisable to point out a few of these individually.

Whatever may be the reputation of a certain variety of fruit for keeping purposes, there is no question but its merits that way are influenced by the situation in which it is grown, as well as the period at which it is gathered, and the condition of the atmosphere at the time. By way of exemplifying these three conditions it will be as well to take a very common case to point them out, and though there may be some difference of opinion on the habits and qualification of the variety given as an example, there is certainly none that has a wider reputation. I, therefore, by way of pointing out the conditions necessary to enable a fruit to keep as long a period as possible in a sound condition, will take the Ribston Pippin Apple as an example, not on account of its long-keeping capabilities—on the contrary, it is only an indifferent one in that respect; but by it we may learn the laws that govern other fruits as well.

In very many districts the Ribston Pippin Apple has ceased to be cultivated as a profitable fruit; the trees thriving indifferently for a very few years, either die off or linger on a wretched existence, the dead branches almost equalling the live ones in number. Though there is generally a fair proportion of blossom each season, what fruit there is can seldom be classed higher than second, or, perhaps, third-rate. Now, these fruits have, in many of them, the germs of decay before they are gathered from the tree; black specks near the eye, or, in some cases, near the other end, turn into a mass of decay of a peculiarly bitter quality, differing widely from the ordinary "rot," by which most other fruits are carried off more quickly, but not less surely, than by this black bitter spot of the Ribston.

Whatever may be the different opinions regarding this, it seems pretty generally admitted that it is mostly due to the diseased condition of the tree on which it grows, or, perhaps, the worn-out constitution of the variety. Whether this be so or not (and there seems every reason to believe it is so), certain it is that a very large proportion of the Ribston Pippin Apples that are grown, fall a victim to this black spot, which, by being of an intense bitter, disqualifies this Apple from mixing with others for making cider, which the decay in other fruits does not necessarily do, as they are not so bitter. Now, this bitter principle is, doubtless, imparted to the fruit by the decaying process it goes through differing from the same conditions by which other fruits become decayed and rotten; and whether the chemical change which takes place in the Ribston Pippin has its origin in the imperfect condition of the fruit at the time it is gathered, and the latent seeds of this disease be engendered then or afterwards, certain it is that a very great proportion of the fruit of this variety falls a victim to this disease. Though some situations favouring the better development of the fruit may render them less liable to it than in others, still it is reasonable to suppose that those places now in a great measure exempt will eventually become diseased like the rest, and the Ribston Pippin Apple will become a matter of history. The purpose is not now to prognosticate this, but to point out what conditions are necessary to preserve what healthy fruit there may be as long as it is possible to do so.

No one who has visited a fruit-room in the warm days of September, when there was a quantity of fruit all ripening into that mellow condition which betokens perfection, but must have been struck by the odour which is emitted from them. This odour, it is needless to say, must be as hurtful to the well-keeping of fruits as anything can be—say, for instance, a quantity of Williams' Bon Chrétien Pear all ripening at once into the condition fit for table, and in a day or two all will be in a stage beyond this, and become a mass of juice which it is difficult to handle without bursting them. Now, I always look on a mass of this kind as the most dangerous to a fruit-room; and as all early fruits ripen in warmer weather than other kinds do, they ought to be furnished with a degree of ventilation almost amounting to complete exposure, in order that the odour emitted by ripening fruit, which very quickly takes a decaying turn, may not contaminate the rest. Fruit at that time ought also to be kept thin. But to return to the Ribston Pippin. It often happens that these have to be gathered when the fruit-room is more or less occupied by fruits in the condition spoken of; and if the weather be warm at the time, as the whole of October was the past season, the fruit is impelled onward to a condition fit for table much earlier than they otherwise would be if kept cooler; and what is, perhaps, as bad, the infectious character of the atmosphere they are in hastens on decay some time before ripeness or mellowness has done its part: hence fruits that ought to be in perfection in January are ready by the end of November, not Ribston Pippin Apples only, but

all other kinds of fruits as well. This is one of the reasons why fruits in certain seasons keep longer and better than they do in others—the simple fact they are not ready to gather until cold weather insures their keeping, as more fruit generally perishes in November than in December and January, and no amount of mere cleanliness and care of removing diseased fruit can compensate for the crowded condition of the fruit-room in the early autumn months, when the weather at the same time is of a kind that favours “foreing,” which it certainly does when it is warm at the periods spoken of.

Now, as the Ribston Pippin cannot be preserved under circumstances as described, let us suppose an opposite case—a backward unkindly season like that of 1860, when there was no lack of fruits generally; the fine autumn of the year before securing sufficient bloom, but the multitude of fruits only resulted in each being very small, and the unfavourable season did not mature them with that degree of perfection so requisite in good fruit: hence we had a quantity of half-perfected fruits, presenting little but a thick tough skin, and a core quite as large as usual. Some of these fruits possibly might keep longer than was ever known before; as they contained so little saccharine matter, there was scarcely anything within them to engender decay: hence a sort of withering or shrivelling-up instead of the usual spot and rot which consume the better class of fruits.

From the above it will be seen that warmth favours decay by forwarding the fruits and thereby hastening on the period of their existence; so in like manner cold encourages preservation by retarding the natural ripening of the fruit, and when it has approached that condition it tends to keep it from advancing further. But this unnatural state of things has its disadvantages. Fruits so treated are never good. Pears may be kept in an ice-house to a period much beyond that of their usual keeping time; but the flavour is gone. The same may be said of summer fruits, as Strawberries, Peaches, and the like, which have been so tried frequently. We may therefore learn from this that Nature cannot be so far outraged as is here shown with impunity. There exists a proper time for such fruits to be had in perfection, and to retard them much beyond it only produces an article much diminished in its most important qualities. From this we therefore learn that an ice-house is not a suitable place to preserve fruit intended for table, although it may become a very good medium to preserve some that it may be desirable to keep from motives of curiosity for as lengthened a period as possible. Some other conditions are also necessary to the well keeping of fruit, as will be shown.

Whenever a quantity of fruit is piled up in a heap, it begins what in common language is called “to sweat.” This sweating brings out an oily substance to the outside. Sweating will also occur without the fruit being so closely piled up as spoken of, but it is more slow; and if it be thinly on a shelf it is in its most legitimate way. This sweating coats the skin with a sort of varnish, which resists the action of the atmosphere, and certainly promotes the keeping qualities of the fruit. This varnish ought not to be removed by any means, handling being one of the certain ways to do so. Let the fruit, therefore, be placed at first singly on the shelves, and little else will be wanted but looking over them and picking out decayed ones; and the place being kept cool and well ventilated, there is a tolerable certainty of their keeping well, other things also being favourable.

As every one is agreed that perfect cleanliness and sweetness are indispensable requisites in a fruit-room, the situation ought to be so chosen as to insure these as far as external circumstances will do so, but a full southern exposure is not good. The best fruit-room I ever remember to have seen was at Knowsley, the princely seat of the Earl of Derby, the internal fittings being so good; broad shelves surrounded the building, and in the centre a tier of shelves with drawers in the bottom compartment, the whole affording ample space to get round, and the shelves not too crowded. I forget the means of ventilation, but believe it was ample. Some other useful fruit-rooms that I have seen are lean-to against the north wall of a garden, the great defect in these being the want of ventilation which, in part at least, ought to be at top, and is rarely thought of in a lean-to shed. The sides being low, the exhalation from fruit cannot well be all carried off them; it is better, therefore, to leave an opening at top to allow it to escape, otherwise the fact of being behind a wall is an advantage rather than otherwise, and more so if it be isolated, and not form part of a series of buildings, as by that means end ventilation could be more

easily accomplished. I have also seen a very useful fruit-room half underground; but this is only advisable on a dry, gravelly, or sandy soil. I have also seen one under the shade of a tree, not in a dense wood (which is bad), and it answered very well. The main thing to stipulate for is plenty of space and ventilation, and to use the latter on all occasions, except, perhaps, in damp, warm weather, and the probability is that fruit will keep as long as it is required to do. A Kentish farmer stores his Apples away in the oak kiln, than which nothing can be more airy; and although the large quantity they often have compels them to lay them thicker than they otherwise would, they often contrive to keep Nonpareil and Golden Knob Apples in a good condition till March, and French Crabs still longer. But enough has already been said on this subject.

J. ROBSON.

### CRYSTAL PALACE ROSE SHOW.

ANOTHER grand opportunity for proving that there is no place like home, all shows being more at home at the Crystal Palace than anywhere else. All judges and reporters say the same, and all the mothers of England with all their grown-up families ditto. And such Roses! but they were too high set by 10 inches or 12 inches for me and most like me in height. Whether it be that the authorities are getting higher in the world themselves, or of higher notions, I do not know; but this I do know, that I got a crack in my neck and a cold for having had to strain on a stretch of full four hours so far back off the centre of gravity as threw me off the balance for the next week, and, therefore, had more time at home to prepare the most useful report I ever made of Roses. But what ladies want, and, indeed, the great body of the people want, is a man like Mr. William Paul, the raiser of the Beauty of Waltham Rose, to take a season's selection, and class them as I have been endeavouring to do from merely seeing so many of them in one day, and to make two classes of my third class—that is, to bring in all the best rose-coloured Roses, as the Cabbage Rose, into one of them, and the red or reddish-crimson into the other. Then, if one had to plant ever so many kinds of Roses in long rows, or in beds of any shape, he could put the kinds in after what you might call their natural affinity—that is, shade the colours from pure white to the Black Prince himself, without one break in the affinity of tints, if they have such a property. Then you would get the effect in full of all the Rose can give.

Effect is the last thing thought of at a Rose show, because they muddle all the colours together in mixtures—“for the sake of variety,” as they say; but I never could see the variety yet in a florist-setting. The greatest truth about Roses on that occasion was that nine-tenths of all new Roses now are dark, or very dark; and as England is on the eve of breeding her own Roses, and some for exportation as well, it is high time to give up breeding from any darker than Général Jacqueminot. We have too many first-class dark Roses already, and too few of the Madame Furtado style and colour and of Baronne Prevost, the two nearest to the two oldest of our dear old Roses—the crimson Moss and the Cabbage Rose. Madame Furtado, with the accent on the u, or first syllable, is the very best of all the Roses in that old tint of colour; and if you could get it to seed here, and mind both sides of the line in the crossing—that is, the best light and white Roses to cross it with, and the best of the reds as well, you would soon have what the Frenchmen will never strive to furnish you with—all the shades of our summer Roses reproduced in Perpetuals, and of improved forms and textures to the bargain. To that it must come at last, or else we shall get into one circle of dark Roses from which it will not be easy by-and-by to extricate the breeder—a repetition, in fact, of the failure of fifty years back in running the gold, the silver, and the brass out of the wild breed of Geraniums, for then they were all Geraniums, compelling the breeder to run his course in a ring of bronze from which he cannot now help himself out. Just look at the number of my first and second groups of dark Roses from one show, and then say if all the shows were in one, and all the dark Roses in it, what a bulk they would make, and who could buy them; or if they did buy them, of what use could so many kinds be to most people. One could tell the best Rose of all those, or the best six, or best dozen, and one could divide them into three distinct shades also; but all that would be of no practical use, as I could only do it from what was before me, and not from practice in growing them. Madame Furtado, shaped like Baronne Prevost, and a much deeper red,

is a first-class Rose in this group; so is Charles Lawson, Madame Craplet, Jules Margottin, Pauline Lanzezeur, and many more of them. A lot of them on their own roots in half clay and half cocoa-nut refuse, with 2 inches of old cowdung put over the border in April, and then covered like one of Sir Joseph Paxton's Vines-borders with an inch or 2 inches of fresh cocoa-nut refuse, would give a fair representation of a bed of tree Peonies—say Baronne de Heckeren, Prince Imperial, La Fontaine, Madame Charles Craplet, Victor Verdier, Anna de Diesbach, Louise Peronny, Duchesse d'Orleans, and Gloire de Vitry, all of which were more or less rising into open centres just like Moutans in one or other of the collections. Another bed might be planted to represent Sally Brass in Roses; I mean such as Evêque de Nîmes, with hard rigid hearts and bare puckered faces, firm as brass itself—say Evêque de Nîmes, Agatoide, François Premier, General Simpson, Victor Trouillard, Madame Boll, and l'Etendard des Amateurs. Whether a liberal or shortcommons-fare would make these assume the same kind of face as Evêque de Nîmes I do not know; but they assume more or less of a family cast of countenance.

One of Triomphe d'Amiens, (in Mr. Keynes' collection of 96, was as striped and as mottled as a Picotee; one in Mr. Cant's collection was more minutely picotee; and Mr. Laing, of Twickenham, had a Général Jacqueminot striped and mottled differently from Triomphe d'Amiens. Mr. Cant must have made a good harvest of the Tea Rose, which was long lost, and for which we of the Floral Committee could not supply the proper name, so he named it himself, 'The Foundling, "l'Enfant Trouvé," and his lucky neighbour, J. T. Hedge, Esq., who swept the rosy race all round the course, did good justice to the darling restored. He had a large bunch of it with full-open, half-open, and not-open flowers, in his 36-kinds collection, and just opening in the 24-kind collection, and I would push the harvest home to all the mothers in England, alongside of the tea-caddy, for it is just as sweet, and it has the cream in itself. What more could they want, except, perhaps, to know that Mr. Cant has fish to his Tea Roses, and feeds the rest of his Rosés on sprats? One of the Judges told me so, and told me, also, that he, the said Judge, feeds his own Roses on star fish, and it is a hundred to one if Mr. Hedge does not give sprats, star fish, and sturgeon to his Roses, and that may be how he gets off with all the prizes; and if you had seen his Baronne Prevost, his Adam, his magnificent Lælin, his La Fontaine, his Charles Lawson, his Gloire de Dijon, and his Louise Darzins, the newest and the whitest of all the Perpetuals, the chances are that you, too, would put fish for Roses, and so would I—but I would mix them with four times their bulk of this cocoa stuff, fresh from the mill, and put in mulebing, to bring up the roots into a natural hotbed, moist as Melons, quite near to the surface. But never would I give a morsel of fish to a Rose stock, Dog or Manetti.

In front of that mass of Roses I would plant the following:—Madame Vidot and Mrs. Rivers, to see if they be different; also Mlle. Bonnaire and Mlle. Therese Appert, with William Griffith, and Queen of Denmark, and outside them none but pure whites, which I would select from the Noisettes and Teas for a change, and because the new whitest Perpetual, Louise Darzins, is too strong a grower for an outside row. That arrangement would throw the best, or, at least, my own selection of the very light Roses at that Show, into a bed or group by themselves, and, of course, it would include Madams Vidot, Mrs. Rivers, W. Griffith, Queen of Denmark, and Therese Appert. I object altogether to catalogue the word Mademoiselle at all in England, for two reasons—it is too long, and the nymph may have been given in marriage ere the Rose is ripe to show in England: therefore, I would say Therese Appert till I could call her Madame something.

Alphabetical list of the darkest Roses, or Class I. :—

- |                              |                                     |
|------------------------------|-------------------------------------|
| 1, Abd-el-Kader              | 18, Mrs. Dombrain (1862)            |
| 2, Arthur de Sansal          | 19, Oriflamme de St. Louis          |
| 3, Cardinal Patrizzi         | 20, Prairie de Terre Noire          |
| 4, Dr. Bretonneau            | 21, Prince de Noire                 |
| 5, Duc de Cazes              | 22, Prince de Moskowa               |
| 6, Empereur de Maroc         | 23, Princesse Mathilde              |
| 7, François Arago            | 24, Rebecca                         |
| 8, François Lonvat (1862)    | 25, Rosine Parron                   |
| 9, François Premier          | 26, Souvenir de Lady Cardley (1862) |
| 10, George Peabody (Bourbon) | 27, Triomphe des Beaux Arts         |
| 11, Gloire de Santenay       | 28, Triomphe de Lyon                |
| 12, Jean Bart                | 29, Triomphe de Paris               |
| 13, Leonie Moise             | 30, Victor Emmanuel                 |
| 14, Louis XIV.               | 31, Victor Trouillard               |
| 15, Lord Clyde (1862)        | 32, Victor Verdier                  |
| 16, Lord Raglan              | 33, Wilhelm Pfützer                 |
| 17, Marie Portemer           |                                     |

Oriflamme de St. Louis is the connecting link between the darkest and next dark Roses, being a shade deeper than Général Jacqueminot; but, after all that had been expected of it, the Général is much the better of the two. The four Roses of 1862 in this class are the best four of this season in that shade, looking at them like a gardener, and this is how they stood alphabetically:—François Lonvat, Mr. Garnston, which is one of the very best of all his novelties; Lord Clyde, Paul & Son, their own seedling, the best of the very dark Roses yet raised in England; Mrs. Dombrain, from Mr. Standish, a fine, foreign, dark-ahed purple Rose; and Souvenir de Lady Cardley, from Mr. Mitchell, which is seemingly a very good dark Rose, with a shade of purple in it as in Mrs. Dombrain. Wilhelm Pfützer is in the way of the Gallic Rose Oh! No. 2. Prairie de Terre Noire was the darkest of all this lot; and Rosine Parron, Abd-el-Kader, and Oriflamme de St. Louis were the lightest of them, and some of them were quite different from the catalogue description. When the same name appears in two lists it shows how the tint varies with age.

The next darkest Roses begin with Général Jacqueminot, Senateur Vaisse, Gloire de Santenay, and Beauty of Waltham, all of them first-rate, but for reference they are placed in alphabetical order :—

- |                             |                                     |
|-----------------------------|-------------------------------------|
| 1, Abd-el-Kader             | 12, Madame Boutin (1862), very good |
| 2, Baronne Hallez           | 13, Madame Masson                   |
| 3, Beauty of Waltham (1862) | 14, Madame Pierson (fine)           |
| 4, Dr. Berthet (Bourbon)    | 15, Maréchal Vaillant (1862), fine  |
| 5, Eugène Appert            | 16, Ornement des Jardica            |
| 6, François Arago           | 17, Paul Ricaut                     |
| 7, Francis I.               | 18, Rosine Parron                   |
| 8, Général Jacqueminot      | 19, Senateur Vaisse                 |
| 9, Gloire de France         | 20, Souvenir de Leveson Gower       |
| 10, Gloire de Santenay      | 21, Triomphe de l'Exposition        |
| 11, Louis XIV.              |                                     |

The championship of these lies between Senateur Vaisse and Gloire de Santenay, two of the very best Roses we have.

The third class consists of 40 of the best of the light crimson, red, and rose coloured, running into various shades, but all of them, or any number of them, might be planted in front of any of the dark Roses as above.

- |   |   |
|---|---|
| 1, Agatoide, fine                           | 21, La Fontaine   |
| 2, Alexandrine Bachmeteff                   | 22, La Reine  |
| 3, Alphonse Karr                            | 23, La Ville de St. Denis                                   |
| 4, Anna Alexieff                            | 24, Lælia   |
| 5, Anna de Diesbach                         | 25, L'Etendard des Amateurs, like a crimson Evêque de Nîmes |
| 6, Armide                                   | 26, Lord Nelson   |
| 7, Baronne de Heckeren, red Peony-like      | 27, Madame Boll, very large                                 |
| 8, Baronne Gonella                          | 28, Madame Craplet, fine                                    |
| 9, Belle de Bourg-la-Reine                  | 29, Madame Domage   |
| 10, Charles Lawson                          | 30, Madame Furiado  |
| 11, Colonel de Rougemont                    | 31, Madame Hector Jacquin                                   |
| 12, Duc d'Osuna, a deep red Baronne Prevost | 32, Madame l'Aniline Villot                                 |
| 13, Duchess of Sutherland                   | 33, Mathurin Regnier  |
| 14, Duke of Cambridge                       | 34, Pauline Lanzezeur                                       |
| 15, Evêque de Nîmes                         | 35, Prince Imperial, like a Cabbage Rose and a rosy Peony   |
| 16, François Premier                        | 36, Prince Léon   |
| 17, General Brea                            | 37, Reine de la C <sup>te</sup> , fine                      |
| 18, General Castellane                      | 38, Reine des Fleurs  |
| 19, General Simpson                         | 39, Triomphe d'Alençon                                      |
| 20, Jules Margottin                         | 40, Victor Trouillard                                       |

Very light and blush Roses.

- |                                    |                                  |
|------------------------------------|----------------------------------|
| Auguste Miç                        | Mesdames Boll, Vidot, and Rivers |
| Armide                             | Madame Vigneron                  |
| Caroline de Sansal                 | Mathurin Regnier and Malmaison   |
| Comtesse de Chabrillat             | Rose                             |
| Duchess of Orleans                 | Queen Victoria                   |
| Eugénie Verdier (Mdlle.)           | Therese Appert                   |
| Général Pôissier                   | Virginal                         |
| Gloire de Vitry, was lavender tint | William Griffith                 |

Here will be seen how changeable some Roses are, as Madame Boll, Armide, and two or three more in these lists. Among the light Tea Roses the best were Madame Halphin, Madame Damaizin, Madam Williams, Barbot, Gloire de Bordeaux, and d'un Ami. There was but one example of Cloth of Gold, but Gloire de Dijon was all over the place, and there were several Céline Forestiers. Madame Falcot was of the Elise Sauvage tint of yellow, and both were very fine there; also, Nareissa, a fine yellow; Souvenir d'Elise Varden, a very large beautiful blush Tea; Archimede, fine salmon tint; Gloire de Bordeaux will turn out a very fine deep blush Tea; Niphotos and Sombreuil were the two whitest Teas; Lamarque and Madam Hardy being still the best white Roses at shows; and Triomphe de Rennes seems, after all, to be the most certain yellow among Noisettes, and the favorite after Gloire de Dijon from among the Teas.

Were it not that nine hundred and ninety-nine ladies out of

every thousand of them would place and plan, shade and plant, all Roses on this model, we should have a rebellion among the florists, who are the best hands under the sun at producing the least colour-effect by the arrangement of the flowers they take in hand, for thus assorting them in order to be of some use to those who do not use catalogues, or those, in fact, who know very little about Roses. Lists of any kinds of plants without the colours are of no more use, to most men, than a list of the parishioners farthest off from their own.

D. BEATON.

THIS, the third and last great Rose Show of the season, was held under very favourable auspices on Saturday the 5th inst.; when the very liberal schedule of prizes was sufficient to bring together not only the great growers for sale, but also a large number of the most distinguished amateurs. The Roses, generally speaking, display themselves in excellent character, giving to an eager crowd of admirers an excellent opportunity of making notes, selecting new varieties, and seeing whether their own cultivation needed not some improvement. Eleven or twelve counties were represented, distant Hereford and Somerset competing successfully with Hertford and Middlesex; and assuredly Hertford must look to its laurels. It has so long been the home of the Rose, so long considered the only place where the queen of flowers could be done in perfection, that it had almost come to be a universally admitted fact that no other soil in any other county could compete with it. But the past few years have dispelled the illusion.

Amongst Amateurs the most successful exhibitor has unquestionably been Mr. Hedge, of Reed Hall, Colchester. Both here and at the Royal Horticultural Society's at Kensington he has taken almost every first prize in the classes in which he exhibited; while the same may be almost said of Mr. B. R. Cant in the Nurserymen's Class. Nor is this the mere effort of one season—at all times both of these growers hold a distinguished place. The Sussex growers are coming out in force, too. Let our Hertfordshire friends remember this, and see if they cannot do something for the honour of the old flag. We never like to see the glory of a house departing, nor sit with the complacency which some profess while others step in to take the place of old occupied by others. Besides, it will stimulate emulation, and where this is the case all benefit. But of these things I hope to speak more at length when I do (as I hope to), give a review of the Rose season. My present object is the Crystal Palace Rose Show. In all that pertains to the decorative portion of the subject, there will doubtless be abundance of useful and entertaining information from Mr. Beaton, while I speak more of the florists' view of the subject.

New Roses were not to my mind so good as either at Kensington or Birmingham, and were contributed by Messrs. Cant, Paul & Son, Cranston, and Mitchell; while Mr. Standish sent a few not for competition. The fact of his new Roses having remained five weeks in some railway office in Paris will sufficiently account for his not being in the way of doing anything amongst them this season.

Mr. Cant had Madame Boll, Belle de Bourg-la-Reine, both good Roses; Vainqueur de Solferino, confused; Montebello; Marquise de Foucault, a pretty Tea; Triomphe de Lyon; Rubens; Victor Verdier; Sénateur Vaisse; Princesse Mathilde; Madame Pierson, pretty; La Boule d'Or, good yellow; Reine des Violettes, I said when this first came out that it was rubbish, and I am not inclined to alter the word, strong though it be; John Waterer; America; Admiral Nelson; Louis XIV., a well-built flower; Madame Furtado, a first-rate Rose; Duc de Cazes, somewhat dull; Madame Charles Crapelet, very bright and good—I have before me a sweet bloom from my own garden; Robert de Brie, one of the Reine des Violettes stamp, and equally undesirable; Catherine Guillot, an exquisite beauty; Clement Marot, good; Comtesse de Kergolay; Jean Bart, showy; General Zachersgersky; Abd-el-Kader, bright and good; Madam Standish, too thin; Olympe Freanay; Adelside Fontaine; Triomphe d'Amiens, beautifully splashed, as indeed it was in several stands.

In Messrs. Paul & Son's were Robert de Brie, Madam Charles Wood (a good and large flower), Madame Boll, Jean Bart, Clement Marot, Burke, Eugène Appert, President, Gloire de Santenay (very fine), Madame Charles Crapelet, Amiral Gravina, Parmentier, l'Elegante (rather disappointed in this this season, but I would try it another year before discarding it), Catherine Guillot, Lord Clyde (a promising Rose), Agatoïde (bright), Souvenir de Comte Cavour (dark, and I think will be good),

Buffon, Comtesse de Kergolay, Alexandrine de Belfroy, Victoire de Magenta, Prairie de Terre Noire, Madame Furtado, Mademoiselle Bonnaire, Mademoiselle Julie Daran (midding), Belle de Bourg-la-Reine, Louise Darzins (a pretty white), Sénateur Vaisse, Leonie Moise, Madame Charles Crapelet, Mademoiselle Eugénie Verdier, Louis XIV., Le Royal Epoux, and Mademoiselle Pauline Villot.

Mr. Standish had Vulcain, very dark, but dull to our English taste. Verdier told me it was a seedling from Général Jacqueminot, but it lacks the brightness of its parents; Comte de Falloux, bright and good; Souvenir de Comte Cavour; Mrs. Dombraïn—what can I say but that

"She's all my fancy painted her,  
She's lovely, she's divine?"

but, seriously, a pretty-looking, well-shaped flower; J. F. Lombard, a very large, stiff-petalled, crimson rose; John Standish, dark purple; Gregoire Bourdillon, like Géant des Batailles; Reynolds Hole, bright and lively pink; André Leroy, a very fine-looking, deep crimson, shaded rose; Marguerite Appert, light flesh colour; André Desportes, a well-shaped full flower. I have an exquisite bloom before me now, a bright purplish-crimson; and La Boule d'Or.

Mr. Cranston had a goodly number of the Roses of 1861. Robert Fortune, promises well; François Lacharme, (Verdier's), very good; Richesse des Couleurs (Touvais), cannot say much for its richness at present; Notre Dame des Fourvrières, will not do for our taste; Olivier Delhomme, very good; Souvenir de Monsieur Rousseau; Maurice Bernardin (Granger), a fine rose; Vicomte Vigier (Verdier), violet purple; Monsieur Joigneux; Buffon; La Brillante (Verdier), bright and clear; John Waterer; Souvenir de Lady Cardley; Duc de Rohan; François Louvat (Touvais); Maréchal Vaillant, good; Louise Darzins; Leonie Moise; Triomphe d'Amiens; Modèle de Perfection; Charles Lefevre; Duc d'Alençon; Madame Furtado; and Madame Melanie.

In the Class of 96 trusses, singles, a great improvement on the huddled-up trebles, Mr. Cant held an undoubted first with Evêque de Nîmes, Madame Knorr, Pauline Lanzeur, Odeur Vital, Louis XIV., La Ville de St. Denis, General Simpson, Duchess of Sutherland, Victor Trouillard, Mademoiselle Bonnaire, Parmentier, Rubens, Triomphe de Paris, Madame Masson, Madame Halphin, Lord Raglan, Anna Alexieff, Princesse Mathilde, l'Etendard des Amateurs, Adam, William Griffiths, Madame Boll, Baronne Hallez, Clement Marot, Baron Gonella, Cloth of Gold, Gloire de Vitry, Victor Verdier, Madame Damazin, George Peabody, Souvenir de la Malmaison, François Lacharme, Mrs. Rivers, Eugène Appert, Général Castellane, La Reine, Seedling Admiral Nelson, Madame Furtado, Sénateur Vaisse, Comtesse Cécile de Chabillant, Empereur de Maroc, Madame Hector Jacquin, Comte de Paris, Julia Margottin, Madame Willermoz, Souvenir de Leveson Gower, Madame Vidot, Général Jacqueminot, Prince Léon, Vainqueur de Solferino, General Forey, Mathurin Regnier, Duchess of Norfolk, Elise Sauvage, Anna de Diesbach, Triomphe des Bagatelles, Mademoiselle Eugénie Verdier, Colonel de Rougemont, Charles Lawson, Duke of Cambridge, Madame Falcot, Victor Emmanuel, Buffon, Comtesse de la Bathe, Louise Peronny, Prince Regent, Lælia, Darzins, Comtesse de Kergolay, Comte de Nanteuil, Bougère, Belle de Bourg-la-Reine, Goubault, Madame Pierson, Mademoiselle Pauline Villot, Céline Forestier, Madame de Cambacères, Madame Standish, Paul Ricaut, Vicomtesse de Cazes, and Amelia Lemaire (Gallica).

In 48's Mr. Cant was also first. His stand contained Comtesse Cécile de Chabillant, Eugène Appert, Triomphe d'Amiens, Madame Knorr, Louis XIV., Admiral Nelson, Mathurin Regnier, Rubens, Sénateur Vaisse, Devoniensis, Victor Verdier, Gloire de Dijon, Etendard des Amateurs, Madame Furtado, Madame Boll, Comtesse de la Bathe, Lord Raglan, Pauline Lanzeur, Victor Trouillard, Madame Tredeaux, Auguste Mié, Empereur de Maroc, Caroline de Saneal, Souvenir d'un Ami, Anna de Diesbach, Vicomtesse de Cazes, Baron Gonella, Madame Willermoz, Souvenir de Leveson Gower, Madam Rivers, Duke of Cambridge, Louise Peronny, Général Jacqueminot, Regent, Triomphe de Paris, Madame Vidot, Evêque de Nîmes, and General Castellane.

In the Class of 24 singles, Mr. Charles Turner, of the Royal Nurseries, Slough, exhibited an admirable box, containing Comtesse Cécile de Chabillant, Mrs. Rivers, Louis XIV., Duc d'Orléans, Niphotos, Louise Peronny, Sénateur Vaisse, Madame de Cambacères, François Arago, Victor Verdier, Baronne Prevost,

Madame Hector Jacquin, Lord Raglan, Madame Charles Craplet, La Reine, Madame Boll, Général Jacqueminot, Jules Margottin, Boule de Nanteuil, Souvenir de la Malmaison, Gloire de Dijon, Anna Alexieff, and Madame Furtado.

And here my note-taking came to an untimely end. The barriers were removed at twelve o'clock, and an eager crowd of Rose admirers and growers rushed in. For a while I stood my ground; but it was not a pleasant thing to hear, "Well, it certainly adds to the effect very much to have two or three people standing between you and the flowers, don't you think so?" "Oh, I suppose he is one of the bigwigs, who is not restrained by any rules of politeness." I therefore bent a timely retreat; and as I had to leave before M. Blondin's performances commenced, when the stages were comparatively clear, could not obtain any of the names in the Amateurs' Class; but I have little doubt they were very much the same flowers that the growers for sale exhibited, Mr. Hedge holding the first place.

As there was a large attendance I hope the liberality of the managers was rewarded. Of the excellent character of the arrangements it is impossible to speak too highly; and when I add that Mr. Houghton's usual kindness, activity, and politeness were put in requisition to make all concerned comfortable, it would be needless to add that everything went off smoothly, and that the character of this annual gathering was fully maintained.—D., Deal.

## CULTURE OF THE PEACH AND NECTARINE.

(Continued from page 250.)

*Soil (continued).*—These trees require, in order to produce healthy, fruitful, and long-lived specimens, a strong pure loamy soil of an adhesive character, such as an upland good pasture would furnish. Take it off in turves about 3 inches thick, and cart it home near to the garden. Lay it in a long heap, and when sufficient is procured commence at one end to chop it into small pieces, and whilst that is going on mix it thoroughly with some old lime rubbish, unless you are so fortunately situated as to obtain the turf from a pasture on a limestone basis, then the lime rubbish will not be needed. Whilst the chopping and mixing process is going on procure some thinner turves, and with them cover the drainage grass side downwards. This will prevent the finer particles of the soil from falling into and choking up the drainage. When that is done lay some boards or planks, and wheel in the soil to one end, forming the border with a very gentle slope to rather more than the full height to allow for settling. From 18 inches to 2 feet will be ample depth. If the garden is situated on a level country, I would advise the border to be raised a foot higher than the general level; but if the garden is on a gentle eminence, as recommended in my last paper, then it may be nearly level with the rest of the garden.

It will be observed that I make no mention of dung as a component part of the soil. It is a great mistake to put any manure of any kind in a Peach-border. It is injurious to the trees in many ways, the worst being in inducing young trees to make what gardeners call water-shoots, or, as the French term them, gourmands or gluttons. Such shoots not only rob the rest of their due nutriment, but, also, they seldom in our climate get duly ripened, and then become diseased, ulcerated, and gummy. If, however, in process of time the border become exhausted, then it will be proper in the autumn to lay on the surface a mulching of rotten dung. The autumn and winter rains will wash down the soluble enriching qualities of the dung sufficiently, so as to give fresh food to the trees.

As to the time of making the border, I would advise the end of July and through August. The weather then is generally dry, and the soil is, of course, dry also. By doing it thus early the grass plants will perish all but those on the surface, and they may be killed also by digging the border over two or three times before the winter sets in.

*Varieties of Soil.*—The only successful adaptation of a different kind of soil to the above that ever came under my notice occurred in the gardens at Wheatley Hall, near Doncaster, the seat of Sir W. B. Cooke, Bart., where I spent part of my apprenticeship. The natural soil there is of a light sandy nature, which, though excellent with plenty of manure for vegetable crops, was found not to be favourable for Peach culture. The river Don runs through the estate and deposits a close, compact sediment. This is called "warp soil." A sufficient quantity of this warp was collected, laid in heaps, and when in a proper mellow

condition the Peach-borders were made of it without any other ingredient. The then gardener was a Mr. B. Mann. He had been chief there for a quarter of a century, and used this warp soil with the best effect. The trees grew well in it, producing just the right kind of healthy wood, and bore excellent fruit annually. It is true the walls were flued, and we used canvass screens to protect the blossom from late spring frosts, and in wet summers the fires were lighted to heat the walls and ripen the wood; but these protective measures had been adopted before when the natural soil formed the borders and were not found effectual to keep the trees in health. Whoever, then, has such a soil conveniently placed near to his garden, may make his borders of it without any fear of failure.

*Choice of Plants.*—This is an important part of the business. When time of coming into bearing is not thought of much account, then maiden plants—that is, trees a year old might be preferred, the cultivator then has the mode of training from the beginning under his own care; but I certainly would prefer trees that have been trained in the nursery three years. I should, however, take the precaution of visiting the nursery early in the autumn and choosing the best-trained and most healthy trees, then and there putting a mark upon them. This plan is the best and most satisfactory both to the buyer and seller. Then as soon as the leaves fall the trees should be carefully taken up, the roots packed in moist moss, and the trees so packed as to travel safely to their destination. Thus packed both at the root and the top, they would in these railroad days come to hand in good condition. Directly they arrive, let them be carefully unpacked and planted as soon as possible. If the roots should have become dry, I would dip them in water thickened with fine soil. The question now arises, At what distance should they be planted from each other against the wall? Some writers say 15 feet, and some as much as 24 feet. These are, however, extremes, the first being too close and the other too wide apart. The medium is the best. Eighteen feet is the distance I recommend. The best trees I know in existence now are at that distance. If, however, the walls are low—that is, only 9 feet or less high, then the trees may be planted nearer to each other, as the angles of the shoots will bring them soon to the top of such a wall; but if 12 feet high, then my 18 feet will be a fair equable distance. As it will take several years before the trees will meet, standard-trained trees might be planted between those that are finally to cover the wall; but the cultivator must have the nerve to remove those riders, as they are termed, the very year the permanent trees require the space.

*Planting.*—In doing this let the roots be spread out equally every way, and not covered too deep—2 inches or 3 inches are enough. By spreading them out horizontally the roots will continue to, at least, have a tendency in that direction—a point to be desired, for then the roots are within the reach of the heat of the sun just at the time the shoots need all the help the roots can give them. In most Peach-borders, for the convenience of attending to the trees, there is a narrow path formed some 2 feet from the wall. That path should be made of a trellis of wood, so that the soil may not be too much compressed. If the path is soil only, the constant treading upon it must be injurious to the roots. Let every cultivator, then, set his face against such a path unless it is trellised.

The planting being finished, the shoots should be securely fastened to the wall to prevent them being blown about with the wind, which otherwise would in heavy gales rub the branches against the bricks and bruise the bark, which might bring on in such places wounds that would canker and exude gum, a casualty always to be avoided. After that is completed, then lay a mulching of littersy dung, extending a foot or so beyond the extremity of the roots. This will protect the roots from the frost and will keep them in action all through the winter. It is remarkable what a large number of rootlets will strike out immediately after the trees are planted. It would seem as if Nature was putting forth every effort to recover lost time in root-action in consequence of the removal, and the more these efforts are protected and encouraged, the greater chance there is of the trees pushing vigorously in the following spring: hence the utility of protecting these young fresh roots, by mulching, from the winter's frost.

*Pruning, the First Season.*—It is a common practice to cut back almost close to the stock, not only maiden trees but even such as have been trained at the nurseries, for one, two, or three years. This, it is alleged, is done in order to get the centre of the tree well filled with leading shoots to form the future tree. This is an undoubted mistake. There is no necessity for it unless

the trees are very weak indeed. Maiden plants must of necessity be cut down to four or five buds to obtain as many branches to form a tree for a wall, and nurserymen, perhaps, are compelled for want of a wall to cut back older trees; but when a three-year-old tree is planted against a wall as a permanent tree, it is a barbarism to cut it down so severely the first year after planting. As, however, the pruning has necessarily a connection with the future training of the tree, and that part of my subject is too important to be thrust in at the tail-end of a paper, I must defer it to another opportunity.

T. APPEBY.

(To be continued.)

### ORCHARD-HOUSE FOR VINES IN POTS.

I ASK your advice relative to erecting an orchard-house-like structure (span-roof), with the chief purpose of fruiting Vines in pots. As I have an orchard-house besides, which gets rather filled up, I wish to combine both Vine and orchard culture in the intended house, and have in mind the following arrangement.

A wooden span-roof house (no stove-forcing is intended)—say 18 feet wide, 10 feet to 12 feet high, sides 5 feet, the shutters to be glass instead of wood; one centre bed of about 5½ feet for Peaches, late Pears, &c., a footpath round it about 3 feet, and border all round—say 3 feet. On the latter the Vines are to be put, trained up the glass at about 3 feet to 4 feet distance, the remaining place to be occupied by Strawberries in pots; the length of the house to be about 30 feet; in that way eight to ten Vines to be on each side.

The principal questions now are:—Must the position of the house be N.E. to S.W. as generally for orchard-houses? So my first house is situated, but having grown one summer some climbers on the rafters, I found the house losing too much sun and warmth. This might be made up for, perhaps, by giving the roof more elevation—say 45°, instead of the usual 35° for orchard-houses. Now, in case this alteration may be advisable, will not the fruit trees in the centre bed then be too far off the glass, and have too little light and sun, and what is of chief importance, will they do well in the somewhat higher and less ventilated temperature which is required for Vines?

Our summer (at Hamburgh) is very like the English summer; we enjoy, perhaps, a little more sun, but the contrast of temperature, cold and warm, is greater.

As a German, I may be excused for not having expressed myself perhaps altogether in good English.—AMATEUR OF FRUIT-CULTURE.

[With the arrangement of the house as to form we have no fault to find. It matters but little the mere height of the ridge, so as to present a wider plane to the light. We have tried the matter often, and we think the old dogmas about placing the plants near the glass is, to a great extent, a fallacy, in all these nearly-all-glass orchard-houses. What we consider of far more importance is, that nothing shall interpose between the plants and the glass. We might make an exception in the case of such low plants as early Strawberries in pots. We should like them to be as near the glass, and under such a roof that the sun would strike them in as direct lines as possible, about the time when coming into bloom, and when in bloom. Farther on in the season, in a fine open house, with nothing to obstruct the full blaze of light, we have found them do remarkably well when set or planted on the floor, with the glass 6 feet or more from them; in fact, they did just as well as those in a frame or pit, with the glass a foot from them.]

I should have expected no such result if the roof had been covered with creepers or Vines, allowing a peephole just here or there. Strawberries, swelled and ripened in such circumstances, after they have been set in a more suitable open place, can seldom lay much claim to flavour or compactness, and those who eat them often complain, though they will do nothing to avert or mitigate the cause. I have known many instances of gardeners having their Vines so much thinner on the roof, because though they were wanted and more than could be got, the under-crops of Beans and Strawberries were wanted as well, and a sacrifice must be made somewhere to get the greatest amount of desirables out of one place.

We have before us a proposition from a gentleman about building a house the same size as our correspondent's, with a similar pit in the centre, only he proposes planting Vines on each side, 3 feet apart, to go over the roof; and so sanguine is

he that, besides these Vines, he seems to feast already on luscious Figs, Cherries, Peaches, Apricots, and Pears grown in that central pit. I know I shall go against the grain in stating it cannot be *continuously* done, if the plants are intended to ripen their wood as well as their fruit in such a pit. I use the word *continuously* advisedly. I know he saw a similar house, with vigorous Vines, Figs, and Peaches, &c., in the pit and bearing well; but, in that case, the Peaches and Figs had previously well-ripened wood. The Peaches were in bloom, and set before there was much shade from the Vines, and they swelled well, though we would have considered them to be deficient in flavour.

Advice was pretended to be asked, and it was to move the plants of Peaches, &c., to get more light in the autumn. But the highest authorities were cited that Figs, &c., did admirably in a little shade, and the first success was so tempting that the plants in pots were turned out into the beds, with the result of a few fruit the second season whilst the Vines were young, and the result since—plenty of nice wood on Peaches and Figs, but no fruit; for though there are flower-buds on the Peaches they all drop, and, if closely examined, there is not an embryo fruit in one of them. The proprietor has not yet come the length of saying, "You are right;" but in the few times I have seen the houses he has directed my eyes to the rafters, and kept me so engaged that I could only get a peep in passing at the plants in the beds, with plenty of nice wood on them, only, unfortunately, we cannot eat the wood. Had these Vines, which did well, been 6 feet apart and spurred, there would have been a chance for the crop in the pit. About 3 feet apart and established, there was no chance whatever, farther than setting the bloom securely, if the buds were right, or swelling the fruit after being set; the shade prevented, and will prevent the wood for the following year being finished, or ripened. Consulted as we are, as these pages testify, by many amateurs, who imagine that every foot under glass wherever it may be ought to be remunerative, we would just simply say that, when you expect the best fruit and good crops of it, you must have unobstructed sunlight. If at certain seasons such plants as Cherries, when in bloom, need a little shade under glass, they must have little or none to insure fruitful buds.

Our correspondent from Hamburgh does not contemplate, we believe, any such extra shading. Nevertheless, there is an incipency of the same evil. The sun there is brighter and less cloudy than with us, but still shade is shade. We make little account of the extra cold in winter. That is of less consequence if the wood is consolidated by a more powerful sun in summer. Many of our greenhouse plants in their native homes in Australia are exposed to frost that would kill them in our conservatories, because from our humid and cloudy climate the wood is left more spongy and juicy than in their native country. Our correspondent with his Vines 3 feet apart, and using no artificial heat, will succeed just in proportion to the short space these Vines are allowed to mount the roof. Many things, also, are to be considered as to what the plants require when in bloom, &c. On the whole, then, what we have said will be a certain sort of guide to our correspondent, from whom we should be glad to hear again.

In the first place we should like to know how he proposes to have a succession of these Vines in pots without artificial heat, because if he bears them heavily one year, the plants will be of little use the next. And, in the second place, some of the plants he mentions for the beds will not stand the same high temperature as would suit the Vines. We have only had a quarter of an hour to read and re-read and think over his letter; but the result of that is the conviction that he would act wisely if in his thirty-foot house he would have a division in it, and appropriate one part wholly to Vines, bed as well as sides, and the other part to his Cherries, Plums, Peaches, Pears, &c. A little changing of the plants would then be of importance, as to the ripening of the fruit, the giving of it flavour, and the ripening of the wood.

A correspondent to-day speaks of trying Vines on the vineyard style. At Hamburgh, with Vines planted out at the two fronts, Vines being also planted out in the middle bed, and treated on the short-cane or the bush system, we believe that our correspondent would obtain a greater amount of Grapes year after year, and with less trouble than by any other mode except making his house into a regular vinery, by covering the roof in the usual way, and using under-growths merely as an accession, not much to be depended on. We should be glad at least to hear the exceptions to such a plan.—R. FISH.]

ARRANGEMENT OF VINES.

I INTEND erecting houses, about 63 feet run of small span-roof, after Mr. Rivers' plan, having, however, plenty of ventilation, divided by divisions into three of about 21 feet each, running nearly north and south, trifle north-east and south-west; how would you divide the Vines, of which I enclose the list, to furnish these? Would the following do?

For early, say ripe in May:—First, Black Hamburgh, 9; Bowood Muscat, 3.

For July and August:—Second, Muscat of Alexandria, 4 or 5; Trebbiano, 2; Black Hamburgh, 1; Tokay, 1; Bowood Muscat, 2; Muscat Hamburgh, 1; or more Alexandria and omit some others altogether.

For the third or late, without much heat:—Lady Downe's, 4; West's St. Peter's, 4; Black Hamburgh.

I am willing to omit any sort or increase or decrease the numbers of any. Would growing the Vines up one side of the span and down the other side, thus giving 16 feet of rod, be a good plan? Will the down-growing top do as well.—A YOUNG HAND.

[We approve of your arrangement for first and second houses; but what do you call Tokay in the latter? For the third, along with Lady Downe's and West's St. Peter's, we would substitute Muscat of Alexandria for Black Hamburgh, and place the Muscats at the hottest end. They will generally hang much longer than Hamburghs, and if kept back so as to be in bloom when the sun is high, will set well without much heat.

The training down the opposite rafter is a mere matter of choice, and there is no doubt of its answering; but, either you must plant all that thinner, or if the Vines are opposite each other, you must keep the stem on one side clear, to be covered by the bearing part of the Vine opposite. If you resolve to confine the Vines to 8 feet run each, the roots had better be under control, as to depth and width. There is no doubt that the cane, or rod, or bush-form vineyard-fashion would answer equally well, but it would cost more trouble and care, and you would not see the bunches hanging overhead.]

REPORT ON THE VARIETIES OF KALE, OR BORECOLE,

GROWN IN THE GARDEN AT CHISWICK DURING THE SEASON OF 1861-62. By ROBERT HOGG, LL.D., F.L.S., Secretary to the Fruit Committee.

ASPARAGOUS KALE.

It does not appear to be clearly understood to what kind of Winter Green the name of Asparagus Kale properly belongs. The name is evidently derived from the spring shoots of some of the sorts being cut into lengths and cooked like Asparagus, to which they bear some resemblance when treated in that way. The two sorts to which this name has been applied are the Braganza Cabbage (*Couve tronchuda*) and the Egyptian Kale. Both of these throw out in the spring a great quantity of long thick succulent shoots, which, when cooked like Asparagus, are no mean substitute for that vegetable. To which of these the name of Asparagus Kale belongs is quite a matter of opinion, and no disappointment need be experienced should the one at any time be substituted for the other. One advantage, however, which the Egyptian Kale has over the Braganza Cabbage is, its greater hardness, which is so great as to withstand the frost of our ordinary severe winters; whereas the Braganza Cabbage always more or less suffers unless the winters are mild.

BUDA KALE . . . . . COOPER & BOLTON.

The plant produces a stout stem, 18 inches to 2 feet high, clothed with leaves, and in the spring it throws out a leading shoot, and numerous side shoots from the ground upwards, which are not more than 6 inches long. The leaves are almost plain, and bluntly toothed. The plant is very hardy, and though somewhat similar in the general appearance of the foliage to Egyptian Kale, it is much taller and not nearly so productive.

CESAREAN KALE . . . . . COOPER & BOLTON.

*Chou Cavalier* . . . . . VILMORIN & Co.

This is the Cow Cabbage, or Tree Cabbage, as it is sometimes called. The plant is 4 feet high, clothed with long, broad, glaucous green leaves, having long footstalks. In spring it throws out a great many long slender shoots of a very coarse description. It is very hardy, but quite unfit for use as a garden vegetable, being more adapted for cattle.

CHOU BRANCHU DE POITOU . . . . . VILMORIN & Co.

There does not appear to be a great difference between this

and the Cow Cabbage. It may not be quite so tall, and not so robust in its growth, but in every other respect there is no difference.

CHOU CAULET DE FLANDRES . . . . . VILMORIN & Co.

The habit of growth and general appearance of the variety is exactly the same as in the *Cesarean*, or Cow, Cabbage, except that the whole plant has a purple tinge. It is, in fact, a purple form of the Cow Cabbage. The stalks, midribs, and veins of the leaves are tinged with purple; and in the spring it throws out long purple shoots, 1½ foot in length; but the produce is small, and the sort, though hardy, is not worth growing, being a tall, ngly, coarse-growing plant.

CHOU FAUCHER . . . . . VILMORIN & Co.

This very closely resembles the Buda Kale, and is of a paler green and dwarfier. It has a very short thick stem, about 6 inches high, and throws out long shoots from its whole surface close to the ground. The shoots are more slender than those of Egyptian and Buda Kales. It is very hardy.

CHOU FRISÉ DE NAPLES . . . . . VILMORIN & Co.

The distinguishing character of this variety is its swollen stalk, which resembles that of Kohl Rabi; the leaves are curled, but not like the leaves of Curled Kale. They resemble more those of the Curled Mallow, the disk being flat, and the edges plaited and serrated.

CHOU LANNILIS . . . . . VILMORIN & Co.

This does not differ materially from *Chou Moellier*. It grows to the same height, produces the same foliage, and differs merely in not having so weak and fleshy a stem.

CHOU MOELLIER . . . . . VILMORIN & Co.

This is a form of the Cow Cabbage, which produces a thickly swollen stem, thick in the middle and small at both ends. It grows 4 feet to 4½ feet high, and the stem in the thickest part is about a foot in circumference in the largest specimens. The inside of this thick stem is filled with succulent pith, which is supposed to be the part fit for use. When cooked, however, it was discovered to be strong and coarsely flavoured.

CHOU VERT GLACÉ D'AMERIQUE . . . . . VILMORIN & Co.

This appears to be intermediate between a Cabbage and a Borecole. It has a stem from 9 inches to a foot high, terminated by a very loose flat head, which very soon runs to seed. The whole plant is of a pale, sickly, yellowish-green colour, and entirely without any glaucescence or "bloom" upon the foliage. It is very tender, and quite worthless as a winter green.

CHOU VIVACE DE DAUBENTON . . . . . VILMORIN & Co.

This is merely a dwarfier form of *Chou branchu de Poitou*, from which it may also be distinguished by its spreading lower shoots, which incline towards the ground, where they sometimes take root. It is a coarse and inferior sort, and not fit for garden culture.

COTTAGER'S KALE . . . . . TURNER.

*Selected Cottager's Kale* . . . . . SCOTT.

The stem is about 2 feet high; the plants are partly green, and partly purple, some with plain leaves and some with curled, while others formed buds on the stem, like a spurious stock of Brussels Sprouts. In spring, the plants throw out a great mass of shoots, and yield a large crop of greens.

(To be continued.)

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

RHODODENDRON DALHOUSIE HYBRIDUM (*Lady Dalhousie's Hybrid Rhododendron*).—*Nat. ord.*, Ericacæe. *Linna.*, Decandria Monogynia.—A cross-bred between *R. formosum* and *R. Dalhousie*, raised by J. Anderson Henry, Esq., Hay Lodge, Edinburgh. The flowers are of a noble size, white, with a very slight tinge of pink.—(*Botanical Magazine*, t. 5322.)

CÆLOGYNE PARISHII (*Mr. Parish's Cœlogyne*).—*Nat. ord.*, Orchidacæe. *Linna.*, Gynandria Monandria.—Sent by the Rev. C. S. P. Parish, of Moulmein, to Messrs. Low, of the Clapton Nursery. Flowers green and yellowish-green, lip pencilled with dark purple.—(*Ibid.*, t. 5323.)

IACHARUM PYRAMI (*Calla-leaved Ischarum*).—*Nat. ord.*, Aroidæe. *Linna.*, Monœcia Polyandria.—Tubers brought from the Lake of Tiberias, by Dr. Hooker, and flowers produced in a warm greenhouse in January. Spadix and interior of spathe dark rich purple.—(*Ibid.*, t. 5324.)

**CLUSIA BRONGNIARTIANA** (Brongniart's Clusia).—*Nat. ord., Guttiferae. Linn., Polyandria Monogynia.*—It has also been called *Tovomitia oblongifolia*. Native of Cayenne, flowered in the Kew store in January. That specimen is a male plant, and is a woody shrub. Flowers creamy white, with a crimson centre of anthers.—(*Ibid., t. 5325*).

**SACCOLABIUM MINIATUM** (Orange-red Saccolabium).—*Nat. ord., Orchidaceae. Linn., Gynandria Monandria.*—Native of Java. Introduced by Messrs. Veitch. Blooms in May.—(*Ibid., t. 5326*).

**AZALEA MARS.**—Raised by Mr. Kinghorn, Sheen Nursery, Richmond. "Brightest of all those with red flowers approaching to scarlet. It is, indeed, a remarkably brilliant and attractive flower."—(*Florist and Pomologist, 97*).

**SUMMER DOYENNÉ PEAR** (Doyenné d'été).—"This is the earliest Pear known." Ripe some years in the third week of July. "Very juicy and melting, with flavour not unlike that of the Jargonelle." It is an excellent bearer. Raised by Dr. Van Mons, and first appeared in his catalogue for 1823.—(*Ibid., 104*)

**CAMELLIA CONTESSA LAVINIA MAOGL.**—Blush white, regularly marked with bright carmine stripes; form very good; plant vigorous. It has received a first-class certificate from the Floral Committee of the Royal Horticultural Society.—(*Floral Mag., t. 105*.)

**MAUVE-COLOURED SWAINSONIA** (*Swainsonia violacea*).—From central Australia. Probably hardy. Raised from seed by Messrs. E. G. Henderson & Son, Wellington Road, Nursery.—(*Ibid., t. 106*.)

**METEOR FUCHSIA.**—Received from the Continent by Messrs. Carter, of Holborn. It obtained a certificate of merit as a pretty-foliaged plant from the Royal Botanic Society. Leaves "rich golden yellow variegated with bronze."—(*Ibid., t. 107*.)

**AURICULAS GEORGE LIGHTBODY AND SOUTHERN STAR.**—The first-named raised by Mr. Headley, Stapleford, near Cambridge, received the premier prize at the National Show. Green edged spotted with white and with white margin. The second, raised by Mr. Holland, gardener to S. W. Peake, Esq., Spring Grove, Isleworth. It is a purplish-crimson flower. It had a label of commendation from the Floral Committee of the Royal Horticultural Society.—(*Ibid., t. 108*.)

## WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 235.)

**THE DWARF SWIMMING CRAB** (*Portunus pusillus*).—This little creature is common on the coasts of Devonshire and Cornwall, although it may not be very frequently met with by the tourist, as it is an inhabitant of deep water. The shell is of greater breadth than length, the surface being rough and grained. It has five teeth on each anterior lateral margin. The first pair of legs are large and strong, the wrist of each being furnished with a very strong spine. The second, third, and fourth pairs are slightly compressed and grooved. The fifth pair terminates in an oval joint; that and the joint next to it being ciliated. The colour of the Dwarf Swimming Crab is a reddish-brown, the back being frequently marked with red spots. The legs are usually surrounded with rings of the same colour.

**HENSLOW'S SWIMMING CRAB** (*Polybius Henslowii*).—So called from its being first discovered by Professor Henslow on the north coast of Devon. This animal, in Professor Bell's words, "exhibits the natatory structure to the greatest extent of any of the British examples of this family." The shell is extremely flat and minutely grained; the first pair of legs are large and strong; the wrist armed with two sharp teeth. The claws are long, slightly compressed and curved. The other pairs of legs are much compressed, particularly the last two joints, which in the fifth pair are very broad and flat. All the legs are ciliated on one margin, the fifth pair on both. In colour it is of a rich red brown, which fades to a pale salmon colour in drying. The under parts are pale. The following interesting remarks on this curious Crab are extracted from Couch's "Cornish Fauna":—"This is, more than any others, a Swimming Crab, for whilst the other British species of this family are only able to shoot themselves from one low prominence to another, the Nipper Crab, as our fishermen term it, mounts to the surface over the deepest water in pursuit of its prey: among which are numbered the most active fishes, as the Mackerel and the running Pollock; the skin of which it pierces with its sharp pincers, keeping its hold until its terrified victim becomes exhausted. We are witnesses of this curious method

of obtaining food in the summer only, at which time the fishermen's nets intercept them and their prey together; and it is probable that in colder weather they keep at the bottom in deep water, from which, however, I have never seen them brought in the stomachs of fishes. So far as my observation extends, it is chiefly or only the male that pursues this actively predacious existence; but for a time they also remain quiet, as appears from the fact, that while for the most part the smooth and flattened carapace is clean, I have seen it covered with small corallines."

Henslow's Swimming Crab has been also found on the western coast of Devon, and on the Dorsetshire coast. Professor Bell states that he has obtained it at Hastings, and received specimens from Cornwall and from Worthing.

**THE COMMON PEA CRAB** (*Primotheres Pisum*).—On many parts of our coast if you pick up a common Mussel (*Mytilus edulis*), and break it open you will stand a very good chance of finding a little soft-bodied Crab within it. This is the Pea Crab, it is not unfrequently found in the shell of the Cockle (*Cardium edule*), and sometimes though rarely in that of the Oyster. Individuals of this family differ so much, according to sex, that it becomes necessary to give a separate description of the male and female. The shell of the male is very nearly round, slightly narrowed towards the front. The eyes are small and round, filling the orbits. The first pair of feet are strong, the hands ovate, the claws much curved, the moveable one armed with a single tooth. The remaining legs are fringed with hair on both margins, and terminate in a hooked claw. In the female, the shell is also nearly round, and of greater breadth than length. The hands are weak and oblong, having underneath a single line of hairs. The remaining legs are slender, the thighs being furnished on the upper side with a line of hairs. Professor Bell says—"The colour of the male varies. It is usually of a pale yellowish-grey with rather darker symmetrical markings. The female is ordinarily slightly transparent, brown above, a yellow spot over the front, and an irregular one on each branchial region. The abdomen yellow with a central large triangular brown spot, extending from the base nearly to the extremity."

**THE ANGULAR CRAB** (*Gonoplax angulata*).—This is rather a rare species: indeed, as Professor Bell states, "It was not until it was obtained by Montagu, in the estuary of Kingsbridge, Devon, that it was ascertained to be British. Since that period it has been repeatedly taken on the southern parts of the coast. I have received it through the kindness of Mr. Couch, from Cornwall, and from the coast of Wales, where it was procured by Mr. Eytton, but I am not aware of its having been found on the eastern coast, nor have I heard of its being taken in Scotland." The shell of this creature is as broad again as it is long, and broader in the front than in the hinder portion. The eyes are placed on long stalks. The front legs of the male are amazingly long, four times the length of the shell: they are shorter in the young ones and in the females. The arm is slightly curved and cylindrical, furnished about midway with a sharp spine. The hand gradually increases in size towards the extremity. It is rounded and slightly compressed at the sides. The claws are furnished with five teeth, and a few tubercles. The rest of the feet are long and slender, the margins of the two last joints fringed with hair. The colour is a dull yellowish-red, a peculiarity of the male being that the moveable claw is black." To conclude this account with a short extract from Professor Bell. "It is found in moderately deep water, and Leach records, on the authority of Cranch, that 'they live in excavations formed in the hardened mud, and that their habitations, at the extremities of which they live, are open at both ends.' They appear to constitute a favourite food of the cod and other fish, as in addition to the observation of Mr. Ball—viz., that he found this species in the stomachs of cod fish purchased in the markets of Youghal and Dublin, Mr. Couch states that 'it is often taken in their stomachs.'"

**PENNANT'S EBALIA** (*Ebalia Pennantii*).—This is a somewhat rare species, and found most frequently on the coast of Devon. The shell is four-sided, a little broader than it is long, and has a raised cross upon it, formed by two ridges, running, the one longitudinally, the other transversely. The first pair of legs are longer than the rest and grained. The others are slender, with rounded joints, the last one being slightly curved. The colour is a reddish-brown, paler beneath, the abdomen being frequently marked with red spots. Professor Bell states, that he has one in his possession "which is all over of a lovely bright rose colour."

**THE CIRCULAR CRAB** (*Atelecyclus heterodon*).—The shell of

this species is nearly circular, and entirely surrounded with hair. It has three teeth on the front, the centre one being the largest, and on the margin on either side are placed nine teeth, alternately larger and smaller. The front pair of legs are very large and powerful, flattened, and when at rest pressed closely against the under portion of the body. The claws are compressed, curved, slightly toothed, and meet only at the points. The other pairs of legs are of moderate length, and fringed with long hair. The colour, according to Professor Bell, "is reddish-white with red spots, the anterior feet red, the fingers black, the hair light brown."

The Circular Crab is found on the Devonshire coast, on the Welsh coast, and at Scarborough. It has also been taken on the Scotch coast, in the Frith of Forth, and occasionally on the coast of Ireland. Although it chiefly inhabits deep water, small ones have been taken in rock pools accessible at low water.—W.

(To be continued.)

### THE INTERNATIONAL EXHIBITION.

(Continued from page 255.)

If there is any part of this Exhibition better arranged than the others, it is that devoted to our colonial possessions. Their raw products are peculiarly interesting, and are accompanied in most instances with every necessary explanation, an important point which has been very generally neglected in the British department.

#### SOUTH AUSTRALIA.

The Province of South Australia comprises a vast area lying between 129° and 141° E. longitude, and extending from the sea on the south to the twenty-fifth parallel of south latitude, which constitutes its northern boundary. The coast line stretches downwards from 31½° to about 38° S.; the capital, Adelaide, being situated 34° 56' S., and six miles from the sea.

The climate is one of the finest in the world; even in the coldest parts of the country the temperature rarely falls below 36°, and the long-continued periods of drought which are so destructive in other parts of Australia are here unknown, although in the plains the grass is usually parched-up in summer. Peaches, Olives, Vines, Oranges, Melons, and Pumpkins, are successfully cultivated in the plains; but Apples, Pears, Cherries, Strawberries, Gooseberries, and Raspberries can only be brought to full perfection in the cooler climate of the hills.

On entering the South Australian Court we meet with a tree bearing on its branches stuffed specimens of the aboriginal birds whose gay colouring would almost lead one to believe they were painted. At the base of the tree there are several lizards and amphibious-looking animals of by no means prepossessing appearance, while a native dog is peering very sharply through the long grass. The natural history of the colony is further illustrated by cases of admirably stuffed birds; and its mineral riches by ores from the famous Burra Burra, Kapunda, and other mines, including a beautiful malachite table-top from the former.

In 1851, South Australia took the prize for the finest Wheat shown, and thousands of acres are now annually sown with this grain. Some beautiful even samples are exhibited, several of which are of remarkable weight. They are:—From Allan Bell, 1862, weight per imperial bushel, 68 lbs. 1 oz.; James Hay, 1861, 67 lbs. 7 ozs.; Hackett Brothers, 1861, 67 lbs. 5 ozs.; John Dunn, 1861, 66 lbs. 12 ozs.; J. Waddell, 1861, 66 lbs. 10 ozs.; J. B. Buttfield, 1861, 66 lbs. 8 ozs.; W. Wedd, 1861, 66 lbs. 5 ozs.; Allan Bell, 1861, 66 lbs. 4 ozs.; J. Stevens, 1861, 65 lbs. 10 ozs.; J. McDougall, 1861, 65 lbs. 8 ozs.; Griffin Cant, 1861, 65 lbs. 8 ozs.; E. Wehl, 1861, 64 lbs. 10 ozs.

The capabilities of Australia as a wine-producing country are now beginning to be developed, and we gather from the well-written and very interesting official account of the colony of South Australia, prepared by Mr. Sinnett, the following information as to the progress of this branch of industry:—"A patch of Vines is now a very general feature in South Australian homesteads, and a garden and orchard have long been so; but wine-growing is now rapidly becoming a separate pursuit, and before many years, probably, we shall not be sending away wine in sample quantities, but by cargoes at a time.

"The production of wine here is, however, still in its infancy, and for the most part our wine-growers are comparatively inexperienced; or if they have gained knowledge in the vineyards of Europe, they have not yet adapted it to the widely different circumstances in which they are now placed. One consequence

of this has been that in numerous cases vineyards were planted a few years ago with Vines unsuited to the particular soil and position selected, or different varieties have been planted, ripening at intervals from February to April, and thus rendering it almost impossible to conduct the operations of the vintage with any degree of success. Another serious drawback is, that but few of our Vine-growers have either sufficient cellar-room or sufficient capital to hold their wines until they mature. In many cases publicans, who have to suit the palates of their colonial wine customers with a strong luscious wine and their pockets with low prices, buy up the produce of certain vineyards when the wines are about six months old, and, of course, before the fermentation is completed. These wines are drawn off from the wood perhaps a fortnight after leaving the cellar of the maker, and thereupon a large section of the public found their estimate of the 'colonial wines.' But such liquors bear no resemblance to what our wines become with proper treatment. If the most critical connoisseur of wines were set down in the cellars of some of our best wine-growers, he might taste samples which he would be compelled to pronounce equal to any wines of their class to be found in any part of the world. We may particularly instance a pure Riesling wine, made by Mr. Joseph Gilbert, at Pewsey Vale, and a red wine resembling Burgundy, the produce of the same vineyard, of which he has, we believe, samples from every vintage since 1852; also, a pure Riesling wine and an Epauroir, made by Mr. Henry Evans, at Evandale; a Shiraz and Donzelino, a superior claret and an excellent Verdelho, made by Mr. Patrick Auld, at the Auldana Vineyard; and a particularly delicate, fragrant, and grateful wine, something between Hock and Sauterne, made by Mr. Peske, at Clarendon Vineyard. Mr. Waterhouse, at Highercombe, on an elevated site among the hills near the sources of the Torrens, makes a red wine resembling Burgundy, which has a high reputation here. Dr. Kelly, the author of a well-known treatise on wine-growing in Australia, has selected Morphett Vale for the site of his vineyard. Thus the suitability of a large part of the colony for wine-growing has already been fairly tested, and every year a largely-increased acreage is planted with Vines. Samples of most of the above-named wines, as well as many others, have been sent to the International Exhibition.

"One thing which is wanted in the colony to give our wines a fair chance in our own and foreign markets, is a class of traders to step in as 'middlemen' between the producer and consumer; men purchasing wines from the growers—say after the first fermentation is over—and maturing them under their personal superintendence.

"Referring to the introductory chapter of Dr. Kelly's work, entitled, 'The Vine in Australia,' we find that, as the eldest colony, New South Wales took the lead in wine-growing, and produced samples which have been brought into comparison with first-class wines in Europe, and have stood the test of that ordeal. Adelaide following in the wake of the elder colony, has imported thence the varieties of Grapes there found suited to the Australian climates, as well as the best kinds grown in Spain. The greatest obstacle which our Vine-growers have had to contend with in extending their vineyards has been the abstraction of nearly all the available labour in the colony by the gold diggings in Victoria and New South Wales; and even at the present time vineyard extension is in numerous instances retarded, not merely by the actual scarcity of labour and its consequently high price, but by the uncertainty whether, after a vineyard has been planted, sufficient labour will be obtained to cultivate the Vines. I am told there are many acres of good soil, in capital situations, ready ploughed and trenched, and intended for Vines, but still lying fallow, solely in consequence of the state of the labour market. Still extension is rapidly taking place. Thus, one gentleman planted one hundred acres last season; another, in 1863, will have eighty acres in bearing; and there are many others whose acreages range from fifty to twenty. The latest official returns give—

Years .....	1856.	1857.	1858.	1859-60.	1860-61.
Acres under Vines .....	753½	1,055½	1,626	2,201½	3,180

"From the report of the Superintendent of the Census, respecting the Agricultural Statistics for the year March 31, 1861, we extract the following:—"The apparent decrease in gardens, and increase in acreage under Vines, is chiefly attributable to greater care having been taken in distinguishing between them. The increase of 979 acres under Vines is not, therefore, altogether to be considered as land newly devoted to Vine-culture. The

planting of Vines progresses with vigour—the number not in bearing being 1,948,510, against 1,577,881 returned in the previous year; whilst 420,280 came into bearing; making a total of 1,874,576 actually under crop. The total number of gallons of wine made was 182,087, or only 1,763 gallons more than returned in the previous season.

The weight of Grapes returned, as sold or otherwise disposed of—*i.e.*, not converted into wine, was 23,398 cwts. Seventy-five wine-presses are noted against sixty-one last year.

It is remarked that the Vines planted during the past two or three years have been more carefully selected with regard to adaptability to soil and aspect, and their value as wine-producing varieties.

“A wine-producing association has been already formed, composed chiefly of large capitalists and experienced vignerons, who are prepared to operate upon a large scale, and to make it an especial feature of their business to reserve their wines from the market until they are in some measure matured.”

In addition to samples from different growers of the wines above referred to, there are exhibitions of good Muscatel raisins; and judging from their external appearance, some very fine soft-shelled Almonds, from G. Brandis, Esq., Enfield, S.A.; also, a plank of gum-wood used for fellocke of wheels and other cart and carriage work, and carriage wheels made of different kinds of gum-wood, stringy-bark, iron-bark (species of Eucalyptus), shea-oak, &c.

(To be continued.)

### RED SPIDER ON STOVE PLANTS.

I FIND red spider numerous on some of the climbers in my stove, and the pest is extending to other plants. What can I do to get rid of it? Pastils will not touch them. Syringing with Gishurst does not reach the whole of the leaves; and, moreover, I am afraid of it, for Orchids and Ferns which are under. I cannot get to the plants so as to dip every leaf. The books recommend a paste of sulphur and lime on the pipes. I wish to try this, but I can find no exact directions. What proportions of flowers of sulphur and lime? How thick must it be put on? To what extent of surface? How long must it remain? How soon be renewed?

I should add that the plants have been drenched with the syringe twice a-day for months. Temp. 63° to 70°, night; 74° to 80°, day (without sun).—P. H. G., *Torquay*.

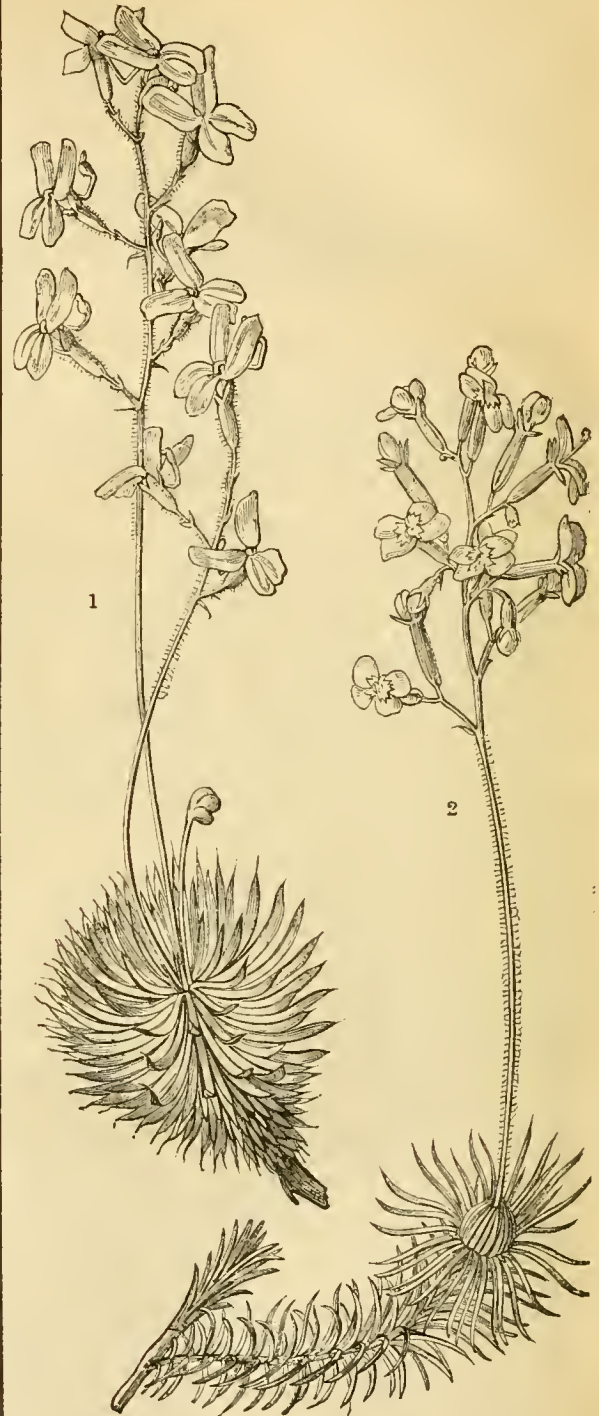
[Your excessively high temperature, 74° to 80°, without sun, has brought you the infliction. We should be inclined to move the Orchids, &c. Paint the pipes with sulphur, or sulphur and lime, every three or four days, it will get off of itself. Keep a fire on, especially when dull. Give air to keep down the temperature, and syringe with sulphur lime water made thus—Put a pound of flowers of sulphur and a pound of fresh lime in a gallon of water. Stir and mix well, and boil for twenty minutes. Allow the liquor to cool and clear itself, and then put one drachm-glass full (half a gill in Scotland), half a quartern, into three gallons and a half of clear water. You must persevere. The fact is, the painting of the pipes and the syringing may kill many of the insects, but day after day fresh eggs will be hatched, and they, too, must be destroyed: hence the importance of attacking the pest early.]

### TWO GREENHOUSE STYLIDIUMS.

*STYLIDIUM MUCRONIFOLIUM* (Bristle-leaved Stylidium). *Nat. ord.*, Stylidiaceæ. *Lin.*, Gynandria Diandria.—A very pretty greenhouse herbaceous perennial, with wiry roots, and tufted stems 2 inches or 3 inches long, copiously furnished with glabrous, spreading, linear, subulate leaves, which are each tipped with setaceous mucro. The scapes are terminal, 6 inches or 8 inches high, bearing a compact oval panicle of numerous bright yellow flowers, the segments of which are marked with a conspicuous zigzag line around the mouth; these segments are of nearly equal size, and of a somewhat ovate figure. From Australia: Swan River colony. Introduced in 1848. Flowers in the latter part of summer. Messrs. Lucombe, Pince, & Co., of Exeter.

*STYLIDIUM SAXIFRAGOIDES* (Saxifrage-like Stylidium).—*Syn.*, *S. assimile*.—A pretty greenhouse, perennial, herbaceous plant, bearing rosulate tufts of densely imbricated, spreading, linear leaves, which are somewhat incurved, acute, ending in a long hair or bristle, and fringed on the margin with short scabrous

hairs; the colour yellow green tinged with reddish-purple. The flower-scapes grow from the centre of the tufts, 10 inches or a foot high, bearing a simple raceme of eight or ten blossoms,



1. *Stylidium saxifragoides*.

2. *Stylidium mucronifolium*.

which are, comparatively, large, creamy yellow, the column knee-jointed and red; the flowers consist, apparently, of four spreading segments, two of which are larger than the others; the upper part of the scape, pedicels, ovary, calyx, and the outside of the corolla are clothed with short glandular hairs. From Australia: Swan River. Introduced about 1848. Flowering in summer. Messrs. Veitch, of Exeter and Chelsea.

REMARKABLE SPECIMENS OF *CYCAS REVOLUTA*.

It must be considered a remarkable circumstance, that infinitely more female than male plants of *Cycas revoluta* are known to exist, not only in the gardens of Europe, but also in their native habitat—China and Japan, where Thunberg and Siebold found the Sago Palm in its wild state; but rarely met with male plants. In European collections, too, but one solitary male specimen has been recognised; it flowered in the Botanic Garden of St. Petersburg.\* Again, Mr. Regel observes, that he himself never encountered a single male plant of *Cycas revoluta* in Surinam; and, with the exception of one plant, which has not yet flowered, all the specimens that gentleman sent home from Paramaribo, had previously flowered, and proved females.

Perhaps no specimens of the Sago Palm, remarkable for their great height, and extraordinary branching habitude, existing in their native elimes—certainly not in Europe—can at all compare with those here portrayed, which were brought to the Ghent Nurseries from near Paramaribo, the capital of Surinam.

In Surinam there were seen some plants in full bloom at 4 feet high from the ground; but the tallest specimen forwarded to Belgium was 9 feet 3 inches high from the ground to the top of the trunk, or base of the fronds (fig. 1). The largest branching specimen exhibited in the engraving is 8 feet 6 inches high from the ground to the apex of the head divisions (fig. 2); the other branching specimen shown in the drawing is 8 feet in height (fig. 3). Mr. Regel is himself of opinion, from what he observed in Surinam, that the Sago Palm has never attained greater dimensions than those just stated, either in that or any other country—not even excepting the native habitats of the plant, China and Japan. Moreover, respecting the presumed age of these fine Cycads, supposing that full forty years must have elapsed previous to the formation of the “annual rings of the stem” at present observable, and reckoning the number of the latter as amounting to about sixty, they have, in that gentleman’s estimation, passed through all the wondrous phases of vegetable development for a good round century, or even a longer period.

It is worthy of remark that in China and Japan the Sago Palm produces its plume-like crest of leaves but once a-year; but in Surinam, impelled by circumstances relating to its climatology, they frequently make two distinct growths during the same period. That this is mainly, if not solely, attributable to the

\* A male plant of the *Cycas revoluta* is recorded as having bloomed in the collection of Miss Neilson, of York, about 1835 (“Flor. Mag.”). This, which was an aged plant, is stated to have been presented by the Earl of Derby to Mrs. Beaumont, of Bretton Hall; it afterwards came into the possession of Miss Neilson, and subsequently passed to the Sheffield Botanic Garden, where it flowered again in 1839. This was stated to have been the first and only male plant that had bloomed in England.

presence of a greater amount of humidity in certain localities compared with others in that country will be evident, when it is stated that plants of the Sago Palm, which grew in situations becoming inundated during the “rainy season,” were observed to have made two growths; whereas, others growing in more elevated, and consequently much drier places, accomplished but one seasonal development of their frond-like foliage. Reasoning analogically, does not the knowledge of this fact supply us at once with a feasible explanation of the reason why Cycadaceæ coming from Surinam are not as readily and as rapidly induced to vegetate as members of the same family imported from climes less hot and moist?

The magnificent Cycads which form the subject of these remarks grew upon the site of what had once been a cemetery, adjacent to the town of Paramaribo. My Surinam informant enters somewhat further into a description of the situation in

question. He describes it as “a deserted, sunny spot, near to a marsh,” which regularly becomes so much swollen during the primary half of the “rainy season” as to overflow to some distance the subjacent territory; but partly in consequence of the great heat inducing a rapid evaporation, and partly owing to the porosity and thirstiness of the soil occasioned by the plentiful presence of sand, the inundation quickly subsides or rather disappears. *Polypodium aureum* grew luxuriantly, but gracefully, upon the trunks of the Sago Palms; luxuriant grasses, and Cyperaceæ clothed the spongy ground around them; close at hand were various *Malpighias* and *Melastomaceæ*; also several *Polygonaceæ*, as *Coccoloba guayanaensis*, &c., the *tout ensemble* composing a pretty

exotic wilderness of shrubs and herbaceous plants, festooned with white, rose-coloured, and golden *Ipomæas*, and a diversity of *Convolvulacæ*. Far away in the background uprose the slender stems of the royal *Oreodoxa*, whose long fronds contrasted remarkably with the simple fans of *Mauritia flexuosa* standing isolated here and there. In this direction a primeval forest surrounded the entire scene. “Turning myself,” says Mr. Regel, “to the opposite side, before me lay the marsh diversified with *Limnocharis Humboldtii*, grasses of different kinds and dimensions, and numberless *Alisma echinocarpum*. Farther on were herbaceous *Melastomada*, with rosy flowers, and the beautiful *Cassia alata*, profusely adorned with glorious flower-spikes of yellow. Beyond was the capital of Surinam, above which were visible the crests of many Palms, and immense trees of the white-flowered *Magnolia-like Mammca americana*.” What a delightful recollection!—G. TAYLOR, *Chatsworth*. (*Gardeners’ Magazine of Botany*.)



### TOO-HASTY CONCLUSIONS.

I FULLY concur in the remarks made by Mr. Pearson in your Number for June 24th, page 227, where he speaks of the incorrect conclusions of too quick observations. How frequently is it the case with many, who as soon as they see any insect on an unhealthy tree, that they conclude this is the cause of the evil. And again, when some parasitic fungus is found under the same circumstances, the same conclusions are arrived at for want of more accurate observations; whilst, at the same time, these may not be the cause of the mischief, but only accompany it. But, in most cases, it may be found that hasty conclusions are mostly like a blaze of straw; as, for instance, funguses may be doing more good than harm by inhaling the gas escaping from decomposing matter, and exhaling pure gas for those to breathe who so detest them.

And this reminds me of a disease which has appeared in the Spinach this year, and which makes its appearance on the leaf. It is similar to that which affected the Celery last year, with the exception of the insect, instead of which there is what appears to me to be a fungus. Have you had any previous complaints?—J. DIVERS.

### THE SMALL BIRD QUESTION.

I QUITE agree with THE JOURNAL OF HORTICULTURE, and the Press generally, in emphatically condemning the indiscriminate slaughter of small birds. But, as there are generally two sides to a question, I am not sorry to see that THE JOURNAL OF HORTICULTURE is quite willing to give its readers the benefit of seeing both sides in the present instance.

Certainly no policy can be more suicidal than for the gardener and farmer to indiscriminately destroy small birds, when many of them from their exclusively insect-devouring habits are, undoubtedly, his very best friends. Amongst these may be mentioned the Swallow, the beautiful tribes of Wagtails, the Hedge Sparrow, a sweet songster; the Robin, the Tite, the Wryneck or Snake Bird, the Starling, the Wren, the Redstart, the White Throat, and the Black Cap. As regards the two last-named, judging from the unceremonious manner in which they help themselves to ripe Raspberries, Currants, &c., which leads to the supposition that their notions respecting "mine and thine" are not quite correct, still the quantity of small caterpillars which they devour, and their sweet song may well be received as their payment and apology, and as they are never very numerous, indulgence may well be accorded to them.

Good-natured fears have been expressed that from the working of sparrow-clubs, &c., our races of small birds will ultimately become extinct.

I am inclined to think that a ramble in the country some miles from any town will have the effect of dispelling those fears. It so happens that the feathered tribes most injurious to the farmer and gardener, have the power of increasing themselves very rapidly. The common House Sparrow, the Chaffinch, the Greenfinch, the Blackbird, and the Thrush, will all rear three broods of young in one season, each brood consisting of five or six individuals, and the natural term of their existence is not less than ten or twelve years.

The Blackbird and Thrush are both delightful songsters, and, no doubt, do much good by devouring insects, &c., but as far as they are concerned the insects have all a holiday during the fruit season, as they certainly bestow upon the fruit their undivided attention; and gardeners in the country find that it is quite impossible to obtain ripe Strawberries, Raspberries, Currants, or Cherries when they are allowed to abound. So I can quite sympathise with your correspondent "X," and as to the advice which you so kindly give him—viz., to employ a live old man or old woman to protect them, I can only say that I fear "X" will be much puzzled to find either sufficiently lively for this purpose about two or three o'clock in the morning, the time when their protection will be most required.

In speaking of birds injurious to the farmer and gardener, I have not mentioned the Bullfinch, and I am truly sorry to say that I have nothing to say in his favour further than that he is very beautiful; but if even a pair or two of them be tolerated in a garden during the spring months, the gardener will have very little trouble in gathering his wall-fruit or Gooseberries that season.

On the other hand let me say a word in favour of the Goldfinch, without exception the most beautiful of British birds, a

sweet songster and perfectly harmless. He is seldom seen in the garden, and when seen, either on the farm or in the garden, some instances of bad farming or gardening are at hand. Allow the Thistle and the Chickweed, &c., to run to seed and the beautiful Goldfinch will appear upon the scene; but harm he does none.

I must now claim for the farmer or gardener, &c., who reluctantly destroys a portion of the birds which he sees in the act, as it were, of destroying the crops on which himself and his family are depending, an excuse which ought not to be extended to the cockney sportsman, who sallies forth for the purpose of killing, merely for the sake of killing, everything that has the misfortune to come within his reach, from a barn-yard fowl or tom cat to a Wren or field mouse.

But, in conclusion, let me say that I am afraid that Game-preservers have something to answer for in this matter, inasmuch as they have disturbed the natural balance of creation by almost exterminating the beautiful tribes of Hawks, Owls, &c., which naturally preyed upon the very tribes which prove so injurious to the crops of both farm and garden, rendering it quite necessary for man to directly interfere; only let him do so with discrimination and with mercy.—G.

[It must be remembered that what the gardener and farmer require is, their enclosures to be frequented by insect-devouring birds during the times that those insects are in the state proper for such devouring, but to make the said birds abscond whilst certain fruits are ripe and to be preserved for the growers' consumption and use. Now, both these ends cannot be attained if you kill the birds, but it can be attained by merely scaring them. We assure our correspondent that old men and women can be had lively from 4 A.M. to 6 P.M., and we know places where even during the recent wet weather they pursued their scaring, and the scaring, perhaps, was intensified by the Sarah-Gampish umbrellas under which they moved about.—Eds.]

### SPARROWS ARE OUR FRIENDS.

"X" TELLS us "Never a caterpillar will the Sparrows eat; but as soon as a Pea-pod swells, or one side of a Strawberry ripens, at that they go." "X," perhaps, forgets that my friends, the wantonly-persecuted Sparrows, have young ones when the Pea-pod swells and Strawberries ripen. May I not ask if they feed their young at one time upon insects, and at another upon fruit and vegetables? At the time I am writing, no less than twenty nests with young Sparrows in them are fed by their respective parents, without touching our Peas, Strawberries, Raspberries, or Cherries, though they have free access to them. Certainly owing to our living so near a smoky town, where no less than two hundred long chimneys emit their suffocating fumes unrestrained by smoke-consuming apparatuses, we have not so many vegetables or fruit for the Sparrows to eat; but we have enough to afford a tempting bait. If Sparrows are so partial to Peas and fruit, would they not help themselves to a few as well, and quite as soon, as they are said to do to a larger quantity?

Sparrows eat various cereals and leguminous seeds in a raw state, even the young growths do not escape, and almost anything in a cooked condition; but fruit they do not eat, neither boiled nor raw, nor seasoned with sugar. Sparrows are blamed for many mischiefs they never commit, and so are convicted upon suspicion, and sentenced to death without the slightest commiseration. I have heard some people say Sparrows eat Cherries, but not a Sparrow did I see touch those very same Cherries; but the Blackbird takes a slice out of the ripest side, and is off in an instant. The Sparrow, young and not possessed of the cunning of his parent, stays behind, picking the caterpillar out of curled leaves, and only thinks proper to move when his foe—man, is close upon him. Man says the Cherries are eaten, and as Sparrows were last seen there they were the eaters. I have seen all that, and I have noticed when some clear-sighted but quick persons have said that Sparrows eat Currants, that the hens have pulled them off the trees from no delight they take in eating them, for the ground was covered with the berries. Surely Sparrows do not play with an empty stomach; but fed fowls do play with the currants, and even with their usual food.

I have seen Sparrows in flocks of a thousand strong, and have brought them down by the score with the contents of a gun, just as they rose from the little plot of barley it was my duty to mind, and have lived close by where Cherries grew, and those Sparrows were reared, and not a fruit of any kind did they

eat but caterpillars for themselves and young. I have received as much as 4s. worth at a time, which at the rate of one egg or young Sparrow for a farthing is equal to 192 birds destroyed. Now, then, from observations I have taken since then I compute that I wilfully caused 1,843,200 caterpillars to be left to prey upon our fields and gardens. A nest of Sparrows is fed forty times in an hour by both parents on an average, the average of more than 40 observations taken at distant and short intervals; and presuming that one bird is fed or one caterpillar only is taken at one time, we shall have, for sixteen hours per working day, a grand total of 640; but as Sparrows take four and five caterpillars at a time, that estimate is considerably below the approximate amount. However, we will be content with the smaller number, and when we multiply the daily consumption by the period that transpires between hatching and leaving the nest (fifteen days, and from that to twenty), we have 9600, the amount of caterpillars destroyed by a pair of Sparrows.

In connection with those observations I undertook another, which informed me that 500, or thereabouts, of caterpillars unharmed a Gooseberry bush, 5 feet through and 3 feet high, in fourteen days, or reduced the tree to such a miserable-looking and weakened condition that its fruit withered, leaves were skeletons, and existence terminated at once after a few droughty days. Thus it seems a single brood of Sparrows is capable of destroying the caterpillars that infest seventy trees; but we wish it to be borne in mind that Sparrows are just as fond of the larvæ of the daddy-longlegs: therefore we will allow half, if you please, which is equivalent to thirty-five trees being cleared of their enemies.

Sparrows have not taken wireworms, nor any other grub with so tough a covering to their young, as far as my experience has tested: consequently, I do not reckon wireworms as Sparrow food, but they are the food proper for the Rook, the Starling, and Jackdaw. Neither have I seen Sparrows take the aphid nor any of the beetle species; but caterpillars of all the moths they consume without partiality, and the eggs, too, of moths they devour, as you may soon notice if you will watch them in plantations of winter greens in the autumn, Cabbage-grounds in July, or Turnip-fields in August and September onwards. You may then see them fly from the Turnip-field in flocks of a thousand strong at the approach of the sportsman, after the stubbles are cleared, and the grain housed, and when it is growing, ripe, or in sheaf.

Just another word (a long one please, Editors). We have had a plague of caterpillars this season, and our neighbours have been even worse off, as their trees tell too plainly. For nine days the caterpillars were in the ascendant, and more than one gardener laughed at my notions of the Sparrows eating them, and recommended me to use lime and hellebore, for which I was much obliged; but my faith in Sparrows remained unshaken, particularly as I saw the Sparrows at work and the number of the caterpillars decrease. However, some lime was ordered, and to my delight there was no necessity to use it, for the caterpillars had disappeared, and certainly not in the shape of a butterfly. And the Sparrows took the trouble of being in the Gooseberry bushes every time I passed that way, and, moreover, they (the Sparrows) pulled the soil away from the roots of the Peas, and cantered off with the larvæ of the daddy-longlegs.

Our neighbours are using poisoned wheat, and destroying all the young Sparrows they can lay their hands upon to save a few grains of corn; but they are paying the penalty, for they have little verdure on their Gooseberry bushes but quantities of small withering fruit. One party boasts of having destroyed 600 young Sparrows, and as many at a time as 170; but even yet there is hope, for we have sent out a thousand young Sparrows on their errand of general utility: thus, as they kill, I rear and protect.

"X" can save his fruit for a few shillings by using nets; but if he wants a scarer nothing will avail him so well as a young Sparrow Hawk, with a wing pinioned and raw meat to eat, for the Sparrow Hawk is the natural enemy of the Sparrow.—*GEORGE ABBEY, Gardener to E. Haulstone, Esq., Horton Hall, Bradford.*

**WOLFF & SON'S SOLID INK PENCILS IN CEDAR, FOR GARDEN TALLIES.**—We can say from experience that these pencils are an excellent substitute for paint or liquid ink, as they possess indelibility, and have the advantages of great cheapness and of being cut and used like the ordinary lead pencil. They are well adapted to writing upon wood, zinc, parchment, &c., being perfectly unacted upon by water.

## CAUTION.

I BEG to caution your numerous readers in the trade and the poultry fancy against the orders of "J. Becke, Esq., 6, Trafford Street, Hulme, Manchester;" also of "64, Major Street, Manchester;" also "124, Oldfield Road, Salford." A few weeks back I received a small order for flower seeds from the first-mentioned address, which were duly forwarded. Instead of a remittance by next post a further order came for vegetable seeds to the amount of £10 or £12. This looking rather suspicious, I immediately wrote for a remittance or reference to some London house, but no answer was returned. I then requested a friend in Manchester to make inquiries; the result communicated was, that my customer rented an empty room in each of the before-mentioned addresses, and that he called at each about twice a-day near post time.

I enclose you a paragraph cut from the *Manchester Examiner*, of July 7, you will there perceive *J. Becke, Esq.'s* name prominently mentioned.—*B. J. EDWARDS, 222, Strand, London.*

"A STORY ABOUT THE 'LONG FIRM.'—On going into the detective office a day or two ago, our reporter saw two men, both of whom were drunk. They were discussing in a rather angry tone with Mr. Maybury, because he insisted on keeping 5s., belonging to the one, and 4s. to the other, until the following morning. On the counter were 'odd and ends,' which had been taken from their pockets, consisting of tobacco pipes, bits of black lead pencils, scraps of paper, and many letters. They were not well off, notwithstanding that some scores of ill-gotten pounds must have passed through their sinful hands within a few weeks. All the money one possessed was 6s., while the other had 4s. and some copper. Yet these were two of the most successful members of the 'Long Firm;' one was known as 'J. G. Harrison, Esq.,' and the other as 'John Munn, Esq.' The gullibility of tradesmen is shown to a remarkable degree in the history of these men. Again and again have their swindling tricks been exposed in trade circulars and in newspapers. Their letters to firms in every part of the United Kingdom have been repeatedly published, and the success with which they have obtained goods of every description has been constantly exposed. Very recently, we believe, they made Derby their head-quarters, and, in a few days, articles of every description arrived, and were immediately sold at about a fifth of their value. They are now again in Manchester, issuing orders on a neat sheet of paper surmounted with the royal arms, and with the heading, 'Hulme Hall Lane, Newton Heath, near Manchester.' They were brought to the detective office to have an interview with a superintendent of police from the county of Hereford, who had been sent over by Lord Bateman. His lordship had received a polite letter, signed 'J. G. Harrison,' and asking for one dozen of his best breed of young turkeys to be sent to the address. His lordship has been robbed of a number of fowls lately, and, believing that the writer of the letter had had something to do with the robbery, sent over the superintendent to make inquiries. The two men were accordingly captured, and there is little doubt but that the action taken by his lordship will be the means of saving many tradesmen from being victimised out of large sums of money. At the time the men were caught, a messenger was sent to the railway stations to inquire if any goods awaited delivery to the firm in question, and the result was the reception at the Town Hall of a splendid Enfield rifle, from a firm at Plymouth; a packet of Lord's loading chambers; and a box of flies for salmon fishing. The letters found on them nearly all bore dates of July 2nd and 3rd. One letter showed that they had ordered brushes to the amount of £12 14s. 8d. from Cork; but, fortunately, the goods had not been sent. They had also ordered some kind of a machine from a London maker, and a tallow press, valued at £7 10s., had been forwarded to their address from Luttermouth. What has become of the 'tallow press' and the other machine we have not been able to learn. The persons residing in the neighbourhood, the address of which was given by the 'firm,' received a hint from the police to communicate the character of the men to the drivers of the railway vans and luries, whenever they came with goods for them. The people good-humouredly took the hint, and sundry packages were reconveyed to the railway stations from whence they came. It is hoped that the 'tallow press' and the machine are now at one of the stations, or the makers and owners will have to register them amongst their bad debts. Other letters show that the firm had ordered a refrigerator, value £5 5s., from Mr. G. Acton, York, and that it had been sent to them, and that a bottle-washing machine had been put upon the railway for them by a Liverpool house. One letter, dated July 2nd, 1862, is stamped from Leadenhall Market, London, and is signed by E. Howard, dealer in poultry; in it are particulars as to the prices of all sorts of choice fowl; and, in conclusion, Mr. Howard expresses the hope that he may be entrusted with orders. From Messrs. Kirke & Company, of Sunderland, they appear to have obtained timber, during the last month, to the value of £60 13s. 2d. Some time ago the firm ordered an omnibus and a pulpit and obtained both. Their success in those instances partook of the ludicrous, and though the 'goods' were peculiar, yet both were quickly disposed of; and a letter dated the 3rd of the present month, shows that they had unsuccessfully endeavoured to obtain a cow from a person at Southgate. They were prompted to give this order by their success in another instance, when they actually obtained a horse, worth 40 guineas, from a magistrate in Ireland, and on its arrival in Levenshulme they sold it for £11. Upon another occasion they got rabbits to the worth of £6 10s., ate some and sold the rest. A country parson sent to order a quantity of fancy fowl, but these were fortunately intercepted by the police and restored to 'his reverence.' Last week they wrote for and obtained £40 worth of pork pies from a firm in London. All the scattered members and friends of the firm were brought together, and they feasted for several days upon the pork pies. Then two members of the 'pork-pie' firm—a London one—arrived, and, after making due inquiries, returned sadder and wiser men. Another order of a singular character was a set of coal-field plans from Newcastle-upon-Tyne. The plans were ordered by *James Becke, Esq., of 124, Oldfield Road, Salford*, as he gave the address, but what became of them or him was never known. The original cost of the order was £16 16s., but to the 'Long Firm' one would have thought they were only worth the price of waste paper. A more singular order still was one they sent to Scotland

for an eagle. The monarch of the hills arrived in Manchester in due course, but was captured by the police, died at the detective office, and its stuffed skin is now in Belle Vue Gardens. The men were not detained in custody because there was really no criminal charge against them; but the practices of such men almost incline us to regret that defrauded creditors have not the power to try them before Judge Lynch."

[We are weary of this "old, old tale." We have other letters to the same effect as the preceding, and all tending to the same conclusion—namely, *never part with your property to unknown purchasers without prepayment*. If any doubt upon the point arose, it should be effectually removed upon observing that the application came from Manchester or any place near it.—EDS.]

## THEORY OF COLOUR, AND THE INFLUENCE OF LIGHT ON VEGETABLES.

(Concluded from page 197.)

THE varied and gorgeous tints which leaves assume on the approach of autumn are due to the absorption of oxygen gas, those leaves which remain longest green absorbing least oxygen. Some species of the Maple, the Poplar, and the Beech, are remarkable for the rapidity with which their leaves change colour: these, it has been demonstrated, will absorb eight or nine times their bulk of oxygen in the same time that the Portugal Laurel or the common Holly will absorb the smallest fractional amount. If several green leaves of the Poplar, the Beech, the Holly, and the Portugal Laurel are placed under the receiver of an air-pump and dried thoroughly, keeping them from the action of light, when dried let them be taken out and moistened with water, and immediately placed under a glass globe filled with oxygen gas; it will be found that the several leaves change colour in exact proportion to their powers of absorbing oxygen, the best absorbers changing colour most rapidly. The result of this absorption is the formation of an acid, and this acid changes the chlorophyllite, or green principle, from green to yellow, and then to a reddish hue. A similar change is effected in the colour of the leaves of plants by merely treating them with an acid; and if a red leaf is macerated in an alkali (potash for example), it becomes green. We thus have another proof that chlorophyllite owes its formation to the absorption and decomposition of carbonic acid by the plant under the influence of light; for if this agent be withdrawn no absorption takes place: on the contrary, a continual disengagement of carbonic acid gas from the tissues of the plant is the result.

The result of the experiments instituted by Professor Draper on this subject fully proves that the capabilities of a plant for absorbing carbonic acid gas from the atmosphere are in exact proportion to the illuminating powers of the rays of light. The varied and delicate colours of flowers are produced by a somewhat different process from the other colours of the plant, inasmuch as the flowers do not appear until the plant has attained a certain degree of maturity. On this subject Liebig has the following remarks:—"The leaves of the plant being fully developed, they take in more nourishment than what is necessary for the existence of the plant. This extra nourishment takes a new direction; a peculiar transformation takes place, new compounds are formed, which furnish constituents of the blossom, fruit, and seed."

It is very probable that all the colours of flowers depend upon only a few approximate elements formed in the vegetable, and that their various hues are the consequence of the presence of acids affecting more or less this colouring substance. The following ascertained facts tend to support this theory:—The expressed juice of most red flowers is blue: hence it is probable that the colouring matter in the flower is reddened by an acid, which makes it escape when the juice is exposed to the air. The Violet is well known to be coloured by a blue matter, which acids change to red, and alkalis and their carbonates first to green and then to yellow. The colouring matter of the Violet exists in the petals of red Clover, the red tips of the common Daisy, of the blue Hyacinth, the Hollyhock, Lavender, and in the inner leaves of the Artichoke. The same substance made red by an acid colours the skin of several Plums, probably also gives the red colour to the petals of the Scarlet Geranium. It is remarkable that these on being merely bruised become blue, and give a blue infusion with water. It is also probable that the reddening acid in these cases is the carbonic, which, on the rupture of the vessel which encloses it, being a gas, escapes into the atmosphere. If the petals of the red Rose be triturated with

a little water and chalk a blue liquid is obtained. Alkalis render this blue liquid green, and acids restore its red colour.

The absolute necessity there is for studying the arrangement of colours in the carrying-out flower-gardening operations, or, indeed, in any work of art so as to produce a harmonious whole, is so evident that any remarks on the subject would be superfluous. But in concluding our remarks on the theory of colour, we feel we cannot do better than quote the words of Mr. Craee, as spoken by him at the Society of Arts, concerning the colours employed in the International Exhibition, and which are applicable to every other decorative purpose:—"Avoid blazing contrasts of colour, such as bright red next bright green, or bright blue next bright yellow. Such contrasts are not harmonious. Let one of the two colours always be subservient to the other. It is not so much what colour a material is, but how that colour is made to appear. It is necessary to bear in mind that all colours have their complementaries, which add to or detract from the beauties of the adjoining colours, according to what they may be. Thus the complementary of red is green, of blue is orange, of yellow is violet. If you cut out pieces of grey paper in an ornamental form, and stick a piece on each of the three colours I have named, you will find in a shaded light the grey will be fully tinted by the complementaries of these colours; but you cannot lay down precise rules. An experienced artist can bring any two colours together by properly modulating them. Nothing is so charming and so refreshing to the eye as a harmonious arrangement of colours. They are 'like a sweet chord of music to the sense.' The hand of Nature never errs. Whether it brings together scarlet and crimson, as in the Cactus; scarlet and purple, as in the Fuchsia; yellow and orange, as in the Calceolaria; or the colours in the varied plumage of exotic birds—the harmony is always beautiful, ever perfect. I will suggest a few contrasts:—Black and warm brown, violet and pale green, violet and light rose colour, deep blue and golden brown, chocolate and bright blue, deep red and grey, maroon and warm green, deep blue and pink, chocolate and pea green, maroon and deep blue, claret and buff, black and warm green."

The influence of light upon the flowers, the leaves, and branches of growing plants is so manifest that it can scarcely have failed to attract the attention of the most superficial observer. The familiar instance of plants standing in the window of a dwelling-house being attracted towards the light, and, unless frequently turned round so as to expose every part of the plant to its influence, becoming one-sided and unsightly, is well known to almost everybody. Many flowers are peculiarly sensible to the effects of light. The annual Sunflower, *Helianthus annuus*, may be cited as an example. Its stem is somewhat compressed, apparently to facilitate the movements of the flower, which, after following the sun all day, returns after sunset to the east to meet his beams in the morning. It was the opinion of Hales that the heat of the sun contracted the stem on one side, and thus occasioned the flower to incline that way; but if this were true, how should the flower return so completely at night? But this property of flowers following the course of the sun is not confined to flowers only; many leaves are influenced in the same way. A Clover field is a familiar instance of this kind. Composite flowers, or those with radiate florets, are most sensible to the influence of light, as the Daisy, the Sunflower (already mentioned), the Marigold, and numerous others belonging to different families, as *Nymphaea alba*, which opens and closes at pretty regular periods of the day; also the *Anagallis arvensis*, or Poor-man's Weather-glass, which latter, however, loses its sensibility in continued wet weather. On the other hand, the leaves of leguminous plants, especially those with pinnated leaves, are more sensible to the influence of light than those of any other tribe of plants. Indeed, in a vast number of cases it would appear to be the sole cause of their expansion; for in the absence of light the leaves droop, and actually fold over each other.

The extreme sensibility of the leaves of *Mimosa sensitiva* and *putida*, not only to light, but to the slightest touch of any extraneous body, is a good example of the exquisite sensibility of leaves. In dull sunless weather the leaves never fully expand; whilst at night the leaflets fold up close together. But the most remarkable instance of the kind is, perhaps, to be found in the spontaneous motion of the leaves of that very singular plant the *Hedysarum gyrans*. Its motions are independent even of the agency of light, or of any other stimulus whatever, only requiring the warm temperature of the stove, with a perfectly still atmosphere, to be performed in perfection. The leaves of this most singular plant are ternate, and the small lateral leaflets

are in almost continual motion, generally moving by sudden jerks; the movements of each separate leaflet seemingly independent of the other—at least, there is not in general any uniformity in their motions.

At one period only in the life of a plant is the agency of light injurious—viz., in the first process of the germination of the seed. A short time after a seed has been committed to the ground it begins to absorb moisture, and gives out a quantity of carbonic acid gas, even though no oxygen be present. In this case the process stops; but if oxygen gas be present it is gradually absorbed in the same proportion; at the same time the farina of the cotyledons becomes sweet, being converted into sugar. "Hence it is evident" says Dr. Thomson, in his "System of Chemistry," "that the farina is changed into sugar by diminishing its carbon, and, of course, by augmenting the proportion of its hydrogen and oxygen. During the process of germination a considerable amount of heat is evolved, which always happens when oxygen gas is absorbed. The whole process so far seems to be the work of chemistry alone. The reason, then, why the agency of light is injurious in the germination of the seed is because it tends to fix in the tissues of the embryo plant the carbon which ought to be thrown off."—J. DUNN.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

CONTINUE to ply the hoe freely among all growing crops, both for the destruction of weeds and for loosening the surface of the soil. *Cauliflowers*, let as large a piece of ground as can be spared have a thorough trenching, and a heavy dressing with manure to receive the latest crop, which should be planted without delay. This crop will prove the most useful of the season, and, with care in taking up the heads when ready and hanging them in a dry shed, it may be made to afford a supply from the end of October to January. The Walcheren is the best for this purpose. It grows more compact than other sorts; its foliage affords better protection to the head, being of a cup-like habit, and it does not open and wither so soon when hung up. *Pot-herbs*, care must be taken in gathering and drying the various sorts in request by the family. Choose a dry day, cut them just as the bloom begins to expand, and spread them thinly in a dry shed, which is preferable to drying them in the sun; when dry, they can be tied in convenient bundles and hung in their winter quarters. *Shallots*, to be pulled as soon as the tops begin to decay; if left in the ground after they are ripe they are apt to mildew and rot in wet weather. To be spread out in any airy place to dry before storing them away. *Tomatoes*, to be regularly attended to, keeping the shoots thin, and stopping them above a cluster of fruit; for if the plants are allowed to ramble and grow too freely, there will be but a poor chance of seeing a ripe crop.

### FLOWER GARDEN.

Trimming, staking, and pegging-down must be followed up at this period where neatness and order are essential. See that sufficiently strong stakes are applied to plants with heavy foliage and gross habits, such as Dahlias, Hollyhocks, Larkspurs, Phloxes, and tall-growing Asters. Keep Roses as much as possible free from insects, and, if time can be spared, dead blooms should be removed. Let Carnations and Picotees be layered; they make useful border flowers. See, therefore, that plenty of them are secured for next season.

### FRUIT GARDEN.

Look over all trained fruit trees frequently, for the purpose of stopping and shortening any gross shoots, and keeping their growth properly regulated; also get the young shoots of wall trees laid-in where not already done. Those who depend upon young plantations of Strawberries for fruit, should get them planted while the ground is moist and the weather favourable. If planted at once and properly attended to until the plants get established, a fine crop of fruit may be expected next season. Espalier Apples and Pears should have the leaders tied in, the superfluous shoots spurred; and attend also to choice Apples and Pears planted in the open quarters, but not trained. Remove superfluous shoots, and try the effect of tying downwards the points of some of the strongest shoots; it has been practised with very good results on trees inclined to grow too luxuriantly. Attend to the stopping and nailing of wall trees in general, and to the thinning of Grapes on the open walls.

### STOVE.

See that the young growing stock is not allowed to suffer for want of pot-room, and attend carefully to watering, giving manure water occasionally to all plants in free growth that enjoy it. Gardenias, &c., which have been removed to the conservatory while in bloom, should be replaced in heat as soon as their beauty is over, to allow them sufficient time to ripen their wood before the approach of winter. The Orchids to be allowed as much light as they will bear without injury, and using a very slight screen when shading is absolutely necessary.

### GREENHOUSE AND CONSERVATORY.

Some of the stove plants that have recently been brought into the conservatory will require attention to prevent them from being injured by damp, and it will, probably, be necessary to use slight fires occasionally, for the purpose of expelling the damp that may be produced in the house during such cloudy weather as we have had lately. In small, well-ventilated houses, damp will hardly be troublesome, but in lofty houses with but little ventilation, and the roofs overgrown with twiners, it may be very injurious. As there is nothing to fear from cold at this season, air should be freely admitted on every favourable opportunity to keep the atmosphere of the house as dry as possible. Recently-repotted plants will require to be watered with great care, as they will require but little, and will be speedily injured by a careless supply in dull weather. A quantity of stocky plants of the Scarlet and Variegated Geraniums, Heliotropes, late-struck Fuchsias, and Perpetual-flowering Roses, &c., should be duly encouraged for late autumn-blooming. The growth of specimen Fuchsias should also be encouraged, also the Cockscombs, Balsams, Globe Amaranths, Thunbergias, Gloxinias, Achimenes, Japan Lilies, Erythrina crista-galli, Chimney Campanulas, &c. Guernsey Lilies should be ordered in due time, they are pretty and useful autumn-flowering plants.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

SOWED Onions, &c., for salads, covering them with a wattled hurdle until fairly up. Planted out young Cucumber plants. Pegged down Vegetable Marrows. Potted in rich soil Capsicums and Chillies, and placed the pots into a cold pit, where by means of little air the plants can have something like hot-house treatment, as it requires a very fine season to get them ripe here out of doors, and if not ripe, though suitable for pickling, they are no use for making Cayenne pepper—a thing much run upon when home made, and free from red lead and other adulterations. Planted out some strong plants of *Tomatoes* out of doors against walls, but mostly in a row in a cold earth-pit, with branches behind them to form a sloping bank to run upon. In general seasons they do well thus treated. Planted out also in a similar pit as soon as emptied and cleaned of bedding plants, with good plants of tobacco, it being, on the whole, for destroying insects, just inferior to shag tobacco, and superior to much of what is sold under the name of tobacco paper. Thinned Turnips, sowed more. Planted out Savoys, Greens, and Brussels Sprouts. Gathered the first dish of Jeye's Conqueror Pea, otherwise No Plus Ultra—the finest Pea for colour and flavour, though not so large as Veitch's Perfection. After this until the month of October we will get little store set by any of the commoner Peas. I have repeatedly advised amateurs in or near towns to purchase their early Peas, and if they can grow only a few rows, to have these of the best Marrows, when they will obtain such a treat as they that get their Peas at market never can know. Sowed successions of *Spinach*, generally following with one crop as soon as the preceding one is an inch in height. Pegged-down older *Spinach* running to stalk. If between Peas, frequently cut it over and lay it along the rows of Peas, which thus acts as a mulching. Pricked out Leeks, young Cauliflowers, Broccoli, which may thus stand and grow until we find more space for them, and watered Cauliflowers, &c., swelling their heads, with danglehill water.

### FRUIT GARDEN.

Much the same as preceding weeks, nipping the summer growth of fruit trees, watering trees in pots, soaking the soil in orchard-houses with manure water, but doing it gradually a little at a time; syringing to keep down or keep off red spider. Watered Melons that were set, and those ripening freely and very dry on the surface watered through tubes at the bottom of

the roots, leaving the surface dry; just dewed the foliage gently after hot days. Protected Strawberries and Raspberries, &c., out of doors, and commenced layering *Strawberries* in pots for forcing. We use many plans for this purpose, such as taking up the runners as soon as formed, and even before they root, and fastening them by a piece of the stem into rich, light soil, above a slight hotbed. Here shaded and syringed, they soon root, and then can be lifted with balls and potted. The layering system is still, however, a good one, and some layer in the pot in which they mean to fruit. I prefer layering in what are called small 60-pots, taking these to the bed, placing one crock in the bottom, filling them with rich, light loam, placing the layer firmly on the surface, using the earth as a firming agent, or placing a pebble or a crock over the runner to prevent its being blown out by the wind. These frequently sprinkled will be filled with roots in a fortnight or three weeks, and will then be firmly potted in their fruiting-pots. We are waiting to get ground cleared for those grown in pots. Our small plants of Queens have done extra well this season.

#### MUSHROOMS.

I have forgotten to mention that we have had still a few in the house, and abundance in the thatched-roofed open shed. The weather being rather cold we have placed hurdles along the sides to keep the place warmer. We only do a little bit at a time. We are just preparing the third piece, and are not at all particular as to the bulk of the bed, if we get a few inches of rather fresh droppings for the surface. One great secret is firm treading. This and next month are generally the best for making spawn with least trouble. See previous directions.

#### ORNAMENTAL GARDENING.

The week has been a busy one, potting all sorts of plants, putting in cuttings of Pinks, Carnations, &c., double Rockets, Campanulas, &c., Roses, &c., budding Roses, tying-up Dahlias, Hollyhocks, &c., securing flower-beds, mowing lawns, rolling walks, and top-dressing Verbena and Calceolaria-beds, &c.—R. F.

#### TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**HOLLYHOCKS (W. H.).**—Mulching round them will keep the soil moist, prolonging and invigorating their blooming. Your gardener was quite right. The large leaves ought not to have been removed: their removal diminished the vigour of the plants, whether they show symptoms of such weakening or not.

**STORING POTATOES (H. A. D.).**—We never pit Potatoes, but put them under a dry shed in layers alternating with coal ashes. Over the outside a layer of straw may be put to exclude frost. In no mode can they be preserved better. Dry sand might be substituted for the ashes, perhaps, without deducting from the preservation of the Potatoes. The object is to check evaporation, to exclude air and light, and to keep cool.

**STORING APPLES (Idem).**—An attic is never a good place for storing fruit—at times it is too hot, at other times too cold, and always too dry. If it was thatched thickly with straw inside, and the roof painted white on the outside, the evil incidents might partly be diminished. Ventilation would be desirable, but moister air and darkness also. See what Mr. Robson says to-day about fruit-rooms.

**VINE LEAVES BROWN (A. B. Cole).**—The leaves have every appearance of being thoroughly ripened. If the wood is getting brown and hard they are just as they ought to be. If only a few are thus getting brown and yellow, and the rest and the wood are yet green, the plant must have had a check, such as a Geranium being left quite dry, when the lower leaves wither as a matter of course.

**SWEET-SCENTED VINE (A. A. Smith).**—Now you have sent a specimen we can determine the name. It is the *Vitis riparia* or River-side Vine, sometimes called *V. odoratissima*, or Sweetest-scented Vine. It is a native of gravelly river-banks in Pennsylvania and other parts of North America, but female plants of it are rarely found north of the Potomac river. Yours is a male plant, and consequently unfruitful. As you only require it for its leaves and fragrance you may train it like any other hardy climber, and autumn-prune it as you do your common Vines.

**CARROTS ON CLAY SOIL (M. G. C.).**—If you improve the staple of the soil by the admixture of the pond sand, &c., as you propose, and if you turn in a little of the manure with the bottom spit when digging preparatory to sowing, we think you will succeed. We should like you to try improving the staple with the cocoa-nut fibre dust.

**PELARGONIUMS OVER-TALL (Majestic).**—They have too little light, too much heat, and the soil is too rich. Turfy loam without any leaf mould would be better than your mixture. Cut the plants down when finished blooming, re-pot with the turfy loam, keep them cooler, and expose them to more light.

**PEAR TREE UNFRUITFUL (G. K. Sevenoaks).**—The Pear tree about six years old and 10 feet high we would prefer lifting and replanting again about the end of September. Nip the points of the shoots now. After thus lifting, the tree would need to be shaded or syringed in sunny days. If you dislike that trouble, cut a trench round the tree 3 feet from the stem; undermine it so as to get at the tap roots, which cut clean away and fill up with fresh poor soil. In doing this, the roots beyond the three feet had better be saved and planted near the surface. Syringe a little during hot days if the leaves flag. This we would do in the end of August, as there is no fruit, and that will give time for fruit-buds to ripen for next year.

**PEAR-TREE LEAVES DISEASED (A Subscriber).**—Excessive moisture at the roots and too little sun on the leaves probably is the cause of their warded appearance. If the trees are fruitful a good drain would remedy the evil. If not fruitful, the roots had better be raised and fresh poorer soil put about them.

**YOUNG WELLINGTONIAS DYING (T. O. G.).**—We have noticed nothing of the sort on older plants. It would be wise to shade the young plants a little, and to have the foliage dry before the sun shines strongly on them. Baldry's Scarlet Delianee Rhubarb is grown extensively about Enfield, and is very productive. All Rhubarb to be crisp likes plenty of nourishment, and sucks in manure water greedily.

**GOOD GRACIOUS PANSY (Madeline).**—Double Pansies never seed at all, and the only way, and the time to get a "slip" of it is to apply for it to Messrs. Carter & Co. next April. It will grow well in your part of Lancashire if any other Pansy grows in that smoky atmosphere. We have reason to believe that this Pansy is not a novelty.

**BASKET PLANTS (Idem).**—*Convolvulus mauritanicus*, when we first saw it at the end of March, was the prettiest basket plant we had ever seen. *Nierembergia gracilis* is very good for all the summer and autumn; and so are all the new *Tropaeolums*, and all the new fancy *Petunias*, and the fine variegated *Vines* are good for out doors as well. So are several little *lilac Campanulas* and *Labellias*; but for the dead of winter none are better than the German Ivy plant, which, of course is not a real Ivy, and Ivy-leaved *Geraniums*.

**ECREMOCARPUS SCABER (M. A.).**—There is not the least fear of your *Ecremocarpus* against a south wall doing badly. There is nothing at all the matter with it; on the contrary, it is prospering, and all you will have to do will be to cut off the lower leaves when they turn yellow. It is the nature of the plant to let go the leaves at the bottom as fast as the parts ripen properly; and there is not a worse sign in an *Ecremocarpus* than to see the bottom leaves green any day from the end of May to the time of the frost. We have seen it with a stem 17 feet long, and bare and pliable as a cable, on a gentleman's cottage on the south west side of the Hereford-hire Beacon, at the end of the Malvern Hills, where it stood out ten or a dozen years. It used to be pruned close in November, and the bare pliable wood was folded up in straw and matted for the winter, and the roots were protected as you do. That was previous to 1840.

**RETARDING ROSES (Young Amateur).**—There is no method for keeping back Roses when showing bloom, or of hurrying them on at that period, unless they were in pots, when they could be removed out of the sun into the coolest place about the garden to keep them back, or to be put under glass for getting them on a little faster. *Verbenas* do as badly as yours this cold season in all the public gardens round London; to refresh them with a rose-pot of an evening is by far the best way to keep the dust off them, and make them look as if they were at home, which very few of them have done as yet this season. You ought to have the *Cottage Gardener's Dictionary*, it is just written for such as yourself, and by men who knew the value of sound instruction.

**NATIVE PLANTS (H. A. D.).**—They were duly received and forwarded to Miss Gower. All are obliged. The *Orchises* were *apifera*, *comopsea*, and *pyramidalis*. Two of the other plants were not sufficiently open to be identified.

**STAMPED COPIES (Patelin).**—A stamped copy of this Journal can be sent to you, and from you to a friend, and back to you, all by post within the week, without any other stamp than that impressed on the sheet by the Stamp Office.

**STRIPED PETUNIA (O. Barton, the Gardens, Oxton, Notts).**—One of the best striped single *Petunias* we have seen, and if a constant flower in the same degree as Mrs. Ferguson, for instance, a decided acquisition. The flowers set (four in number) have uniformly a broad bar of bright magenta rose running up to the sinuses of the segments, the segments having in addition a lozenge-shaped tip of the same colour, the tip sometimes joining with the bar, sometimes not. The rest of the flower white. Described in other words, we might say the segments have each a broad V-shaped white mark, the rest being magenta rose.

**VINES VERY VIGOROUS (Three-years Subscriber).**—The swelling of the young shoot to so large a size is a very common affair, and shows the vigorous action of the roots. Why not place a small rod, to which tie the old stem and the new carefully instead of letting the latter throw itself off, or drop off by its own weight. This would seem as simple a matter as securing a common plant from the wind. The stem will partake of the strength of the young shoot if you wait long enough. We can offer no explanation about the shoot dying down, unless the plant was allowed to be extra dry; the mere syringing would never have any such effect. Of course, boiling water, or water very hot, would soon do the job; but, then, what wretches to do such a thing if done willingly. We find out the reasons of such disasters, sometimes years afterwards, where the perpetrators can make a joke rather of their ignorance than their intended ill-doing.

**BULB FLOWER (C. C.).**—You did not manage the flower right for examination. It ought to have been sent in a fold of the finest oilskin, and a piece of one of the leaves should come with it. Your flower was crushed and glued to your letter, and then dried into a mere film.

**DOUBLE PANSIES (A. W. F.).**—Many thanks, but you mistake the meaning. There have been many double Pansies within the last twenty years; there are four now in England, and one in Ireland, and it is not over ten years since Messrs. Downie & Laird had lots in Edinburgh, and in their catalogues. But, like the "foundling" Tea Rose with Mr. Cant, and the very old and "foundling" *Calceolaria plantaginea* with the Messrs. Veitch, any good double Pansy of thirty or forty years back will sell now, and give as much satisfaction as a new sport or seedling.

**OLD VINES UNFRUITFUL (One in a Fir).**—If the wood on the old Vines is so strong, but unfruitful, we should think it proceeds from the wood not being ripened so as to be thoroughly exposed to the sun in summer, and not getting fire heat to harden it, more especially as the roots are most likely deep. The easiest remedy if the roots are deep would be to make a deep drain in front, remove a good portion of surface soil so as to get near the main roots, and top-dress with lime rubbish and sandy loam, with a little horse-dung, burying it shallowly, and giving a yearly top-dressing of an inch or two of the same kind of compost as the roots rise into it. It would require much care to raise the roots of such Vines nicely. There can be no question of the Vines doing well in the pit if that too is drained and has a loose bottom, and there would be the great advantage of having the roots completely under control as to moisture and warmth.

**PROPAGATING CRASSULA COCCINEA (W. W.).**—Make cuttings of the tops of the offsets of this *Crassula*, and let them be about 4 inches or 5 inches long, not more. They will root fast in half sand and half leaf mould, or any light soil, without bottom heat or being under a hand-glass or frame. They would now root in the open air. When you pot them, give them the same soil as for *Geraniums* with twice the quantity of sand, and keep them rather dry in water upon a shelf near the glass in the greenhouse.

**ROSES IN POTS (Idem).**—After they ripen the wood in October, you should prune them and plunge the pots in the open air till the beginning of January unless it come hard frost, when the China and Tea ones would be better in a cold frame. Put them all in the cold frame early in January, after seeing that the drainage is right and that the roots are not too much cramped, and give them a little fresh surfacing of very rich compost. Let them remain there till they come into leaf, and then you may force them gently or merely bring them into the greenhouse and grow them as you did before. See that no water lodges where they are at rest and planted.

**MILDEW ON GRAPES (J. S.—, Fulham).**—Dust leaves and berries—in fact the whole Vine—with flowers of sulphur. Do not syringe, but keep the air moist by watering the path of the greenhouse, and ventilate freely.

**MELONS AND CUCUMBERS WITH IMPERFECT FRUIT (W. H. G. McKnight).**—You have four times too many shoots on your Melons, or the leaves are too large and shade each other with that rampant growth; and the tale would imply that the side shoots are not stopped a joint or two before the fruit, when it appears with the blossom. It is dangerous for amateurs to cut back Melon plants as gardeners do occasionally. Thin them, give them less water, and where you find many flowers, at once, set them with pollen, and stop the shoots two joints above the fruit. The secret is to get a crop set at once, even if it must be thinned.

**STEPHANOTIS FLORIBUNDA NOT BLOOMING (Idem).**—As it is growing so fast and flourishing, the best way is not to prune it at all. Pruning is the ruin of all strong climbers in-doors or outside. Give them headway the whole summer. In winter thin out instead of pruning back, and the *Stephanotis* will bloom from end to end of the longest shoot in the house. No plant blooms more freely under that system.

**NAMES OF PLANTS (J. O. Attingham).**—1, *Spiraea salicifolia*; 2, *Saxifraga hypnoides* var.; 3, *Clematis erecta*; 4, *Dentizia scabra*. There is no better book for your purpose than Bentley's "Rudiments of Botany." (W. T.).—1, *Lathyrus pratensis*; 2, *Vicia cracca*; 3, *Myosotis silvatica*; 4, no leaves, some labiate; 5, *Prunella vulgaris*. (*Nemo*).—A form of *Polystichum aculeatum*, rather narrower than the type. (*J. G.*).—1, *Lotus corniculatus*; 2, *Gallium palustre*; 3, *Viola tricolor*; 4, *Eriophorum angustifolium*; 5, *Holcus adunatus*; 6, *Verbena officinalis*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

JULY 29. NEWMILLERDAM. Secs., Mr. J. Turner, Walton; Mr. W. Pashley, Newmillerdam.  
 AUGUST 2nd, 4th, and 5th. SHEFFIELD. Sec., Mr. George Westerholm, 49, Queen Street.  
 AUGUST 25th, 26th, 27th, and 28th. CRYSTAL PALACE. Sec., W. Houghton. Entries close July 26th.  
 SEPT. 4th. WAKEFIELD AND WEST RIDING. Sec., Mr. J. Crosland, jun. Entries close August 23.  
 SEPTEMBER 9th. WORSLEY AND ARMLEY (near Leeds). Sec., Mr. Robert Hoyle, Armley, near Leeds.  
 DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.

### CRYSTAL PALACE POULTRY SHOW.

"They say," said one provincial to another at the International Exhibition, "there were fifty-eight thousand people here yesterday. Now just look here: Pedlington is a biggish place, is it not? Well, that has only four thousand inhabitants. Just fancy fourteen times the population of Pedlington in this building, which, large as it is, is small compared to our town." It struck us, as we heard this, there was force in the way in which the question was put, and with the homœopathic dose of conceit and self-satisfaction which a Londoner has a right to indulge in, we chuckled and said, "Send all the world to London, and we have room for all." When we got into the streets we were elbowed and shored (excuse the expression, it is the correct one), in all directions. The streets were too small. We longed for

space to move, and space to breathe. We could understand the villager who, returned from London, became the oracle of his village (it was before railways), and having described all he had seen and heard, said "only one thing was wanted as an improvement, and that was, instead of being built in town London should have been built in the country." We know nothing so refreshing as the contrast—the rush from a crowd, lack of room, and suffocation, to space, fresh air, and an open landscape.

We started with the intention of reminding our readers that the entries for the Crystal Palace close on the 26th of this present month. So many temptations to giddiness surround people, there are such multitudes about, and there is such a whirl, the amount of what is called pleasure so nearly approaches to business, that we feel bound to use our flappers to recall people to the world as it was last year, and probably will be next year, and to remind them of the important fact mentioned above.

We expect we shall see many of our foreign friends who turn from science to animated nature; men like the author of the book we have lately been quoting from. We hope there will be hundreds such, and that our best yards will send specimens that will worthily represent us.

The general management needs no encomium from us. We have many times stated we consider this Show one of our holidays, and at this season of the year when the gardens (like the silver rims of the spectacles Moses bought), are worth twice the money. The addition of the Poultry Show makes us long for the time.

### FOOD FOR POULTRY.

Is barleymeal equally nutritious and wholesome for fowls as oatmeal? The fowls prefer the latter, but it is so high in price here, 23s. or 21s. per cwt., that it is too expensive for general use; the barleymeal is only 9s. per cwt. Are wheat cleanings, or "screenings" as they are here called, as good food for fowls as pure barley? The "screenings" of the wheat contain besides the smaller grains of wheat seeds of other kinds, and the fowls prefer it to barley, and it is less expensive, 6s. per cwt.

What description of food is best for Carolina and other Ducks of that class? Should they be fed on grain or soft food?—AMATEUR DE VOLAILLE.

[Oatmeal is certainly the best poultry food there is; but it is not exactly oatmeal as used for human beings—it is the oat ground entirely without taking away any part whatever of it. A peculiar process is necessary to prepare the stoves for this operation, and that being accomplished there is no difficulty. It is used exclusively in Sussex, and goes there by the name of "ground oats" and not oatmeal. Barleymeal hardens and heats poultry. Wheat screenings or cleanings amuse fowls, but do not feed them. All such things as these are "fond inventions" if they are intended to be substitutes for food. Our experience is that nothing is so cheap as the best corn or meal.

All Ducks like food that floats on the surface of the water. For this reason bread and meal are favourite food with them, although corn is their dependance.]

### REVIVAL OF PRESTON POULTRY SHOW.

WILL you allow me through your columns to point out to the parties interested the most excellent opportunity afforded by the celebration of the Preston Guild, in September next, to re-establish and carry out the Poultry Exhibition, which was for many years held in that town and attained a very high character? The Guild is held once in twenty years, and on this occasion there will be balls, concerts, processions, reviews, agricultural and other exhibitions, and many other entertainments, extending from the 1st to the 8th of September.

To this I would propose that a magnificent Show be added for two or three days of all kinds of poultry, Pigeons, Rabbits, song birds, and, if possible, dogs. Under good management, and on an extensive scale, such an exhibition would answer well financially, and would afford a fine chance to many a cue of being—AN EXHIBITOR.

### RESTLESSNESS OF AN ARTIFICIAL SWARM.

I MADE an artificial swarm on the 19th of May from a Ligurian stock obtained from "A DEVONSHIRE BEE-KEEPER" last year, which swarm has done very well under the old queen,

On the 4th of June, as several queens had arrived at maturity, I drove part of the bees out of the old stock to form a second swarm; and after a great number of bees had ascended into the upper hive, and I had heard a queen pipe inside, I removed it and put the bees into a bar-and-frame hive, which I placed in the situation of the old stock. The stock-hive was then placed on a separate stand; and having heard a queen piping inside, I congratulated myself on the success of my experiment.

Two supernumerary queens were cast out of each hive, and for some time they worked well and seemed all right. About ten days ago the bees of the second swarm appeared very restless, running about the entrance and front of the hive, so that I concluded they had lost their queen. I examined the hive on the 25th of June, and finding neither brood nor queen, I took two frames full of brood of all ages out of the swarm of May 19, and put them into the swarm of June 4.

Yesterday (July 3), I examined them, expecting to find royal cells, but found they had made no preparations for raising a queen, although they have been quiet and worked well since they received the brood. The old stock became very irascible, and, as they carried in little or no pollen, I concluded all was not right; so yesterday I examined their hive, and found it contained no brood, and having captured the queen found one of her wings imperfect, and suppose she is still a virgin. I put her in a bell-glass, with a few workers and some honey, over the top of the hive with perforated zinc between, intending to see if she could fly, but found her nearly dead this morning (July 4). I send her herewith by post to "A DEVONSHIRE BEE-KEEPER" for examination, and shall feel obliged by his informing me whether she is a virgin or not, if the point can be ascertained after death.

I found a little brood in one of the combs of the second swarm yesterday, which I expect will turn out to be drones laid by workers; they are in worker-cells, and not yet sealed over.

A hive of black bees treated in the same manner has been much more fortunate. The second swarm obtained in the same way was placed in a unicomb-hive; and although one of the queen's wings is imperfect, she has been duly impregnated. Are artificial queens more liable to defects in their wings than natural ones, or not?—J. E. B.

[If you had opened and examined the hive at the time the bees were so restless that you concluded they had lost their queen, you would probably have been convinced of your mistake by discovering her majesty a close prisoner amidst a dense cluster of her subjects. The only author who, as far as I can remember, notices this remarkable phenomenon is Mr. Langstroth, who says, "Bees are sometimes so excessively agitated when their queen leaves for impregnation, that they exhibit all the appearance of swarming. They seem to have an instinctive perception of the dangers which await her, and I have known them to gather around her and confine her as though they could not bear to have her leave." Mr. Langstroth is, however, most probably wrong in his conclusions, since it can scarcely be affection which prompts a confinement of such severity as frequently to result in the permanent mutilation of the unfortunate captive. "J. E. B." remarks that the wings of both his young sovereigns were defective, and asks if this is to be attributed to their being what is usually termed artificial queens. To this I should reply, Certainly not. The defect in the wing of the one he sent to me was but trifling, and was evidently not congenital, having doubtless resulted from ill-usage by the workers, either before or after her wedding flight.

My own experience this season of the maltreatment of queens by their subjects is so extraordinary that I will briefly relate it. I need only advert to the death of the last of my foreign queens, as that story was told at length in page 110, and pass on to subsequent events. On the 3rd June I found a queen, which was hatched on the 12th of May, closely imprisoned by her subjects. Although released the next day, one of her hind legs was permanently crippled; and after keeping her till she was a month old, without any appearance either of impregnation or of egg-laying, I ultimately made away with her, although I now fancy I was somewhat hasty in so doing. The next case occurred on the 16th of the same month (June) with a queen hatched on the 30th May. She had evidently just returned from her wedding trip, as she possessed the undoubted sign of impregnation noticed by Huber. No evil consequences followed in this instance, and eggs were laid three days afterwards. Another queen hatched on the 29th May was twice closely imprisoned—viz., on the 19th and 25th of June. The bees at both times

appeared greatly excited and rushed about the entrance and front of the hive, apparently in search of her. On the 29th of June, being then thirty-one days old, she was none the worse for the ill-usage she had received, but commenced laying worker-eggs in spite of Huber's dictum that queens whose impregnation is retarded beyond the 21st day lay only drone-eggs. Again, on the 23rd of June, a queen hatched on the 31st May was confined and so maltreated, that, although she has turned out remarkably prolific, she has entirely lost the use of one of her second pair of legs. The last and most singular case is, however, that of a queen, one year old, which I found a captive on the 3rd instant, and which two days afterwards I discovered to have lost a part of one of her hind legs, the foot having (so to speak) been amputated at the ankle joint. Notwithstanding this mutilation her fecundity is not the least impaired, and she is still capable of performing every royal function.

All these proceedings (especially the last, in which a fertile queen was imprisoned and actually maimed by her subjects), are so extraordinary, and are so opposed to what we have all heard of the unswerving fidelity and devoted loyalty of bees to their sovereign, that I acknowledge them to be quite beyond my comprehension, and, therefore, entirely refrain from theorising; merely surmising that the inclemency of the season (our English summer having set in this year with more than its usual severity), and consequent scarcity of honey may have something to do with them. Whilst honestly confessing my own sagacity to be entirely at fault, I am not without hope that other apiarists may be able to assist in elucidating the mystery, and shall be obliged to any one who may endeavour to do so through the pages of THE JOURNAL OF HORTICULTURE.

The queen sent was undoubtedly impregnated. A microscopic examination of her spermatheca revealed countless thousands of spermatozoa which still retained sufficient vitality to exhibit their peculiar rotating movements; whilst the ovaries were well developed and filled with eggs, which the microscope demonstrated to be connected together by their ends like so many strings of sausages.

I have no doubt that the swarm of the 4th June possesses an impregnated queen, although she eluded your observation. The occurrence of fertile workers is so rare a contingency that it may be altogether left out of the calculation.—A DEVONSHIRE BEE-KEEPER.]

#### THE SEASON—HYBRID LIGURIAN QUEENS— LATE BEE FLOWERS.

I PERFECTLY agree with Mr. B. Fox, that the present season has been one of the worst we have had for years. I have been feeding all my hives for more than a month, as I found they were not doing well, and on examining some of them found that it was from starvation by cold and want of food. I have had about a dozen swarms, and should have had more, but the weather was so bad that some came off, but the queen went immediately back and destroyed the young queens, and had I not fed the swarms I do not think that one would have existed. If the Ligurian queen throws both Ligurian and black bees, how do you know when she herself is pure bred? as I observe one of my queens from M. Hermann breeds very fine Ligurian bees, and the other are darker and not so much yellow, but many of the drones are better marked, whereas some of the drones from the queen that throws the best bees come very dark, and some well marked. Would the "DEVONSHIRE BEE-KEEPER" give us his experience on this subject? as no one in England understands them so well, and there is no doubt they are superior in every respect to the black bees; and I do not find them when swarming more inclined to attack you than the black bees, but I have always found that the weather has a great influence on them, and especially when swarming.

Can Mr. Fox, or any of your bee-keepers say, should the weather change, what flowers they will be able to get honey from? as I observe mine are able to get plenty of pollen, but very little honey, and I do not observe anything now left but the white clover, and, as "AN OLD BEE-KEEPER" remarked the other day, if we should have a bad ling (heather) season, it will be all up with the bees.—A. W.

[M. Hermann's queens were certainly not always to be depended upon. I should say that the one which breeds the yellowest workers is probably pure, the other impregnated by a black drone. The variation in the colour of bees bred by the best

Ligurian queens is often very remarkable; but with regard to the drones it must be remembered that the first cross does not affect them, so that a hybridised yellow queen may possibly breed even better drones than one which has had a true Italian impregnation. I believe what is left of the white clover and heather when within reach, is nearly all the pasturage that now remains for our bees.—A DEVONSHIRE BEE-KEEPER.]

### BEEES IN JAMAICA INCREASE THE SIZE AND SUBSTANCE OF THEIR CELLS.

I AM very much obliged to your several correspondents for their information in regard to the supposed differences in the bees of Britain. Possibly some few of your readers may be interested in the following case:—The hive bee was introduced many years ago into Jamaica. Having seen it stated that the cells were larger, I procured (through the kindness of Mr. R. Hill, of Spanish Town), some bees and comb. The bees have been carefully examined by Mr. F. Smith, of the British Museum, and pronounced to be the common species. I also secured the hind and front legs, the antennæ and jaws of worker bees from Jamaica and my own stock, and could detect no trace of difference in size or other character. But here comes the remarkable point—the diameter of the cells is conspicuously greater in about the proportion of 60 to 51 or 52 than in our English combs. The wax seems tougher, and the walls, I think, are thicker. The cells in parts of the comb were much elongated, and the whole hive contained a great quantity of honey. It certainly appears as if the instinct of the bee had become modified in relation to its new, hot, and rich home. But it seems to me an astonishing fact that the cells should have been made larger without a corresponding increase in the size of the body of the architect.—CHARLES DARWIN, *Down, Bromley, Kent.*

[The extra thickness and toughness of the wax employed by the bees in the torrid climate of Jamaica render the combs better capable of resisting the heat. The increased size of the brood-cells would better protect the larvæ from the same excessive heat by interposing a wider air-filled space between them and the walls of the cells; for air is one of the worst conductors of heat. If such be the true explanations of the changes adopted by the bees, they are additional instances of instinct approaching closely to the confines of reason.—EDS.]

### BEEES AS CHEMISTS.

I AM very much obliged to Mr. Shesrer for his kind attempt to prove what we both believe—viz., that simple syrup is changed by bees before it is stored in their combs, although I am by no means surprised at the result.

I really see no better test of the truth of our opinions than that which I have offered more than once, and which I now beg to repeat. I have some simple syrup in comb, made and stored by bees so late last autumn that all honey-gathering was over at the time, and this I am willing to submit to the Editors of THE JOURNAL OF HORTICULTURE, or such other tribunal as they may point out. If this is not satisfactory to our opponents, I submit that the burden of proof lies with them. Supposing them to be right, and that bees always store their food unchanged, what can be easier than to produce a bit of sealed comb in which simple syrup may be found unaltered? But this has not yet been done, although I offered a good stock of Ligurian bees to any one who could effect it, and I am well assured that it cannot be done. A few weeks ago "A NORTH LANCASHIRE BEE-KEEPER" sent me a bit of comb in which were what he considered to be crystals; but these turned out to be only esudied particles such as are constantly to be found in true honey, and from which they did not differ in any respect when examined under the microscope.

The plain fact that no one can produce simple syrup which has been stored by bees in the same state in which it was given to them, appears to me quite sufficient evidence of the correctness of the opinions expressed upon this subject by—A DEVONSHIRE BEE-KEEPER.

[We think our friend is rather unreasonable. The proof is required from those who maintain the affirmative; and the only conclusive proof, we think, would be to have, in a hive already combed, a swarm—an artificial one for example—and to

confine the swarm in a light room or greenhouse entirely without plants, but with a full supply of sugar syrup, and nothing else. If the bees converted that syrup into honey, the problem would be solved. Mr. Shearer's experiment merely shows that the bee, by the act of swallowing the syrup, does not convert the sugar into honey. It would have been more conclusive if he had allowed the bee to fly about in an empty room for an hour before he emptied its honey-bag.—EDS. J. OF H.]

### NON-IRASCIBILITY OF LIGURIAN BEES—FUMIGATION—BEEES LEAVING THEIR HIVE.

I THINK the Americans are wrong when they say the Ligurian are more irascible than the black bees. I suppose they judge the bees by themselves, as I believe the two mixed are very irascible, as I nearly always find the bees that come at me are the black ones. I consider the Ligurians are superior to the black; they are prettier, more prolific, and are quicker in finding out honey pastures. I have a queen I got from M. Hermann that swarmed four times in five days. The swarms are very fair and doing well, although we have had bad weather in this part (South Durham); and I observe the bees have not been able to make much honey, and very many swarms have gone back to their parent hives from starvation. Two of last year's swarms (black bees) I took the bees from the other day did not appear to have a quarter of a pound of honey each. I have, therefore, been feeding my hives.

FUMIGATION.—Not being so expert with bees as "A DEVONSHIRE BEE-KEEPER," I have generally adopted it as the only way to get the queen from a hive or a swarm, and if not overdone, do not see that it injures the bees, and certainly seems to be the only plan of joining without fighting. I have a hive of Ligurians to which the black bees were added now nearly two years since by fumigation. I observe many black bees among them, and, therefore, am of opinion that bees live much longer than six months; and those bees do not appear to have suffered from the fumigation.

BEEES DESERTING HIVES I think may arise from many causes. I had two last-year's swarms that appeared doing well early this spring; but as the weather got warmer I did not see so many about, and when I looked found only three or four bees in one, and in the other not more than a dozen or so, but did not see a queen in either. The bees from one I am almost certain joined the next hive; but what became of the bees from the other I do not know. I also had a hive that had swarmed twice last year, and had when brought from the moors 36 lbs. of honey, and was well off for bees in the beginning of the season; but I observed some of the Ligurians found it out, and robbed it; consequently nearly all the bees went with the robbers. About a month since I fumigated it, to see if there was a queen, when I found only about a handful of bees, and after taking out some of the comb observed the queen at the very top of the hive (straw), I therefore returned the bees, and at ten A.M. removed the next hive on another board, and placed this one on its board, since which it seems to be doing well. I have found a great deal of honey candied in three or four hives this last winter; what can be the cause of this? I do not find the Ligurians attack more at swarming than the black ones; but should the weather be windy and wet I think both will do so.—A. W.

[You are mistaken with regard to the longevity of bees. The existing black ones have either strayed from other hives, or are bred by the Ligurian queen. Honey candies by exposure to cold.]

### LIGURIAN BEEES IN AMERICA.

It will be perceived from the following advertisement which we copy from the *Prairie Farmer*, that Ligurian queen bees fetch high prices on the other side of the Atlantic:—"ITALIAN QUEEN BEEES.—We guarantee the purity of all queens, bred by us, and their safe arrival at any express office. Price for a queen of a beautiful colour in a small box with a few workers 10.00dols.\* or 5.00 dols. when not warranted to be impregnated by an Italian drone. Ministers of the Gospel are entitled to use 'Langstroth's Moveable Comb Hive' without charge, and can have warranted queens for 5.00 dols.—L. L. LANGSTROTH & SON, *Oxford, Butler County, Ohio.*"

\* £2 1s. 8d. sterling

## THE CROW AND THE FARMER—A FABLE.

"FROM a forthcoming volume of Fables of Æsop and others, done into modern verse, and with copious illustrations drawn from the life by able artists, and the speeches of the several animals, birds, and reptiles, rendered from the ancient shorthand of one who was familiar with their several tongues."

The Crow is walking all over the field  
As if he were counting how much it will yield;  
He's as clear at his ease as if it were known  
That that very big field and the grain were his own!  
And there isn't a blade, and there isn't a shoot  
That he doesn't inspect from the tip to the root.  
And when he finds one that he thinks locking ill,  
He goes at it and digs it right up with his bill.  
And wherever he turns up a little green shoot,  
He gobblea up something he finds at the root;  
And he marches along with a satisfied look,  
As much as to say "I'm a very good rook!"

The Farmer is strolling all over his land,  
With his dog at his heels and his stick in his hand,  
All at once he pulls up and he comes to a stand,  
Then he walks very fast, and he looks in a rage,  
And he'll do for the crow, that he will, he'll engage!

He is all in a pet,  
In a fume and a fret,  
At the corn he sees pull'd;  
And he spreads out a net,  
And it happens just so  
That he catches the Crow,  
And he holds him quite tight,  
And he won't let him go!

And he calls him "a thief, and declares that a peck  
He has pulled of his oats, and he'll twist off his neck!"  
And that instant he's going his fury to wreck,  
The Crow can do nothing the murder to check.

"He declares and protests,  
Not the oats but the peets,  
He has pick'd from the roots  
Where they lay in their nests!

And it's never the grain that he preys on at all,  
But the worms and the grubs be they ever so small.

And he knows by the way  
The blades droop and decay,  
Where these ruinous swarms,  
Gnaw the roots in the lay!

What he looks for and kills, eats, hunts up, and stabs—  
But he can't get believ'd—are the worms and the grubs.

And but for the Crow  
So fast they would grow,  
They'd be millions of millions,  
And no grain to mow!

And yet for his labour, and watching, and use,  
Why the best that he meets with are blows and abuse!  
He can't think how the Farmer can he so obtuse."

The Crow is hanging the corn among  
He argued in vain, and his neck it was wrung;  
And the Farmer he's getting a poor little yield,  
Of very small oats from his very large field!  
He looks at the reapers, he looks at the sheaves,  
He pulls up the stubble, and sees and believes;  
For he finds that the worms have been at it again,  
And have cut at the roots ere he cut at the grain,  
And he feels very bad, and he doesn't quite know  
How it is, but he can't bear to look at the Crow.

## MORAL.

Watching the crops from day to day,  
The birds on preying insects prey!  
Grubs, worms, that else in endless swarm,  
Would strip the Farmer and the Farm,  
They slay and keep the crops from harm.  
The bird may pick some random grains,  
But earns them fairly for its pains,  
And bushels full the farmer gains!  
The French their birds have shot and eat,  
And find in wonderment complete  
They've neither fruit, nor oats, nor wheat!  
Do nothing on suspicion merely,  
Investigate each matter clearly,  
Or, blundering, you'll repent it dearly.

—(Western Times.)

ROWAN WOLF.

**EPSOM RACES.**—The course at Epsom is in the midst of downs, intersected by three hills in parallel lines: in the vales between these hills the champions entered the list. Several of the spectators came in coaches, which, without the least bustle or dispute about precedence, were arranged in three or four lines, on the first of those hills; and, on the top of all, was a scaffolding for the judges who were to decree the prize. The scaffolding was the goal which bounded the race, and the starting-post was at the head of the outer vale of the second hill: four horses starting from thence ran in this vale about the length of a mile, turned round by the next hill, to the height of the starting-post, and at length reached the hill, on which stands the scaffolding, where he that came in first was declared the victor. The prize is not adjudged till after three heats; and to him only

who has won two out of three. If he be so successful as to win the two first, the third is dispensed with, which was what happened at the race where I was a spectator.

There are neither lists nor barriers at these races: the horses run in the midst of the crowd, who leave only a space sufficient for them to pass through; at the same time encouraging them by gestures and loud shouts. The victor, when he has arrived at the goal, finds it a difficult matter to disengage himself from the crowd, who congratulate, caress, and embrace him, with an effusion of heart which it is not easy to form an idea of without having seen it.

The deference to the victors is not confined to these transient homages. All the houses of country gentlemen, all the inns, are lined with pictures of horses, painted or engraved, in various attitudes of strength or agility, with an account of the victories they have won, their names, those of the jockeys by whom they were trained—in fine, those of the noblemen to whom they belong, and from whom they met with all the care and tender treatment that favourite children can expect from a parent.

So great was the crowd, which covered the place where the horses ran, that I could not see them, except upon the ridge of the second hill. They kept upon the full stretch, without rising or darting forward, and appeared to me to resemble wooden horses that had been fixed in full stretch upon the rim of a great horizontal circle, moving round upon its axis, with the utmost rapidity imaginable.

In order to cut the air, the groom, who is almost totally inclined upon the neck of the horse, holds the handle of the whip fixed before him, or shakes it before his mouth.

Before the race begins, the jockey, the saddle, and whole furniture of the horse, are weighed in the presence of the judges; and care is taken that all the horses admitted to run be equally loaded.—(Notes on England by a Frenchman a Century ago.)

## OUR LETTER BOX.

**PLUMAGE OF SILVER GREY DORINGS (T. R.).**—The cock of the Silver Grey Dorking should have perfectly black breast and tail light, almost white hackle and saddle. The slightest deviation from the former is fatal to success. The hen should have grey feathers with white shafts, save on the breast, which should be robin or salmon, and the hackle which should be distinctly striped with black and white. We dare not say that any spreading of the red breast to the outer part of the wing should be a disqualification, but it is a disadvantage.

**NOISE IN THROATS OF CHICKENS (B.).**—The guttural noise in breathing, and the endeavour to remove something from their throats, indicates that there is something in their windpipes; and that something, probably, is the parasitic annats which constitute gapes. If the birds yawn much, there is no doubt about it. Inhaling the vapour of spirit of turpentine, and taking tonics, such as sulphate of iron in the water, are the best appliances.

**EGGS OF LA FLÈCHE FOWL (A Cottager).**—There are none of the eggs or fowls for sale at present in England. There will be some advertised in our columns in the autumn.

**HIVES (Mrs. Bent).**—If you write to Messrs. Neighbour, High Holborn, they will send you a list of prices. You had better leave the bees in the old-fashioned hive, and put their swarms next year into the hives you prefer.

**PARROTS (E. D. S.).**—We know of no book devoted to treating of the management of Parrots. All that is necessary to be said would not fill two pages.

**DESTRUCTIVE CAT (A. A. A.).**—As its owner knows its propensity to steal Pigeons, &c., and drives it out of his own house, you need have no compunction in destroying it, though you have no legal right to do so. We should kill it and bury it without any hesitation. If you can prove the cat killed your birds, you could recover their value from the owner of the cat by suing him in the county court. Of course you would have to prove the ownership.

**RENDERING HAY UNEATABLE.**—At this time, straw in this neighbourhood is worth full as much as hay; and having to find bedding for six horses regularly, being in stable at nights, but not having to find food for them, I find it very expensive to purchase straw. Having a quantity of a rough kind of hay which I wanted to use for bedding, but which I am prevented from doing because the horses eat a considerable quantity of it when put under them, what could be done to the hay to make it so that the horses would not eat it?—WM. WATKINS.

[Why not sell the hay and buy straw with the money obtained for it? We know of no harmless, cheap mode of rendering the hay uneatable. Eds.]

## LONDON MARKET.—JULY 14.

## POULTRY.

The supply gradually increases, and at last is equal to the demand. There is a trifling diminution in price, and as the former must increase while the latter diminishes, we shall soon note a greater change.

Large Fowls .....	3 6 to 4 0	Ducklings .....	2 6 to 3 0
Smaller do .....	3 0 " 3 6	Hares .....	0 0 " 0 0
Chickens .....	1 9 " 2 3	Rabbits .....	1 4 " 1 5
Geese .....	0 0 " 0 0	Wild do .....	0 8 " 0 9
Goslings .....	6 0 " 6 6	Pigeons .....	0 8 " 0 9

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	JULY 22—28, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.	Sun Sets.	Moon Rises and Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.						
22	Tu	Nierembergia gracilis, &c.	29.743—29.587	degrees. 74—15	S.W.	.04	m. h. 11 af 4	m. h. 2 af 8	m. h. 8 0	25	m. s. 6 8	203
23	W	Peldum Cateyanum.	29.737—29.589	71—51	S.W.	.01	12 4	0 8	52 0	26	6 10	204
24	Tu	Tecoma capensis. [1797.	29.823—29.666	69—56	S.	.12	13 4	vii 46	1 27	6 12	205	
25	F	ST. JAMES. D.S. CAMBRIDGE BORN,	29.664—29.551	68—53	S.W.	.13	15 4	58 7	46 2	28	6 13	206
26	S	Tropeolum peregrinum, &c.	29.664—29.481	72—41	W.	.29	16 4	56 7	sets	● 1	6 13	207
27	Su	6 SUNDAY AFTER TRINITY.	29.735—29.651	71—44	S.W.	.20	18 4	55 7	47 0 7	1	6 13	208
28	M	Chironia tetragona, &c.	29.960—29.783	74—39	W.	.01	19 4	53 7	7 8	2	6 13	209

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 74° and 51.8° respectively. The greatest heat, 92°, occurred on the 25th, in 1841; and the lowest cold, 31°, on the 25th, in 1860. During the period 133 days were fine, and on 107 rain fell.

THE KENSINGTON GARDEN OF THE ROYAL HORTICULTURAL SOCIETY.



HORTICULTURE is losing nothing in popular estimation in our own day. In whatever quarter of our seagirt home we survey, there seems no lack of spirit to promote its growth—no power at work, if such there may be, that at all can influence or propagate a retrogressive tendency.

Happily its progress keeps pace with the age we live in; and although it is absolutely and only a study of Nature and the best

methods by which Nature can be aided, we have as much reason for gratulation, at all events, as those that are pursuing kindred arts. Even since the dawn of the present century, or the most palmy days of Mawe, Abereromby, and Speechley, to say nothing of the genius and practical skill of Knight, for he was a man far in advance of his day, much has been effected, which is due in a high degree to the enterprise, not of botanists altogether, else we would pay homage to that illustrious Swede who organised a system out of chaotic confusion, as well as to Jussieu and Decandolle, who each wrought hard to found the system which takes precedence in our own day, and which Lindley and Arnott, living authors, have so ably sustained. But it is due to those men who were sent out, in a commercial point of view, to ransack the earth, to wander over paths where the foot of civilisation had in many cases never trod, for the numerous novelties which grace the conservatories and parterres of the affluent both in this and other European countries, and which time after time have justly excited the admiration of foreigners in particular, for the skill brought to bear upon their successful cultivation as exhibited here.

What a wonderful and interesting addition has recently been made by the indomitable perseverance of Mr. Fortune, who has hitherto figured so largely in adding to the European herbarium, as well as by the youthful but enterprising Mr. Veitch, who was only two years absent from this country, and sent home so valuable a collection from China and Japan of plants likely to stand the test of our northern climate.

Nor has there been any lack of skill at home. Hybridisers have set judiciously to work, and have met with their reward. The florist has had certain forms turned out with compasses as the summit of perfection for him to imitate, and has laboured hard until he has almost attained what by some was considered an impossibility. Skilful crossing and reproduction from seed have wrought out a wonderful reformation. The rarest plants are sent abroad brought from afar to be cultivated and bloomed here, scarcely inferior to the excellence they attain in their

native wilds. The taste for flower gardening is immensely on the increase, and thousands of plants are bedded out in the parterres of the noble and the wealthy for every ten treated in the same way a quarter of a century ago. Fruit-houses, instead of covering square yards, are now covering acres in proportion, and still the extension is on the increase. Such are the advantages surrounding the path of all devoted to gardening.

Now, the Royal Horticultural Society was inaugurated under the highest and most distinguished patronage, and can still boast of an illustrious roll of names, from our sovereign Queen, and a long list of noble peers and wealthy squires, down to numbers of those who make horticulture their study and their profession. It is to be expected, then, that, availing itself of the advantages we have specified, all the operations of that Society are to be conducted on a superior scale; that the gardens are to be worthy of the high patronage which they bear; that flower gardening and the present fashionable style of floral decoration, which is so captivating the public mind at the present time, should be aptly represented; that the landscape should be so planned as to offer to the practical gardener in charge the best and most suitable groundwork to display skill and taste in arrangement, in order to produce striking effect, and, what is sure to follow, a pleasing sensation on the part of the visitors who pay their mite, many of them all the while believing that they are promenading the best style of gardens that it is possible for the horticultural mind to conceive; that, in short, it should convey to the minds of the numerous body of gardeners who go up from all parts of the country to see it, a largeness of design and a method of execution which they would be eager to copy.

But what is the fact? What is the opinion of the best-informed of those who have seen the Garden for the first time while visiting the great world's fair? "I am very much disappointed with the Kensington Garden," says one, "there is really nothing in it worthy the high name it bears." "The Kensington Garden" say more than one, "is admirably adapted for being one of the great 'tea gardens' of England." "Nesfield's plan is a sham and delusion on terra firma; it only looks well on paper," says another very respectable authority. "The flower-beds are so small on the sunk panels of grass; besides, they are completely lost amongst so much grass and water, that they have only a partial effect."

Indeed, we did not hear a single complimentary remark, barring that it was "kept in good order."

We were very much pleased with the fountains, especially those spouting out cascade fashion, which was novel and refreshing to the promenader, tempering the sun heat reflected from the noble conservatory and those immense domes and other glass coverings of the International building; but we also were very much disappointed with the plan as a whole, as completely unsuited to the great requirements of an immense sight-seeing population.

Nobody expects to see a botanical collection. It is avowedly not a botanical garden. Everybody expects to

see a great floral display. As at present laid out that is simply impossible. A great proportion of grass is well enough; a good proportion of water in the shape of fountains is indispensable; but a great display of bedding-out plants arranged on a scientific plan, and of some magnitude, so far as length and breadth are concerned, is quite as indispensable. Nothing pleases the sight-seeing public better. You deprive them of walking upon the grass as a matter of necessity, but you certainly ought to give them something that the naked eye can rest upon in the shape of flowers, without having recourse to their eye-glasses. Justice compels us to say that the beds were well filled, and while we write will be full of bloom. The fault is not in the carrying-out of the plan, but in the plan itself.

Very few gardeners will dispute that a chain-border on either side the walk from the main entrance up to the conservatory well filled would have a far more gorgeous effect than all these detached plans in the sunk panels, or those elaborate devices in boxes filled with "broken bottles," sands of various colours, &c., which have called forth hostile criticism already. In fact, a simple border 12 feet wide on either side running the whole length, or the whole breadth, or both, planted in straight lines with telling colours, would have a very grand effect.

If we be correct in our notions, we aver that flower gardening proper is not so much a nibbling out of geometrical figures before planting as it is the proper disposition of plants in circles, squares, and parallelograms in an artistic point of view in the act of planting. Anybody can see that you will gain by this method, for you can alter your plan every year.

Some may suggest that this would be all very well for summer decoration; but what of winter and spring? We say that such gardens as that of the Royal Horticultural Society can have furnishing for both winter and spring, and can be arranged to have quite as artistic a finish.

Look, again, at those miserable lines of Portugal Laurels, and those forlorn groups of Limes which are pining away a wretched existence. Decidars and some others of the Coniferae are doing little better. It is clear that the Laurels will not thrive. Rhododendrons would do very much better. These stunted-looking Limes for decency's sake should be thrown out, and if the Council are determined to perpetuate the group, why not get young vigorous trees? Wellingtonia, Cupressus Lawsoni, Thuja borealis, Thuja gigantea, and some of these hardy and ornamental "denizens" are likely to do well if introduced; so also are Irish Yews. Why not introduce some of these, however small, which are likely to maintain the character of being healthy? Far better to do this than to be laughed at, not only by those who know what horticulture is, but by those whose knowledge of it is somewhat circumscribed. — JAS. ANDERSON, *Meadow Bank, Uddingstone.*

### BEDDING-OUT AT THE CRYSTAL PALACE IN 1862.

THESE notes were taken at intervals during the rehearsal and the three days of the glorious Handel festival.

The great range of beds, along the centre of the grand terrace walk between the two chain-patterns in the sunk panels, is in two divisions, the main centre walk from the Palace cutting it into halves. Each half begins and ends with a circular bed 6 feet through, and there are ten of them in each half of the range, and also ten oblong beds 6 feet wide and 18 feet long, alternating with the circles—that is to say, there are forty beds in all; and all the circles have standard plants in the centre, as Rhododendrons, and the Umbrella Acacia, plant for plant, and two Cedars in each division.

All the circles are planted alike with Purple King Verbena, edged with variegated Alyssum; the oblong beds are also all alike in the ridge-and-furrow, or double style of ribbon stripes—that is, a centre of three rows of the Crystal Palace Scarlet Geranium, then two rows of Christine on each side of the centre, and two rows of Tropaeolum elegans on the outsides; or say a broad stripe of deep scarlet along the whole centre, with a less broad band of rose on each side, and the edges in equal breadth of orange, with a contrast circle of dark purple intervening at every 20 or 22 feet of the distance, or thereabouts, by allowing for the space of grass between the beds. The Rhododendrons in the four corner beds, in the sunk panels at either end of the grand terrace, have been removed; the beds being now, as at the beginning, filled with bedding plants (and

the filling is the same in all of them), will be more gay than they have yet been. These beds are true angle-beds; they fit the angle of two walks, and both ends of the beds are in this form.



They are edged all round with Flower of the Day, then yellow Calceolaria. The circular ends have Christine Geranium after the Calceolaria, and in the middle of Christine comes the Crystal Palace Scarlet Geranium; but in the rest of the centre, between the circular ends, the Cottage Maid Scarlet Geranium is planted with Cerise Unique between it and the Calceolarias. The shape of the beds is unique, and the planting not less so; and it only wants an oval-shaped group of Christine in the centre, as represented in the dotted oval, to correspond with the two ends, to make these corner beds not only wholly unique in the planting but perfect of their kind. Even as they are, and not yet in full bloom for telling the pattern, I could see thousands standing over them, and others looking at them out from the gallery above the colonnade more earnestly than even I saw on the grand terrace arrangement.

The chain pattern this season, is edged all round with variegated Alyssum, and the yard links between the beds are also all in Alyssum—the most aristocratic touch in all England very probably. I must get the number of the hundreds of yards in those edgings, and the number of the thousands of plants it took to fill them and the links. The rest of the chain is in scarlet and yellow as usual.

From the corners of the chain-pattern panels, next the centre of the terrace, there is a run of neutral beds to each end. The oblongs have been all along in Rhododendrons edged with the best of all the dwarf China Roses, Cramoisis Superieur, and the circles in bedders. Here is where you may always look for the newest things and all the titbits of the establishment, because there is no law that can be violated or made good in whatever kind or manner such isolated beds are planted. Let us, then, have them one by one from the very west end of the terrace. No. 1 is Unique Geranium in the centre; two rows of St. Clare, a pale flower of a variegated Geranium; one row of Baron Hugel, and the outer edge of Lobelia speciosa—a very pretty bed indeed in any part of the three kingdoms; and when the Italian Ricasoli comes next year in the place of the Austrian Baron Hugel, it strikes me you could hardly better it in most places. No. 2, Nosegay Fothergilli or Purple Nosegay for centre; Richmond Gem all round it; and then an edging of the variegated Prince of Orange, which first originated in a "sport" on an old plant that had been some years planted in a border, and trained against the back wall of a greenhouse, a mile or more out of Ipswich, when I was at Shrubland Park. No. 3 you have probably never seen. It is of the Carmine Nosegay, for the first time there; and is rounded by a band of Blush Minimum, which must be a wonderful favourite, for they have it in all ways, and that is the only garden in England where it is grown, for it is not a poor man's plant. These are edged with a double row of the Golden Chain, the plants being very young, and not over 3 inches high. No. 4 is of the old Ignescens major, now called Scarlet Unique; one row of Shottesham Pet variegated Geranium round it, with an edging of Lobelia speciosa. No. 5, Miss Jago Nosegay, Blush Minimum round it, and two rows of Golden Chain outside. These finish the west side of the grand terrace arrangement; and the five corresponding beds on the east side are a little different—thus: No. 1, Carmine Nosegay, Blush Minimum, and Golden Chain. No. 2, Shakspeare Scarlet Geranium, with Nosegay footstalks to the trusses; Princess Alice Geranium round it; and the pink Lateripes (Ivy-leaf) mixed with the Lobelia speciosa for edging. No. 3, Spitfire, a Horseshoe Scarlet; Blush Minimum; two rows Golden Chain, mixed with the original scarlet Verbena Melindres. No. 4, a seedling Horseshoe raised at the Crystal Palace; one row of Blush Minimum; two rows of Crimson Minimum, the best of that race; and one row or edging of very young plants of Alma variegated Geranium.

Here you see Crimson Minimum, which is twice the size of Blush Minimum, is yet planted in front of it; also Alma, which is as big as the two Minimums put together, is yet an edging to them. That is how people who are not burdened with "sillar" ought to manage. It is quite manageable to have a bed of double Daisies edged with Punch, raise the bed well to the centre, and make Punch in little bits of cuttings in April.

The half circle or sweep of the *Araucarias* in the very centre of the great terrace, reads differently from any of the other arrangements, a fact which has puzzled some good gardeners. That half circle is cut in two by the main centre walk, and each side of the half circle, right and left of the centre walk, is as it should be, a duplicate of the other, on both sides of the circular walk: therefore, the beds do not read in duplicates across the circular walk, but right and left of the centre walk; and we take the outside or the upper part of the sweep first from the lower corner. There are seven oblong beds in each half of the sweep, with pedestals and statues between, and one set of the seven beds will give the contents of the corresponding number. No. 1, Shrubland Rose *Petunia* all over, and an edging all round of a new *Lobelia*. No. 2, Golden Chain and Alma variegated *Geranium*, plant for plant, and all mixed with *Impératrice Eugénie*, a low-spreading striped *Verbena*, which heightens the effect wonderfully. No. 3, *Commelina cælestis* all over, and the edging as before. No. 4 is the centre or key bed, having three beds on each side of it. This is full all over with *Petunia Inimitable* (double), the very gayest of all the double kinds indoors, and now we shall see what it will turn out in beds. No. 5, *Verbena Lord Raglan*. No. 6, *Calceolaria amplexicaulis*; and No. 7, a very good new cross seedling *Tropæolum*, raised at the Crystal Palace, between *elegans* and *Triomphe de Hÿris*—only one good seedling out of a large batch. Now, both sides and the two ends of all these seven beds are edged with the same new *Lobelias*, and the seven corresponding beds on the other side of the centre are edged like them; and the *Lobelia* seedlings, with which the whole are edged, are the most telling and at the same time the most lovely edging plants on the face of this earth. You never saw them unless you have been there; but happen what will, you must have them next year if you be within a thousand miles of our shores. I have ordered my own share of them already. Sir Joseph Paxton who has seen as many good plants as most people, says he never saw a *Lobelia* more lovely to look at than one of them, or a more beautiful combination of colours; and certainly I never did, nor did I expect to see such a combination of colours in the family.

One is a *Nemophila insignis* transfigured into a *Lobelia speciosa*, but with the flowers twice as big as those of *speciosa*, the habit about the same, or, perhaps, the new one is a little more free, which makes it all the better. If it were an *Orchid*, I would say the upper sepals were of *Nemophila* tint, and the labellum or flat front part of the flower is white as the driven snow, and is edged all round with the tint in the sepals, the peculiar blue blending imperceptibly into the unusual expansion of white on the lip of a *Lobelia*.\* The *Araucaria*-side of the sweep is thus planted. All the *Araucaria* beds of raised mounds are as last year, *Cerastium* top and bottom of the slope, and *Lobelia speciosa* covering the slope.

The pedestal-beds, seven on each side of the centre walk, have all *Flower of the Day* for edging on the inner side, and on the outside; and between the two rows of this variegated favourite in the first bed is *Trentham Rose Geranium*; No. 2, *Cottage Maid*, a *Horseshoe Scarlet*; No. 3, *Crystal Palace Scarlet Geranium*, and so on alternately to the other end of the sweep or half circle. The centre walk down through this half circle has two pedestal beds on each side; two of them are with the old purple *Nosegay*, and two with *Cottage Maid*. Then we have only the eardrop-like beds pending on the bank at each end of this terrace. These drop-beds hang from the points of reversed festoons of variegated *Holly*. In the bow of the festoons is first, next the *Holly*, yellow *Calceolaria*, then a row of *Crystal Palace Scarlet*, and an edging of *Mangles'*, which comes down round each of the drop-beds, which beds are planted as the bounds of the festoons on each side of them, with the addition of a fat edging of the spring blue *Gentiana acaulis*, which does remarkably well on this strong soil.

From this upper terrace is the best place to read the arrangement on both sides of the main centre walk down from it to the basin between you and the water-temple, and here it is. Seven circular beds and seven oblong beds on either side. All the oblong beds are alike, and all the circles the same, but different from the planting of the long ones. Down the centre of all the oblongs are three rows of the *Crystal Palace Scarlet Geranium*, then two rows of yellow *Calceolaria* on each side of the centre, then two rows of double white *Pyrethrum*, and two rows of *Purple King Verbena* for edging. All the seven circles have *Purple Nosegay* in the centre, *Cerise Unique* round it, and the new

\* This variety is to be called *Paxtoniana*, and one with a pure white rent *Gordoniana*.

seedling *Tropæolum* next, then an edging of the variegated *Alyssum*. All the beds round the centre basin are much in the same way; but the dwarf *Rhododendron Wilsoni* has been removed from the two large circles west of the centre of the basin, and all the bedding *Dahlias* are to be set there in place of the *Rhododendron*. This, and the end panel-beds of the upper terrace, may be taken as putting the best foot foremost in honour of the International Exhibition, which is fast gathering girth to the Palace mill. On the sides of the secondary walks down from the terrace the borders were gay with common *Pinks*, *Cloves* and *Picotées*, *Delphiniums*, and all manner of old-fashioned flowers coming on to succeed each other to the end of the season.

The *Perilla* and the *Orach* have got out of favour at the *Crystal Palace*, but they are going to try their luck in the race with *Verschaffelt's Coleus*. I saw a large batch of *Perilla* in the propagating department, to be ready to run to if needs be, for a second start. The *Rose Mount* ought to have a chapter for itself this season, were it not that we have irons enough in the fire already. There is where the new style of planting in festoons is after the patent for tucking up ladies' dresses in bad weather. The six divisions round the top part of the *Mount*, above the *Roses*, are planted in that style, each division being a duplicate of the last all round; and in each of the six divisions there are ten festoons, and five kinds of plants to make them, besides a regular edging all round the bottom and ends. At the top of the slope are three rows of *Crystal Palace Scarlet Geranium* in ten festoons—thus ————, then two rows of the double white *Pyrethrum* to follow suit, two rows of *Christine* next, two rows of *Purple King* follow, then two rows of *Tropæolum elegans*, and the edging all of *Mangles'*. The triangles, which the form of the festoons leaves below the last run of them, are filled up with *Lobelia speciosa*.

The effect of this elaborate work will be surprisingly good, but I refrain from prejudging effect till the autumn. They tell me that scores may be seen every season with this *Journal* in hand going round and round the garden reading off all the beds and particulars as soon as they appear, which must be a good way for gathering notions to many.

All we want is a few acres of ground laid out and planted in the composition style, which no one can see in any of our public gardens round London, except the few leaflets of it in our new garden at South Kensington. On the *Rose Mount* and on the north-east side of it you will see another new edging—the *Gnaphalium lanatum* as they call it, but it will come in first-rate style at any call. It is quite as good but not a whit better than *Antennaria margaritacea*, the finest silvery plant I ever saw in a flower-bed; but being the poor man's plant, the rich may like this *Gnaphalium* better; for it will require about the same expense as *Verbenas*, comes quite as free from cuttings, and is more easily kept in winter, and less liable to insects. There are many yards of it as an edging to one of the largest *V*-beds, or corner beds, round the *Mount* on the north-east side; but it will do in rows and lines, and to be allowed to grow to a foot or more in height. The proper name of a very old plant, like the age of a horse, cannot be known without looking at the flower as you would at the mouth of the horse; and the bother of the botany of this plant is, that one cannot catch at a flower with all this propagation. I expect the name is older than I am, and to be different, that it is one of *Masson's* plants sent to *Kew* from the Cape of Good Hope, unless you can show it up in another light. I have it at home, and can tell to a shade that it will soon be as much used as *Cerastium*; also that there is no flaw or failure in the expectations about *Cerastium Biebersteinii*.

We begin the beds round and round the great circle girding the *Rose Mount* from the railway entrance at the bottom of the colonnade, and the right-hand walk from there up the *Rose Mount* will be our No. 1 walk, there being six of them leading up in gentle curves from the circumference walk. The nature or natural run of these up-walks, as one might say, allows of but one corner bed to each walk, which is of a long *V*-shape; the rest are all circles in pairs up the hill, and along, singly, by the upper side of the main walk all round. We begin with the *V*-bed of walk No. 1. It was planted all over in the spring with *Delphinium formosum*, and at bedding time with the *Cottage Maid Geranium*, edged with *Flower of the Day*; opposite is a circle bed of *Petunia magnifica*, edged with white *Verbenas*; then a pair of circles, one on each side the walk; and one is with *Lobelia speciosa* mixed with *Dandy Geranium*, with an edging of the same *Lobelia*. The opposite or lowest side bed is

of Purple King Verbena mixed with variegated Alyssum, with a Purple King edging. The top pair is in Tropæolums—the one with elegans, the fellow to it with Triomphe de Hyris, edged, the former with Alyssum, and the other with Mangles'. From this, the first walk, we go towards the Crystal Palace, and the first side bed is a Nosegay Lord Palmerston, edged with Blush Minimum; the second is Unique Geranium, edged with Alma; and the third is with Sidonia Geranium, edged with the golden-leaf Ivy-leaf Geranium.

The next is the corner bed to the second walk, with Crystal Palace Scarlet Geranium in the centre, two rows of Christine next, and then two rows of Purple King. Opposite is a circle of Nosegay Geranium, edged with two rows of a good new greenhouse perpetual Geranium, after the look and fashion of Lady Flora Hastings, but much stiffer, and seemingly a very good light bedder. The next is a pair up the walk, the pet pair of the Mount, the one Lady Plymouth Geranium mixed with the striped Verbena Empress Eugénie, and edged with Golden Chain; the other with Verbena Melindres in place of Impératrice.

The top bed to this walk is Crimson Minimum Geranium, edged with Baron Hugel this year, and next year with Baron Ricasoli. Then comes a corner bed on the way to the upper terrace; and then turn round to the east for the third walk up to the Mount. That corner bed is like No. 1—Delphinium, and Punch in place of Cottage Maid.

The next is the corner bed for the third walk, a very long corner it is. This is of the Fothergilli Nosegay, surrounded with brown and yellow Calceolaria, within the edging.

There are two circles opposite this long corner bed. One, Tropæolum elegans, edged with variegated Alyssum, and one with Verbena venosa mixed with Lantanas. The next up the third walk is a pair, one with Sidonia, edged with Black Prince Geranium, which is of the Citriodorum race, the other with Rubens Geranium, edged with Harkaway. The top is a pair also; one, Defiance Verbena, the other with Purple King ditto, and both edged with a white Verbena.

From the third to the fourth walk are three beds, the first of them Gaines' yellow Calceolaria, and two rows of Brilliant Geranium. This they reckon the best yellow Calceolaria for the whole garden. The second bed is Ignescens Superb, edged with Cuphea strigillosa that was; and the third is of Gazania splendens. Then the fourth walk; and the corner bed to it is also a very large one, and is entirely of two of the oldest plants in the garden, and two of the newest bedders there. We shall say 60 feet of edging of the Gnaphalium lanatum aforesaid, and the whole bed of Commelina caulescens, prepared particularly for bedding. The bed opposite is of three dwarf Verbenas mixed—thus, Melindres, Impératrice, and Hendersoni, an old crimson, and it is edged with Melindres. The next pair up the walk is one with Trentham Rose Geranium, edged with Baron Hugel; the other with Miss Vernon Nosegay, edged with Shrubland Pet. The upper pair are—one, Shottesham Pet variegated Geranium, edged with Impératrice Verbena; the other Alma, edged with Verbena pulchella. Then between this and the fifth walk on the very south side of the Mount are five beds along the walk: 1, is of Triomphe de Hyris Tropæolum, edged with Mangles'; 2, with Heliotrope, edged with Nierembergia gracilis; 3, China Rose; 4, a scarlet seedling Geranium of their own, and two rows of Fairy Nymph variegated Geranium for edging; and the fifth, a purple-streaked Petunia, edged with Verbena venosa.

We now come to the fifth walk. The corner bed of it is of Trentham Rose, and two rows of Aurea Floribunda Calceolaria, edged with Purple King Verbena. The bed opposite is rose-scented Geranium mixed with Defiance Verbena, and edged with Melindres. The next a pair, one of which is of Gazania splendens, edged with Gnaphalium lanatum; the other is of Tom Thumb Tropæolum, edged with Gnaphalium lanatum again; and the top pair are thus—one, Crimson Minimum Nosegay Geranium, edged with the crimson Ivy-leaf ditto; the other, Brilliant Geranium, edged with the lilac Ivy-leaf. From the fifth to the sixth and last walk, are four beds—thus, 1, Verbena Great Eastern, edged with Verbena Hendersoni; 2, Attraction Geranium, edged with a seedling Verbena; 3, Camden Hero, a dark Calceolaria, mixed with Verbena Seymouriana; and 4, Gazania splendens.

The corner bed of the sixth walk is of Calceolaria amplexicaulis, edged with two rows of Brilliant Geranium; the opposite is of the old crimson variegated Geranium, edged with the golden Ivy-leaf Geranium. The next up this walk is a single bed of Fuchsia Queen of Hanover, edged with Fuchsia Globosa, mixed

with Verbena Melindres. The next is a pair: one of which is mixed Nosegays, Blush Minimums, and a row of Fair Helen Geranium; the other, Princess Alice Geranium, edged with lilac Ivy-leaf Geranium; and the top pair are—one, Julia, a variegated Geranium, edged with lilac Impératrice Eugénie Verbena; the other, Alma variegated Geranium, edged with the true Verbena pulchella, the one so called above being Sabina.

Three more beds from this to the first walk finish the circle. The first is Gaines' Yellow Calceolaria, they say the best sort of the integrifolia race, edged with Sidonia Geranium; the second, Crimson Ivy-leaf Geranium, edged with the dwarf Pink Ivy-leaf Lateripes; the last, Tropæolum elegans, edged with Tom Thumb Tropæolum.

The broad bank above the Roses is planted all round the Mount on the same plan, which is all the rows or kinds of plants in festoons instead of straight lines as formerly; and there are ten festoons in each line of every division—that is to say, sixty festoons in the top row of plants all round, and the rest of the rows the same number. The plants are thus:—three rows of the Crystal Palace Scarlet Geranium at the top; then two rows of the double white Pyrethrum; after that two rows of Christine Geranium, two rows of Purple King Verbena, two rows of Tropæolum elegans, and an edging of Mangles'. The triangles left below the last row of festoons are filled with Lobelia speciosa.

The top of the Mount is edged all round within the arcades with a narrow border of Musk Mimulus and Mignonetta. The six sunk beds are in three match pairs—thus, one opposite pair with the centre of Calceolaria amplexicaulis, two rows of Crystal Palace Scarlet, and two rows of Geranium for edging; the second pair has Cottage Maid for centre, Cerise Unique Geranium next, then Gaines' Yellow Calceolaria, edged with Mangles'; the last pair, of Fothergilli or Purple Nosegay Geranium, Ignescens Superb ditto, and Alyssum for the edging. The four circles for the four guy-ropes holding the flagstaff are of Cottage Maid in the centre, Trentham Rose round it, Ignescens Superb next, then Alma and Flower of the Day, and edged with Lobelia speciosa.

The China Rose which does so well at the Crystal Palace in beds, and in edgings to Rhododendron-beds, is remarkably good for that purpose, and it ought to be brought out again by some one on the authority of these gardens as the best of all the Chinas, being even superior to Fabrier. I believe it to be the old Cramoisié Superieur which is sold in every Rose nursery; but you see it nowhere about London, except at the Crystal Palace.

They are getting up a host of Tritoma uvaria to bloom in the water-basins, and the Orange trees have been saved from entire destruction by gas at last. In May, 1861, you would not buy a score of those which stood out of doors in the back ground for firewood—they were a perfect wreck; but now, having got an Orange-house for themselves, a very good manager to look after them, and one-third of cocoa-nut refuse in their fresh compost, they are looking far better than I expected to find them—in fact, they are just renewing their age, as it were, and by-and-by they will be the pride of the place entirely. D. BEATON.

## CULTURE OF THE PEACH AND NECTARINE.

(Continued from page 292.)

*Training.*—There are only two methods of training the Peach tree that are worthy of notice. The first is the one generally followed, and is named the fan method, from the main branches spreading out in a similar manner to the ribs of a fan; the second is a modification of it, and was invented by Mr. M. Seymour, gardener at Carlton Hall, near Snaith, in Yorkshire. Good fruit has been produced by both of these modes of training. In the course of my gardening life I have practised both methods, and must confess that I give the preference to Seymour's plan.

The first may be described as having the young shoots on both sides of the main shoots; and the other—that is, Seymour's, has the young shoots only on the upper side. It is necessary to mention that the Peach and Nectarine bear their fruits on the shoots made the previous year: hence it is needful to train in annually young shoots to bear fruit the following year. This being understood, the cultivator will have to determine, at the time of planting, which of the above methods he will follow. Trained Peach trees from a nursery have generally five shoots.

Now, if either method be adopted, the trees should be pruned in the latter end of February or beginning of March, and trained with one shoot for a leader and the others horizontally, two on each side, then every bud or nearly so will break; and the trees may then, by disbudding the useless or superfluous shoots, and training the remainder in, be furnished with well-placed leading branches and bearing shoots. The cultivator should study the figure the trees are to assume when the wall is covered with them, and lay-in branches accordingly to effect that purpose.

In the second year, if all has gone on well, the trees will be again pruned at the same season, and the year's shoots trained in fan-form; and so the management in regard to pruning and training must be followed up till the trees cover the walls.

If, however, the cultivator should choose to adopt my favourite mode of training, then he will proceed from the first to prune and train-in the shoots only which are produced upon the upper side of each branch. He will find this the most asymmetrical, and, at the same time, the most simple and most easily understood of any mode of training.

The summer pruning and training commences almost as soon as the buds break. The grand object is to obtain shoots for bearing the year following. In any mode of training, the young shoots should be retained that are placed near to the base of the shoot that is bearing fruit; all others should be rubbed off at once—they only, if left on any time, rob the really useful ones of nutriment, and crowd them unnecessarily: therefore I say, Off with them at once. If the leading shoot of the bearing branch is too vigorous, nip off the end, leaving a sufficient number of leaves to draw up the sap. Well-managed trees should never present a crowded appearance of shoots in summer, and no part of the tree should have any shoots stronger than the rest; should any such appear, their vigour should be arrested by stopping, though I always consider that a misfortune. I like to see every young shoot of equal strength. A young shoot in the right place may appear in early summer weak and unpromising; but, if all the rest that are useless are removed, the shoots in the right place will quickly gain strength. Let the cultivator never run away with the idea that, by retaining a greater number of young shoots, he is thereby multiplying the chances of having fruitful branches. It is often a fatal and always a mistaken notion. Adhere to the rule that a few shoots well ripened are far more sure to produce good fruit than when a larger number are crowded in between the main branches. Should any of the trees grow too strong, and make long, watery shoots, the best way to check such is to lift them up early in the autumn and replant them; that will be sure to moderate their growth, and cause them to produce more kindly wood. In performing this operation, great care must be taken not to injure or mutilate the roots. Open a trench at the very extremity of the roots and undermine them carefully, picking out the soil from amongst them with a three-pronged fork; replant the tree immediately exactly the same depth it was before, unless by some means or other too much soil had accumulated above the roots; then plant them shallower—that is, cover the roots with a less thickness of soil.

**Nailing.**—Where that mode of fastening the branches to the wall is followed, the operator must be exceedingly careful not to wound them with the hammer-head. Sometimes the hammer will slip off the nail-head and hit the branch instead, abrasing the bark at least, and thereby often bringing on a gummy state. To prevent such a misfortune, he should always place his fingers round the nail, and hit them instead of the shoot. However, in many good gardens, they have had the walls wired 6 inches or 8 inches apart, and the shoots are tied to these wires. This, in some respects is a better plan, because the ties do not harbour insects like the common cloth shreds, and there is no danger of bruising the shoots with the hammer. But there is another danger, and that is, if the shoots are tied-in tight at first, the shoots swell and increase in thickness and become strangled at that part: hence, at pruning time they are apt to break at that part, and thus disappoint the hope of fruit from such branches. Let the grower then be aware of this evil, and watch over the ties; and when they are approaching to being too tight cut them loose, and re-tie them more loosely.

As soon in summer as the young shoots have grown long enough, let them be secured to the wall to prevent them being blown off by the wind. This is of consequence, as after the superfluous shoots are rubbed off, the loss of any branch required

is difficult to be repaired: therefore, secure such shoots as soon as they can be handled, place them in the most open space, so that every leaf may have its full share of light, yet not shade the fruit-bearing shoots. I consider here and there a part of the wall even should be unshaded, to gather heat from the rays of the sun; that heat helps to ripen the fruit and the wood also.

T. APPELEY.

(To be continued.)

## LILIUM AURATUM AT THE ROYAL EXOTIC NURSERY.

THIS, the grandest of all Lilies, may now be seen in full perfection at the above establishment, and all who wish to form a just idea of this magnificent flower should see it.

The flower is borne upon a purple stem about 2 feet high, and the thickness of a goose-quill; and in shape it forms a wide-mouthed shallow bell 10 inches in diameter, the six divisions of which the perianth is composed being about 2½ inches across at the widest, curled back at the point, towards which their outline is undulating.

The colour is snow white, thinly but regularly strewn with oblong purple dots and markings; and a broad band of golden yellow runs down the centre of each division nearly to the base, where the purple markings become elevated above the surface into short bristles.

The stamens have reddish-brown anthers which tremble with the breath, and projecting beyond these is the dull purple stigma; the whole forming a conspicuous and elegant centre.

In addition to its beauty, the flower possesses a powerful but delightful fragrance, partaking of that of the Orange blossom and the Honeysuckle.

The leaves are narrow-lanceolate, acute-pointed, and of a very dark green.

We were informed by Mr. J. G. Veitch that he found the plant growing wild on the hills in the midland provinces of Japan, and in places where from 11° to 16° of frost occur in winter: there is, therefore, every probability of its standing out of doors with us. To the same gentleman we are also indebted for the following information:—"The flowering season is July and August, at which time it is common in situations exposed to the sun. It grows 1½ foot to 2 feet high, and is remarkable for the size and fragrance of the flowers. The roots are boiled by the Japanese and eaten like Potatoes, and in flavour they resemble the Chestnut."

On another plant there is a bud 6½ inches long, which will shortly open, and there are indications of others forming in the axils of the leaves, so that it is probable that the flowering may not be merely terminal.

We may mention that there are also in flower just now the beautiful white Lapageria, a lovely companion to the well-known rosea; and the curious Anthurium Scherzerianum, with its bright scarlet shield, not unlike a Roman standard surmounted by a crook.

The collection of curiosities, woods, cones, &c., to which we alluded in a former report, is now arranged in a large room, and is open to public inspection.

## RAISING FUCHSIAS FROM CUTTINGS— DATURA ARBOREA CULTURE.

OUR answer to an inquiry from "M. F.," must depend on your taste and the natural habit of the Fuchsia. Fine large plants for this season are best obtained from cuttings struck last year, and grown on slowly all the winter. Some kinds of Fuchsia are naturally bushy, and look best when trained to one shoot, which as it grows throws out side shoots thick enough. With such a habit there is no necessity for stopping. If instead of a single stem you would prefer several stems in the bush form, then stopping when a few inches high should be resorted to. Most growers frequently stop the side shoots several times in order to produce density of sprigs. In such case early blooming is less thought of than a dense mass of flowers at one time.

Again. Whatever style of growth be approved of, whether single central stem or the bush form, some Fuchsias are naturally so long-jointed and lanky in their growth as to require stopping frequently to make them massive, and, therefore, the circumstances of the plant must regulate the operations instead

of any unvaried rule. In general, plants trained to a single stem, and all the others radiating from it in the form of a cone, widest at bottom, will look best and be most artistic.

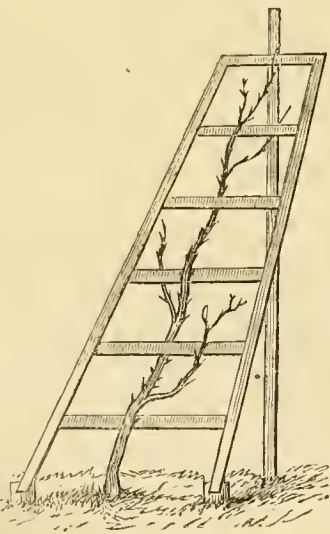
As to *Datura arborea*, the shoots 7 inches to 8 inches long at the top of a four-foot stem ought to bloom freely, and will do so if the wood from which they came was well hardened in the sun last autumn. The picking-out of the points of these shoots will not prevent them flowering if there are flower-buds formed on them; but, provided flower-buds are formed, it will lessen the amount of flowering, as the fresh shoots thrown out will not blow this season, and the flower-buds that formed as the original shoot lengthened, would, of course, be lost. We are presuming that these seven-inch shoots are of that season's growth. If so, and these shoots are well hardened this summer and autumn, every bud you leave on these shoots will throw out flowering-shoots next season. You may thus without stopping now have half a dozen or a dozen of shoots next year, and flowering too if you treat them well.

### GRAPE VINES ON TRELLISES.

THE first season a trellis is not absolutely required beyond a temporary support to keep the Vine off the ground; still, it is not objectionable, in most instances, to have it erected at once, and it should always be done before the roots extend too much, so as not to interfere in setting the stakes or posts for general support, as no good can come in displacing or bruising them in the operation. It will be required early in the second season's growth, and a few months gained never come amiss. We shall not speak at any length, or describe the practice with some, of using stake supports. We have never seen it giving good satisfaction in this climate, and it usually has been abandoned, so far as my observation goes. A trellis 6 feet high is sufficient, usually constructed by setting posts at either end of the row of Vines, with one between each of the Vines planted; upon this nail strips of board 1½ inch wide, and 15 inches apart from the bottom upwards. This makes a cheap trellis, both in first cost and durability. It is better to set posts as above, omitting every alternate one except at the ends, taking pains to select such timber as will prove most durable. Work them down to a neat and tasty size (4 inches to 6 inches), facing one side, except for the end ones, which may be round. A man's habits in taste are easily read about the grape, and nothing contributes more to the well-being and appearance of a garden than a light, airy, and durable trellis. Number eight wire, drawn horizontally the same distance apart as though of wood, and attached to the posts by passing through them at the ends, and fastened to the others by staples formed from pieces of the same wire, but not so tight but that the wire can play horizontally, will be found much

more durable; and where the extended trellis is wished, upon which to train long, horizontal arms of the Vine, as good, if not the best mode of construction. In short seasons, changeable climate and frosty locations, something more is often desirable than the immovable support upon which, the Vine once attached, it must remain till fall, or with much difficulty be removed. It is not unfrequently the case that a frosty night, late in spring, cuts off the tops of the Vine; and again in early fall, just as we are ready to gather the luscious fruit, nearly covered with bloom, unlucky Jack Frost makes our acquaintance, and gathers to his fireside that which was our own choosing. Under such a state of things, and having been robbed of one of Pomona's best gifts, we constructed a trellis which met the emergency, and saved a crop from the frost in 1859. The figure will illustrate it.

It consists of two posts 3 feet long, set in the ground upon



either side of the Vine, and 6 feet apart equal distances therefrom, with 6 inches above the ground, and pin-holes near the tops for attaching the frame, which is made of two-by-four scantling, 6 feet long, with corresponding pin-holes; or what is preferable, use strap hinges for attachments, and then, when the frame is erected, it will rest upon the posts, and not on the pins. Upon the scantling fasten cross-bars half an inch thick by 2 inches wide, embattened their thickness in the frame. The whole tapers to 3 feet at the top, which is supported by a moveable lever or part to any height required, and may be as readily changed from a horizontal position for covering-up to an upright position for sunning, as the blade of a knife may be opened and shut upon its handle. The bars being placed upon alternate sides, the Vines can be passed between them, thus needing no other support by twines or otherwise. In this arrangement the Vines require no removal for winter; simply lower the frame, or upon an occasion, if frosty at night, lower in the same manner, covering with blankets, &c. The heat passing from the earth's surface at this season of the year will be retained in the covering, and thus a crop or feast of good things is saved for the stomach's sake.—O. S. WILLEY, *Madison, Wisconsin*.—(*Prairie Farmer*.)

### SEEDLING ORANGE TREE NOT FRUITFUL.

I HAVE an Orange tree which has been raised from a pip planted about sixteen years ago, when I was a child. It has grown to be a large tree, but has never had any fruit on it. We have now a greenhouse, and as I am very anxious for it to thrive, can you tell me whether it will require grafting, and what kind of soil to put to it?—A NEW BEGINNER.

[You certainly have had great patience. It is seldom such Orange trees are good for anything, except as stocks for grafting choice kinds upon. We would advise trying it another year in the greenhouse, where the wood will get well ripened, as it may probably bloom next season. If it did not do so, then it might be either cut down and two or more grafts placed on the stem in April or May, or the whole head might be grafted with different approved kinds. It will be advisable to keep the place hotter, moister, warmer, and more shady than usual until the grafts are growing freely. Sandy loam, a little heath mould, and a little leaf mould or rotten dung, will grow the plant well.]

### STAMFORD FLORAL AND HORTICULTURAL FETE.

THE Exhibition was arranged in six spacious marquees, provided by Mr. Aitken, of Peterborough, the snow white sides of which stood out in happy relief to the rich verdant carpet underfoot. The tents were erected at the east end of the show-yard, and the ground surrounding them was ornamented with specimens of terra cotta. Flags of various colours were flying in almost every direction, and a more animated scene we have seldom witnessed. The show-yard was fitted up by Mr. J. T. Jeffs, of Stamford.

Mr. Wilson, silversmith, of Stamford, exhibited in a tent contiguous to the above a splendid assortment of cups, goblets, silver, and trays (the total value of which was about £300), from which the winners of the plate prizes, in both agriculture and horticulture, made their selection. The cups were richly chased, and those intended for the agricultural prizes contained appropriate devices. The silver and bronze medals distributed by the Horticultural Society were very handsome. In the centre of the obverse are the borough arms, encircled by Laurel and other leaves, around which is the inscription "Stamford Horticultural Society;" on the reverse is a wreath of fruit and flowers exquisitely designed.

The attendance was very large, and included the *élite* of the town and neighbourhood. The weather altogether was favourable, and when old Sol began his accustomed diurnal round he smiled upon as lovely creation as has been seen since the days of Adam. It was hot enough, we think, for reasonable beings; and, as for brightness, had we not abundance of it in the broad daylight, the masses of gay flowers, and the equally varied and dazzling costumes of the ladies? We have reserved, of course, for special mention, the smiling faces which beamed from beneath the most miscellaneous assortment of bonnets ever brought together.

The great attraction of the Show was the tent for Roses; the collection was really magnificent, and the delicious fragrance which was emitted on entering was surpassingly exquisite. It would be tedious, and perhaps invidious, to embark in a detailed criticism of the merits of this collection of flowers, where by far the great majority deserved commendation.

The next attraction to the Roses were the stove and greenhouse plants, and the foliage plants. In the latter, John Torkington, Esq., exhibited some splendid specimens which included the *Cyanophyllum magnificum*, *Caladium Bellemeyi*, *C. Chantini*, *Alocasia metallica*, *Pandanus javanicus variegatus*, *Cissus porphyrophyllus*. Mr. Brown, jun., of Stamford, also exhibited a very handsome specimen of the *Alocasia metallica*. The *Fuchsias*, *Begonias*, and *Achimenes* were deserving of favourable notice, and the specimens exhibited by the Marquisness of Exeter were really magnificent. The Cockscombs were not inferior in merit. We noticed a very beautiful show of exotic *Orchids*, which, from their admirable arrangement and the beautiful variety of their foliage, were the "lions" of the tent they occupied. The show of *Verbenas* was fair, but we observed nothing particularly striking in their general character. There was a very excellent show of Ferns, amongst which we noticed one with a silver leaf, belonging to John Torkington, Esq., which was very beautiful, and a very handsome one exhibited by S. Sharp, Esq., of Dallington Hall, Northampton.

Great credit is due to Mr. James Holah, gardener to Mr. Torkington, for producing such a fine show of foliage plants.

There was not a large display of fruit, owing probably to the backwardness of the season. The specimens shown by the Marquis of Exeter were particularly good, and deservedly attracted a great deal of attention.

The contest for the cottagers' prizes, which is to us one of the most interesting departments of a horticultural show, was very spirited.

#### AWARD OF PRIZES.—(OPEN TO ALL.)

- Class 1.—Twelve Stove and Greenhouse Plants in Bloom.—First, a Silver Cup, A. Turner, Esq., Leicester. Second, Wood & Ingram, Huntingdon.
- Class 2.—Six Stove and Greenhouse Plants.—First, T. Almey, Oakham. Second, — Walters, Oakham.
- Class 3.—Twelve Fine Foliage and Variegated Plants.—First, J. Torkington, Esq. Second R. L. Bevan, Esq., Brixworth, Northampton. Third, A. Turner, Esq., Leicester.
- Class 4.—Six Fine Foliage and Variegated Plants.—First, R. Brown, Wothorpe. Second, T. Almey, Oakham. Third, — Walters, Oakham.
- Class 5.—Twelve Exotic Ferns.—First, R. L. Bevan, Esq., Brixworth. Second, S. Sharp, Esq., Dallington Hall, Northampton. Third, T. Almey, Oakham.
- Class 6.—Six Exotic Ferns.—First, — Walters, Oakham. Second, R. Brown, Wothorpe.
- Class 7.—Six Exotic Orchids.—None exhibited.
- Class 8.—Twelve Pelargoniums (including French or Spotted).—First, — Walters, Oakham. Second, Messrs. Wood & Ingram, Huntingdon.
- Class 9.—Six Pelargoniums (Fancy).—First, — Walters, Oakham. Second, Messrs. Wood & Ingram, Huntingdon.
- Class 10.—Six *Fuchsias*.—First, Lady Exeter. Second, — Walters, Oakham. Third, T. Almey, Oakham.
- Class 11.—Six *Caladiums*.—First, Messrs. Wood & Ingram, Huntingdon. Second, R. Brown, Wothorpe.
- Class 12.—Six *Begonias*.—First, Lady Exeter. Second, T. Almey, Oakham. Third, Messrs. Wood & Ingram.
- Class 13.—Six Roses in Pots.—First, — Walters, Oakham.
- Class 14.—Six *Achimenes*.—First, Lady Exeter.
- Class 15.—Six *Gloxinias*.—No award.
- Class 16.—Six *Calceolarias*.—No award.
- Class 17.—Six *Verbenas*.—First, Richd. Brown, Wothorpe.
- Class 18.—Six *Petunias*.—First, Richd. Brown, Wothorpe.
- Class 19.—Six Balsams.—First, W. F. Taylor, Esq., Wellaston House, Wellingborough.
- Class 20.—Six new Annuals in Pots.—Messrs. Wood & Ingram, disqualified.
- Class 21.—Six British Ferns.—First, A. Turner, Esq., Leicester. Second, S. Sharp, Esq., Dallington Hall.
- Class 22.—Newly-introduced Plant.—First, A. Turner, Esq., Leicester. Second, Messrs. Wood & Ingram.
- Class 23.—Three Fruit Trees in Pots, Miscellaneous, excluding Vines and Peaches.—No award.
- Class 24.—Three Peaches in Pots.—No competition.
- Class 25.—Two Vines in Pots.—First, Lord Exeter. No Second or Third.
- Class 26.—Collection of Fruit.—First, Silver Cup, Lord Exeter. Second, Jas. Landon, Wood Newton.
- Class 27.—Pine Apple.—First, T. Pagett, Esq., Leicester. Second, Lord Exeter.
- Class 28.—Black Grapes, two bunches.—First, Lord Exeter. Second, J. Harrison, Esq., Leicester.
- Class 29.—White Grapes, two bunches.—First, J. Hardy, Esq., Grant-ham. Second, L. W. Watson, Esq., Rockingham Castle.
- Class 30.—Scarlet-flesh Melon.—First, Wood & Ingram.
- Class 31.—Green-flesh Melon.—First, J. Hardy, Esq. Second, L. W. Watson, Esq.
- Class 32.—Six Peaches.—First, Lord Exeter. Second, T. Pagett, Esq.
- Class 33.—Six Nectarines.—First, Lord Exeter. Second, T. Pagett, Esq.
- Class 34.—No competition.
- Class 35.—Collection of Strawberries.—First, the Earl of Gainsborough. Second, Lord Exeter.

Class 36.—Brace of Cucumbers.—First, T. Paget, Esq. Second, Messrs. Wood & Ingram.

Class 37.—Six Varieties of Potatoes.—First, H. Thorneycroft, Weedon. Second, Jas. Warrell, Dallington. Third, Thos. Kilburn, Daventry.

Class 38.—No competition.

Class 39.—Twelve *Verbenas*.—First, Wm. Green, Rugby. Second, Wm. Draycott, Leicester. Third, Messrs. Wood & Ingram.

Class 40.—No competition.

Class 41.—Twelve *Carnations*.—First, Messrs. Wood & Ingram.

Class 42.—Twelve *Picotees*.—First, Messrs. Wood & Ingram.

Class 43.—Twelve Hollyhocks, Single Blooms.—First, Messrs. Wood & Ingram.

Class 44.—Stove and Greenhouse Cut Flowers.—First, Messrs. Wood & Ingram. Second, T. Almey. Third, Messrs. Walters.

Class 45.—Hardy Cut Flowers.—First, Messrs. Walters. Second, Messrs. Wood & Ingram. Third, — Lawrence, Chatteris.

Class 46.—Twelve German Stocks.—First, Messrs. Walters.

Class 47.—Device or Design in Cut Flowers.—First, Jas. Major, Oundle. Second, Messrs. Walters. Third, J. Almey. Highly Commended, John Fryer, Chatteris.

Class 48.—Wardian Case, arranged for the Drawing-room.—No competition.

#### OPEN TO GARDENERS AND AMATEURS.

Class 49.—Nine Stove and Greenhouse Plants in Bloom.—First, a Silver Cup, R. Bevan, Esq., Brixworth. Second, John Torkington, Esq.

Class 50.—Six Fine Foliage or Variegated Plants.—First, Earl of Gainsborough, Exton Park.

Class 51.—Six Exotic Ferns.—First, John Torkington, Esq. Benjamin Johnson, Dallington, G. L. Watson, Esq., Rockingham, were equal for second.

Class 52.—Six *Fuchsias*.—First, Richard Thompson, Esq., Stamford.

Class 53.—Six *Gloxinias*.—First, Richard Thompson, Esq. Second, Joseph Phillips, Esq., Stamford.

Class 54.—Six *Verbenas*.—First, Richard Thompson, Esq., Stamford.

Class 55.—Six *Achimenes*.—No award.

Class 56.—Six *Petunias*.—First, Richard Thompson, Esq., Stamford.

Class 57.—Six Cockscombs.—First, Sir Montague Cholmley, Bart., Second, T. H. Jackson, Esq., Stamford. Third, Joseph Phillips, Esq., Stamford.

Class 58.—Six *Calceolarias*.—No competition.

Class 59.—Six Balsams.—First, R. Thompson, Esq., Stamford.

Class 60.—Strawberries.—First, H. Thorneycroft.

Class 61.—Cherries.—First, J. Phillips, Esq., Stamford. Second, Lord Exeter.

Class 62.—Raspberries.—First, H. Thorneycroft. Second, H. Johansen.

Class 63.—Gooseberries (weight).—First, R. R. Crosby, Stamford. Second, G. Abbott.

Class 64.—Gooseberries (flavour).—First, R. Thompson, Esq. Second, T. H. Jackson, Esq.

Class 65.—Currants, Red.—First, G. Abbott. Second, H. Thorneycroft.

Class 66.—Currants, White.—First, H. Johnson. Second, T. Kilburn.

Class 67.—Currants, Black.—Second, Lord Exeter. No first prize.

Class 68.—Brace of Cucumbers.—First, T. Kilburn. Second, W. Corp.

Milford, Salisbury.

Class 69.—Collection of Vegetables, including Salad.—First, T. H. Jackson, Esq.

Class 70.—Celery.—First, T. H. Jackson, Esq. Second, G. Abbott.

Class 71.—Twenty Potatoes (Kidney).—First, G. Abbott. Second, T. H. Jackson, Esq.

Class 72.—Twenty Potatoes (not Kidney).—First, J. Islip. Second, G. Abbott.

Class 73.—Twelve *Verbenas*.—First, T. Pagett, Esq. Second, R. Thompson, Esq.

Class 74.—Bouquet for the Hand.—First, R. P. Voules, Esq., Uffington.

Class 75.—Glass of Honey in the Comb, free from Brood.—First, Rev. E. Holmes, Wakerley.

#### OPEN TO AMATEURS ONLY.

Class 76.—Four Stove and Greenhouse Plants.—First, W. L. Hopkinson, Esq., M.D., Stamford.

Class 77.—Four *Fuchsias*.—First, W. L. Hopkinson, Esq., M.D. Second, J. Swan, Stamford.

Class 78.—Four *Verbenas*.—First, J. Islip, Stamford. Second, J. Swan.

Class 79.—Four *Petunias*.—First, J. Islip.

Class 80.—Four Balsams.—First, J. Islip.

Class 81.—Six Cut *Verbenas*.—First, J. Swan. Second, W. Sells, Uffington.

Class 82.—Six Cut German Stocks.—First, J. Islip. Second, J. Swan.

Class 83.—Collection of Cut Flowers.—First, J. Swan. Second, J. Islip.

Class 84.—Basket of Fruit.—First, J. Islip.

Class 85.—Basket of Vegetables.—First, G. Abbott. Second, J. Islip.

Class 86.—Basket of Salad.—First, J. Islip.

Class 87.—Brace of Cucumbers.—First, Mr. Caltherpe.

Class 88.—Melon for Flavour.—First, J. Swan.

Class 89.—Bouquet for the Hand.—First, T. G. West, Dallington. Second, W. Sells.

#### CUT ROSES.

Class 90.—Forty-eight Varieties (Open).—First, A Silver Cup, Paul and Son, Cheshunt Nurseries. Second, E. Francis, Hertford. Third, B. R. Cant, Colchester.

Class 91.—Twenty-four Varieties (Dealers only).—First, W. Draycott. Second, S. Walters. Third, G. Battley, Rugby.

Class 92.—Twenty-four Varieties (Gardeners and Amateurs only).—First, a Silver Cup, Rev. S. R. Hole. Second, H. Thorneycroft. Third, A. Moffatt, Dunmow, Essex. Highly Commended, W. Corp: J. Watt.

Class 93.—Twelve Varieties (Gardeners only).—First, Rev. S. R. Hole. Second, C. C. Round, Esq., Colchester. Third, H. Thorneycroft, Esq.

Class 94.—Twelve Varieties (Amateurs only).—First, a Silver Cup, W. Corp. Second, J. Hepworth, Leicester. Third, J. Swan. Commended, E. Hunt, Leicester.

Class 95.—Six Varieties (Amateurs only).—First, W. Corp. Second, J. Hepworth. Third, T. H. Burroughes, Esq., Ketton Hall. Extra prize, J. Fryer, Esq. Commended, J. Swan.

Class 96.—Twelve Varieties Tea-scented Roses (Open).—First, Paul and Son. Second, B. R. Cant.

Class 97.—Twelve Trusses of Cloth of Gold (Open).—First, B. R. Cant.

Class 98.—Twelve Trusses of *Senateur Vaisse* (Open).—First, E. P. Francis. Second, B. R. Cant.

Class 99.—Twelve Trusses of any other kind (Open).—First, B. R. Cant. Second, S. Walters, Trowbridge. Recommended for Prize, T. Draycott.

Class 100.—Best Collection of New Roses (Open).—First, S. Walters. Second, B. R. Cant.—(*Lincolnshire Express*.)

## ORCHIDACEOUS PLANTS.

*Select Orchidaceous Plants.* By ROBERT WARNER, F.R.H.S. *The Notes on Culture by B. S. WILLIAMS, Author of the "Orchid-grower's Manual," and "Hints on the Cultivation of Ferns."* Assisted by some of the best growers. London: Lovell Reeve & Co.

This work promises to be excellent in every respect. The portraits of the Orchids in the first Number just published are of life-size, and truthfully drawn and coloured. They are four in number—*Phalenopsis Schilleriana*, *Cattleya amethystoglossa*, *Vanda insignis*, and *Cattleya Warscewiczii delicata*. The work will embrace only those Orchids which are most beautiful and recently acquired, whether they be species or varieties, and thus will include "real gems of the Orchid-house, which are rather ignored by those who look at the subject from a purely scientific point of view." Yet there is enough of scientific description given in language intelligible to every reader sufficient to confirm him in his identifying the plant, which he may do, however, by the portraits, without any such aid. The directions for cultivating the Orchids portrayed are also full and good. In fact the work, judging from the specimen, will be such as might be expected from the authors, they being one of the largest amateur proprietors, and one of the best practical cultivators of Orchids in our times.

We will extract a portion of what is stated relative to

### PHALENOPSIS SCHILLERIANA.

"This magnificent addition to our collections of Orchidaceous Plants has been introduced to this country by ourselves during the past year from Manila, and has proved to be one of the finest of the whole race. Several plants have blossomed during the spring of the present year, and divers of them have shown considerable difference in the colour as well as in the size and shape of their flowers, though all have been fine and ornamental in character. The plant has indeed already sufficiently shown its free-growing and free-blooming habit, three vigorous specimens having been flowered by J. Day, Esq., of Tottenham, and others by E. M. Morland, Esq., of Haverstock Hill, by J. A. Turner, Esq., of Manchester, by ourselves, and by other growers: all these having been imported since April, 1861. It has, in fact, every good quality which can be desired in such a plant, and we have no hesitation in asserting that it will prove to be one of the most charming Orchids in cultivation. Not only are the leaves handsomely variegated, but the flowers are large, showy, and fragrant, as well as distinct from all others, and they continue in beauty for a long period. It is, moreover, a capital exhibition plant, as is proved by its having travelled without injury to Belgium, as well as to one of the spring meetings of the Royal Horticultural Society at South Kensington, at which latter place we exhibited in bloom the first example which flowered in England. This specimen, though imported so recently, bore sixteen perfect blossoms on the scape at one time, and they all continued in good condition more than eight weeks, a peculiarity which will make it a more useful plant for exhibiting than even the older species.

"This *Phalenopsis* is of compact growth, and attaches itself by means of flat roots, which have a white frosted appearance. It bears remarkably handsome variegated foliage, which, as shown by the imported specimens, sometimes reaches from 12 to 15 inches in length, and 3 to 4 inches in breadth. These leaves are similar in form and size to those of *Phalenopsis grandiflora*, of a dark green colour, and marked with irregular transverse bands and blotches of white. The flower-spikes are produced from the axils of the leaves, and in their native country are over 3 feet long, and more branched than in the other kinds. Mr. Williams has a dried specimen which has borne more than a hundred blossoms. In the plant now before us, the flowers are 3 inches across, and arranged in two rows along the spike; the sepals and petals of a beautiful light pinkish-mauve, passing almost to white at the edge, and the lip of the same colour, with darker purple spots, yellow towards the base, and there spotted with reddish brown.

"The accompanying illustration was taken from a plant which bloomed with Mr. Williams, at the Paradise Nursery, Holloway.

"The plants require the heat of the "East-India house," with a good supply of moisture during the growing season. In Manila they are found growing on the branches of trees, in moist shady places, where the temperature is high; and to grow them to anything like perfection, the climate in which they grow naturally ought to be imitated as nearly as possible. They are of easy culture, and if properly attended to seldom get out of health. Unlike many of the Orchids, the plants of this genus have no thick fleshy pseudobulbs to support them, and they consequently require a larger supply of nourishment to cause them to grow to perfection. This must be afforded by supplying them freely with moisture at the root during their growing season; in fact, they should never be allowed to get dry, for if so they are apt to shrivel, and then often become disfigured by losing their lower leaves. The beauty of the plant consists as much in having perfect healthy foliage, as in producing good flowers.

"The growing season extends from March to the end of October, during which time the temperature by day should range from 65° to 75°, or it may be allowed to rise to 80° or more by sun heat, provided the house is shaded from the sun's rays. The night temperature should range from 65° to 70° during March and April; afterwards it may be allowed to rise a few degrees higher. During the resting season, from the end of October to February, the temperature should range from 60° to 65° by night, and about 65° or a

little more by day. When these data are exceeded, it is desirable to admit a little fresh air, and this should be admitted close to the hot-water pipes, so that it may be warmed as it enters the house. A little water should be thrown about on fine days, but this should always be done in the morning, so that the house may be dry again by evening.

"These plants are grown in different ways, some persons placing them on blocks, some in pots, and some in baskets. We find them to succeed well under each of these modes of treatment; but they require more moisture to be applied to the roots when fixed on blocks, and if they are grown in pots, they must have more drainage than when put in baskets. The best plan of draining is to turn a smaller pot upside down in the bottom of that intended for the plant, and then to fill in around this to within about 2 inches of the rim, with posherds, broken into pieces of about 2 inches square. Above this the pot is to be filled up with sphagnum moss, mixed with a few small posherds, the plant being so placed as to be elevated 3 inches above the rim; it must also be kept well above the moss. The successful culture of these plants, as well as of all other Orchids, depends upon good drainage. When grown on blocks, they should be placed on a good-sized one, so that there may be surface enough for the roots to cling to. In fixing them, first put a little live sphagnum moss against the block, and then tie the plant to it with copper wire. The blocks should be hung up to the roof of the house, but should not be placed too near the glass, in order that they may not be affected by the cold; this should be guarded against, especially during the winter, at which season Orchids frequently sustain injury in this way.

"If the plants should get into an unhealthy condition, the best course is to turn them out of the pots or baskets in which they are growing, to shake the material off the roots, to wash them with clean water, cutting away all the decayed parts, and then to place them on blocks of wood, with a little sphagnum moss. They must have a good supply of moisture at the roots, and should be placed at the warmest end of the house, and where they will not receive too much light. With this treatment they will soon begin to root and improve in appearance. They must be kept perfectly clean from insects, especially the thrips, which soon disfigures the foliage if it is allowed to increase. This troublesome pest is best kept under by frequently washing the leaves with a sponge and clean tepid water, or by fumigating the house with tobacco smoke, which should be applied with great care.

"The species of *Phalenopsis* are difficult to propagate. Sometimes they will produce young plants on the old flower-stems; such plants should be left on till they are well rooted, and should then be placed each on a small block. All the kinds occasionally produce plants in that way. Sometimes they throw out side-growths, which can be taken off when well rooted; and when the plants get large they may be cut in two, so that roots are attached to each portion. They are best cut when just beginning to grow, and the divided plant should not be allowed to flower until it is well established."

## REPORT ON THE VARIETIES OF KALE, OR BORECOLE,

GROWN IN THE GARDEN AT CHISWICK DURING THE SEASON OF 1861-62. By ROBERT HOGG, LL.D., F.L.S., Secretary to the Fruit Committee.

(Continued from page 293.)

CURLED KALE, TALL . . . COOPER & BOLTON.

This is what is known by the names of Tall Green Borecole, German Greens, Tall Scotch Kale, and by the French *Chou frisé vert Grand du Nord*. The plant grows 2½ feet high, and produces a great quantity of dark green curled leaves. In the spring it throws out a large supply of shoots, which are much esteemed as a culinary vegetable.

CURLED KALE, DWARF . . . COOPER & BOLTON.

*Chou frisé vert à pied court* . . . VILMORIN & Co.

*Dwarf green Curled Kale* . . . LEE.

The Dwarf Curled Kale is in every respect similar to the Tall Curled, with the only exception that it is of a dwarfer growth, and not more than 18 inches in height.

EGYPTIAN KALE . . . COOPER & BOLTON.

This is very distinct from either Buda or Jerusalem Kale. The stem is very short, being not more than 6 inches long, and in spring it throws out numerous long, stout, succulent shoots, from a foot to 15 inches long. The leaves are sinuated, coarsely serrated, and plaited on the margin. It is very hardy and very productive, perhaps the best of all the sprouting Kales.

HEADING KALE . . . CARTER & Co.

*German cabbage Greens* . . . LEE.

*Heading Kale* . . . COOPER & Co.

This is a variety of Curled Kale, which forms a close head on the summit of the stalk. The leaves are exactly the same as those of Curled Kale, and the plant grows from a foot to 18 inches high. It is a very valuable winter green.

JERUSALEM KALE . . . COOPER & BOLTON.

The habit of growth is exactly similar to Egyptian Kale. It has the same short stock, which is only about 6 inches long, or even less in some instances, and it throws out in spring a profusion of long, stout, succulent shoots. But it is readily distinguished from Egyptian by its more deeply sinuated leaves, which are crisped or curled on the margin somewhat in the same way as in Scotch Kale. The very young and partially developed leaves are tinged with purple on the margin, and clothed on both surfaces with stiff bristly pubescence—very hardy, and very productive.

MELVILLE'S VARIEGATED KALE . . . COOPER & BOLTON.  
*Melville's new triple curled varie-* } DICKSON and  
*gated Kale* . . . . . } SONS, Chester.

The varieties raised by Mr. Melville are a decided improvement on the old variegated German Kales, and are more curled and ornamental. They consist of almost every imaginary colour and shade of colour, and are more or less variegated. In some the disk of the leaves is white, and the margins fringed with green, red, or purple. In others the disk is green, red, or purple, and the margins white; while others are variously blotched or veined. As ornamental plants for autumn or winter decoration they are very desirable; and for garnishing they are very valuable. When cooked carefully, some of them preserve their natural colours, and are equally as ornamental and useful on the table as they are in the garden.

MILLER'S KALE . . . . . COOPER & BOLTON.

In the habit of growth and general appearance this is the same as Buda, but it is so very tender only a few plants of it stood the winter.

PALM KALE } . . . . . VILMORIN & Co.  
*Chou Palmier* }

The stem is from 2 feet to 2½ feet high, clothed with large oblong-obovate winged leaves, of a dark green colour, which curve gracefully upwards and outwards much in the way of feathers in the Prince of Wales' crest, and the whole plant in this state has the appearance of a miniature Palm. In the spring it throws out a great mass of long slender shoots, which speedily run into bloom, and render the plant of little value as a winter green. In this state it entirely loses its ornamental character, but in autumn and during the winter it is an object of great beauty, and might be advantageously introduced as a prominent feature in a winter garden, or as a plant for a vase in architectural gardens. As a winter green it is quite worthless.

RAGGED JACK . . . . . COOPER & BOLTON.

The growth of this is similar to that of Egyptian, having the short stock and long succulent shoots, but it differs from both that variety and Jerusalem in having the leaves very deeply lacinated, and the segments either trifid or multifid. The young leaves are not hairy, as is the case in Jerusalem Kale. This is remarkably hardy and very productive.

RED KALE . . . . . COOPER & BOLTON.  
*Chou frisé rouge grand* . . . . . VILMORIN & Co.

Stem 2 feet to 2½ feet high, sending out in spring a great profusion of shoots from the bottom to the top, of a dark purple colour. The leaves are like those of Scotch Kale, but purple. This is a first-rate and very productive Kale, and exceedingly hardy.

PROTECT YOUR FRUIT AND SPARE THE BIRDS.

If an ornithologist and gardener, though only an amateur, but an admirer both of fruit and flowers as well as a sincere friend to the feathered race, might be allowed to trespass on the good nature of the Editors, and the patience of the readers of THE JOURNAL OF HORTICULTURE, in making a few remarks on the present engrossing topic, "Birds versus Fruit," he would gladly avail himself of their kindness.

Having for many years advocated the protection of our birds among neighbouring farmers and gardeners, though I fear with but indifferent success, it has been with no small interest that I have from time to time read the various articles on the subject in your columns, and none with more than the very able and explicit remarks made both by "G." and Mr. George Abbey, in No. 68. The latter especially, as the opinions of a practical gardener.

As I sit writing, this 16th day of July, a pair of Sparrows are feeding their young in the window-sill above my head. Not near a smoky town however, "with two hundred chimnies emitting their suffocating fumes unrestrained by smoke-consuming apparatus, where there are not so many vegetables and fruit for the Sparrows to eat;" but in a lovely country with a pure exhilarating air, in the midst of sunshine and plenty, a kitchen garden close at hand, with Currants, Raspberries, Strawberries, and Peas now in abundance. Well! and what then?

Here comes the cock bird to answer for himself. There he is sitting on the window-rail with his peculiar self-satisfied chirp, and a fine, large, green caterpillar curled over his bill. I have

not long to wait. Here comes his mate with a large yellowish grub, they give a note of recognition, first one dives through a chink in the wall, and then the other. A number of small voices are heard proceeding from the said chink, a couple of dark objects suddenly dart past the window. There, they are off again on another caterpillar hunt, and so it goes on from morning to night. All our small birds are equally busy. The amount of good they do to man is beyond calculation.

Some will say, This is an oft-repeated story. So it is, and, therefore, I will not dwell on it. But there is one in the black books that I feel bound to say a good word for, especially as "G." says he has nothing to say in its favour, and that is that most lovely of British birds, the Bullfinch.

It was in the spring of 1857, I was living in a part of the country where Bullfinches abounded, and where I had continually to be on the watch to scare them from the garden (for, mind, I never destroy birds). When on a certain Monday morning on looking over some of my dwarf standard Apple trees, to my consternation I found the ground strewn with their buds, the Bullies having taken advantage of the previous Sunday when all was quiet to commit their work of havoc. One tree in particular was so divested of its buds that I considered it ruined for the season. Bullfinches were, consequently, in disgrace. Yet, truth is stranger than fiction! Business called me away for some time, and I did not return till the autumn of the same year, when on examining my little trees, to my amazement I discovered that those which had been attacked by the Bullfinches were loaded with fruit, especially the one which was apparently stripped of all its buds, so much so that the branches had to be propped, and nearly three dozen fine fruit were gathered off it, which, by-the-by, was too much for it to bear. But still more marvellous, the trees which I had been congratulating myself on as having their buds safe, had hardly a single fruit. This was too much; I said nothing, but made a note of it.

Three years afterwards I happened to be on a visit at a friend's in another part of the country, a Number of THE COTTAGE GARDENER was on the table.\* I took it up to wile away an idle moment; it opened at an article on British Finches, headed "The Bullfinch." Being interested in birds, I glanced it over, when my eye fell on the following:—"In 1847 I was living at Salehurst, Sussex, and in the spring the Bullfinches came in great numbers to the fruit trees. Being desirous of catching some, I requested they might not be shot or driven away, and I set traps for them; but without success. In a few days after, the gentleman with whom I resided showed me the trees and bushes stripped of their buds, the snow beneath the trees being scattered over with the bud-cases. He remarked that, in consequence of sparing the Bullfinches, they would lose all the fruit that year. I examined a Green Gage tree in particular, and I could not find a bud on it anywhere, and I regretted to think I had been the unthinking cause of such destruction. But, after all, the trees blossomed well, the fruit set, and they had abundance of fruit that summer on those very trees which had been so stripped of buds." He then goes on to say—"I have often since been laughed at for trying to persuade others not to kill the Bullfinches, but to let them eat the buds. By noticing the effect, and pointing it out to my neighbours, some of them have also been convinced—one in particular, who showed me his Gooseberry bushes stripped of buds, was very angry with me because I would not believe but that he would have fruit there. He said it was impossible. 'Wait and see,' said I; and those very bushes were loaded."

I could not help being much struck with the coincidence. Mr. B. P. Brent, the writer of the above, should he ever read this, will have the satisfaction of knowing that from that moment he was the innocent cause of adding one to the list of the subscribers to THE COTTAGE GARDENER, and one who has never had cause to regret it.

One word more for Bully. The vast amount of seeds of Dandelion and other noxious weeds which he destroys more than compensates any mischief he may do in assisting the gardener to disbud his trees. Let every one protect his fruit and spare his birds.—ORNITHOLOGIST.

P.S.—Would Mr. Edward Hewitt kindly mention which Flycatcher he alludes to as "the common Flycatcher," in No. 63, page 200? as I have always considered the spotted Flycatcher (*Muscicapa grisola*) to be the common one, and not the pied (*Muscicapa atricapilla*).

## THE PICTURESQUE IN HOTHOUSES.

THE usual internal arrangements of a hothouse—or stove, as such a structure is more commonly called—are such as to render a visit to its botanical treasures anything but a luxury; on the contrary, in an artistic point of view, it is too often utterly unworthy of notice. The most rare and beautiful plants are usually put away as closely as they can be packed, with only room sufficient, as it were, to pass round them for the vulgar purpose of counting or numbering them like so much common merchandise: this is surely not treating a collection of the most exquisite creations of nature with due respect. The expense of erecting a structure of sufficient size to exhibit a large selection from the flora of the tropics, so as to give adequate space for the full display of the habit and character of each individual plant, is not an argument against the position just assumed, inasmuch as it would surely be more consistent with the highest principles of taste that the collection should be small, but spaciouly, elegantly, and conveniently exhibited, rather than that it should be large, and stowed away like merchandise in a warehouse. Where the plants are cultivated for sale, it is of course necessary that they should be grown in as small space as possible; even where a collection is made for the purposes of scientific study only, it may be equally necessary to abandon all idea of picturesque arrangement, in deference to convenience of reference, or

the introduction of a greater number of genera. But where a structure for their growth is considered in the light of an elegant, luxurious, and instructive appendage to a private residence, all reasons for rendering its arrangement inconvenient and repulsive disappear, and leave the ground clear for attempting some improvement which shall render the hothouse a more picturesque and attractive object than, in ordinary cases, it has hitherto been.

There are many modes in which such a structure might be rendered both picturesque and interesting. The present paper embodies a theory that has long been a very favourite one with me. A principal feature is to relieve the spectator from the impression that he is walking under glass, thus destroying the illusion of a tropical scene which the plants around him would otherwise convey. I propose to effect this by making the framework or skeleton for receiving the glass of irregular forms, resembling interlacing branches of trees, which would greatly tend to encourage the illusion that the openings between the branches were actual openings and not glazed. This effect may again be considerably heightened by training climbing plants over some of the framing branchwork, as though climbing the trunks of natural trees, while others of the simulated branches should be left bare. Bananas and Palms, by occasionally reaching near to the branchwork roof, would still farther aid in con-



SKETCH OF A CONSERVATORY FOR TROPICAL PLANTS.

cealing its artificial character. In an experiment on a small scale I would only have a path through the centre, so that the sides should also be concealed by plants rising above each other on an irregularly formed bank.

Through the centre of the house a stream of tepid water should flow, in which, amid fragments of rock and large boulders, aquatic plants of the tropics should be seen displaying their wildest habits, and assuming all the varieties of character which they exhibit in their natural localities. This stream might also be enlivened, not only by gold fish, but by other species of curious freshwater fish of the tropics, and its borders might be enriched by shells suitable to the natural climate. The stream could be made to assume the appearance of a partially-dry forest torrent, such as would during the hot season leave a sandy or pebbly beach on either side of its diminished waters; these again might form two pathways through the midst of this miniature forest, imitative of an Indian or Brazilian climate.

Some of the very finest *Ipomæas* and *Passifloras* might form the matted foliage above, interspersed with the heads of a few trees and fine Palms of large foliage, without strictly confining the selection of trees to such as would be proper in forest scenery. The undergrowth should be intermingled with gigantic Ferns

and other green plants, to form a rich background for highly-coloured flowers, which should be such as would flower best with only a moderate degree of light. A selection of very splendid plants might easily be made, which would actually flourish best under these circumstances, and the wild and forest-like effect of such a scene might be greatly heightened by the addition of a few of the more brilliant and sweet-scented Orchids suspended from the roof.

Another addition to the scene—one which I have alluded to in another work—is the introduction of exotic butterflies, which, in such a situation, fluttering from flower to flower, opening and closing their gorgeous wings, and exhibiting their rich metallic hues in various lights, would impart a tropical life to the composition hardly to be obtained in any other way. This experiment might very easily be tried, as the capture and sale of tropical insects has become quite a trade in districts where they are remarkable for their beauty. The men employed in this pursuit might easily be instructed to procure chrysalids instead of the perfect insect; and in the chrysalis state they are easily packed for carriage without the slightest risk of injury. Chrysalids so imported might be placed in secure positions in a hothouse of this description, and when the time arrived for the

perfect butterfly to come forth, they would find a temperature suitable to their constitution and structure; and if they did not become the parents of future broods, they yet would exist during their own natural term of life, and a fresh importation could be made in the next season. In some cases the eggs might be imported, as those of the silkworm are, care being taken to provide the peculiar plants on which they feed, and this would probably prove the most effectual mode of naturalising a family of exotic butterflies in an English hothouse.

The structure I have been describing would not exhibit attractive features on the exterior, which should therefore be concealed by shrubberies placed at sufficient distance, however, not to impede the light; and the small open space between the building and the shrubbery might be made use of for raising cuttings or other unsightly operations where concealment is desirable. I propose that the approach to the "tropical forest" should be through a valley of rocks well clothed with Yuccas and other plants of exotic appearance that yet bear our climate well. In this piece of rockwork, a tunnel or passage might be constructed containing a door—the actual door of the hothouse,

but which will not be seen from the interior of that structure, being concealed in the rocky passage. On emerging from the comparative darkness of this passage, the height, light, and general dimensions of the building will expand upon the eye in a very striking manner, while the illusion will not be destroyed by the act of unlatching a glass door to effect an entrance—the door and all its appendages being concealed in the tunnel. When within the structure the spectator will only perceive, on looking back, a group of rocks with a cave-like opening, the exit at the other end being managed in a similar manner.

The stream of water should enter at one end among the trees, and wind to the centre, as it appears in the accompanying design; at the other extremity it should, in a similar manner, turn among the trees and find its exit at a concealed point, leaving the centre of each end free for the rockwork entrance and exit. The water could be warmed to the necessary temperature by pipes passing over the general heating apparatus previous to entering the building.

The object of the following design is to show how, in quite another style to the one above described, a conservatory may be made highly decorative, so as to produce a more gârdenesque



SKETCH OF A JARDIN D'HIVER, OR ENGLISH CONSERVATORY.

effect than is usual. In the first place, the walks are intended to be of fine gravel instead of the chilly and ungentle tile floor generally used. Secondly, the centre part of the building, instead of being choked up with tall shrubs and trees, is to be kept spaciouly open, low-growing plants only being placed in the ground as in a flower-bed, in the central compartments. These plants are to be brought from a reserve-house when in perfection, and removed in succession as they get past their best, their places being filled with fresh ones. The side walks, which cannot be shown in the drawing, are to have a bank next the glass filled with plants in flower like those of the central beds, and these walks are likewise to be of fine garden gravel. The plants in the vases, &c., are intended likewise to be removed continually, the only permanent ones being the Palms and larger shrubs planted in the ground in the central and most lofty compartment of the building, and the climbing plants attached to the supports and the roof.\* Large seats of bold design, either

of stone or of wood painted stone-colour, should be placed at certain distances apart, and a well-designed circular seat is meant to extend all round the group of Aloes and other plants in the centre.

A spacious and pleasant promenade might thus be arranged, which, in wet weather, would be no contemptible substitute for the garden itself, while, during four or five months of the year, it would form a true jardin d'hiver, to which a covered passage might be constructed from some conveniently situated room which can be visited from the house without passing into the open air.

As a place where pleasant exercise might be taken daily among beautiful trees and flowers, there can be no comparison between the house just described, and one in which the whole building is so choked up with plants and flower-pots that there is no room to move; where the air is so overlaid with close earthy smells, that any sensation of pleasant or healthy exercise within its heavy atmosphere, must at once evaporate, as inconsistent with the place.—H. N. HUMPHREY, Esq.—(*Gardener's Magazine of Botany.*)

\* The roof of this building is not intended as a model for execution, being merely a rough sketch introduced to exhibit the interior arrangement.

## FIFTH ANNUAL MEETING OF WORKINGMEN BOTANISTS.

[This report is written by one of the "Workingmen-Botanists" who attended the Meeting, and we are well pleased at being able to publish it. Those artisan searchers after good knowledge stand out a noble example for the working men of other parts of our native country. May they prosper and add to their numbers a thousandfold.—Eds. J. of H.]

At the Meeting on July 13th, of the Botanists of Lancashire, Cheshire, Derbyshire, and Yorkshire, were brought together about five hundred specimens of plants, both native and exotic, in the Odd Fellows' Hall, at Ashton-under-Lyne; and amongst that number of plants the most rarely seen in these districts are the following:—*Isatis tinctoria*, *Samolus Valerandi*, *Thlaspi arvensis*, *Hippuris vulgaris*, *Poa aquatica*, *P. glauca*, *Rubus chamaemorus* or Cloudberry (in fruit). Amongst the Mosses were *Hypnum falcatum*, *H. exanulatum*, *H. giganteum*, and *H. stramineum*. Among Ferns the scarcest was *Woodsia ilvensis*. The Mosses were in good fruit.

The scarcest exotic plants were *Dictamnus fraxinella*, *D. albus*, *Gentiana lutea*, *Mimulus glutinosus*, *Pea elatior*, *Eucomis punctata*, *Sedum perfoliatum*, *Antirrhinum molle*, *Verbascum ferrugineum*, *Uvularia perfoliata*, *Cimicifuga serpentina*, *Andromeda speciosa*, and *Rhus glabra*.

Messrs. Edwin Clough (a cotton warp dresser), John Whitehead (a self-acting minder of spinning-jennies), Henry Newton (a plumber and glazier), and James Percival (a mechanic), from Prestwich, near Manchester, were called upon to name the plants, and Mr. John Hague was called to the chair.

Mr. Robert Lees, of Manchester, brought the following specimens of the *Carex* family—viz., *muricata*, *teretiusecula*, *remota*, *aurita*, *ovalia*, *vulgaris*, *palleseens*, *panicea*, *strigosa*, *pilulifera*, *glauca*, *Cederi*, *lævigata*, *sylvatica*, *pseudo-cyperus*, *hirta*, *ampullacea*, and *paludosa*.

The Chairman in opening the Meeting, said he felt highly flattered in having been called upon to preside over a meeting of this description, and he should endeavour to do his duty to the best of his ability; for if there was one thing he loved more than another it was to be amongst plants and students of the vegetable kingdom. And whether mythical or true that our first parents were placed in the midst of plants in a garden, it was a beautiful conception, and most of the histories and traditions of olden time noticed the wisest and greatest men as having some connection with plants. Diocletian, one of the Roman Emperors, could not be brought back from his plants, after he had abdicated his throne that he might devote more time to the cultivation of his garden. To the man who would excel in any of the fine arts, whether as a painter, a calico-printer, or any other ornamental pursuit, a knowledge of plants was indispensable; for a person having a knowledge of them, had an acquaintance with the thousands of beautiful forms and arrangements of colours in the vegetable kingdom; and one reason why English artisans were so far behind the artisans of some of our continental neighbours in their arrangements of colour, was because continental artisans were taught to study flowers for their designs.

The study of botany was of immense importance to the denizen of a city or a town, for it invited him out to converse with Nature, and some of the conventionalities of a town life were lost thereby. It induced him to visit the country more often than he would do if he had no knowledge of natural objects, and he derived a thousand more pleasures when visiting the country if he were able to converse, as it were, with every humble-looking weed he might meet with.

By a knowledge of botany the seasons were more comprehensive. Each as it came round on the wings of time brought old acquaintances to view; and the genuine lover of flowers was as glad to see the first Primrose in spring as if it were some old friend, and would gladly shake its hands if it were gifted with those members.

Botany is a means of preserving health, for to acquire a practical knowledge of it the student had to go into the pure air of the country; and the pursuit of it leads men into the regions of the grand and beautiful, where the mind could find exercise or rest without the contaminating influences that often accompany a town's pleasures.

The study of botany had this advantage over other sciences—it could be pursued everywhere; and to attain a knowledge of it did not require costly apparatus. All the sciences were

nevertheless connected, and those who had leisure and means could not spend life better than in investigating the tens of thousands of wonders in both the terrestrial and celestial worlds.

The plants in the world would not cease to grow if there were not some system of botany; but it is very doubtful whether they would be so extensively known as at present, for order was quite as much required in the vegetable kingdom as in the ordinary affairs of life. The large mills we have around us in Lancashire could not be so successfully carried on if there were not separate departments for each kind of work to be done; and the systems of botany, whether of Linnæus or Jussieu, which are arrangements of plants into classes, orders, families, and members of those families, were based upon no fanciful ideas, but upon the structure of the plants themselves. He, the Chairman, felt confident that many who were present who were strangers to botany would think it a science of break-tooth names, but he could assure them that the names were quite essential to a thorough knowledge of botany; but he disapproved of always giving a Latin or Greek name to plants to persons who do not understand those languages. With these few remarks he begged to thank them for their patient attention, and he felt confident that all would be not only gratified but instructed by their attendance.

The Meeting was attended by over three hundred persons, and the naming of the plants required more than two hours.

Persons attending these Meetings must not expect to find men with the polished manners of a courtier; but, on the contrary, men who speak in the dialects of the districts they come from.

The Meeting passed off very successfully, for the day was remarkably fine, which enabled many to come long distances.

## BALANCE THE GOOD AND THE EVIL.

### BIRDS OF PREY.

I HAVE been much interested in the various opinions lately expressed in THE JOURNAL OF HORTICULTURE in reference to the good or evil conferred by birds in the destruction of insects; and I have no doubt but that such discussion will call forth attention to this important question. It is not whether the birds do any harm, but if the good they perform exceeds the injury they inflict, and whether the injury from insects would not be a thousandfold greater than it is if the birds did not keep them in check. I am certainly of the opinion that the birds generally are our great benefactors, and that they are not properly appreciated, and that to destroy them is only "jumping out of the frying-pan into the fire;" still I have no doubt that there are those who could not be persuaded of their good services until they had suffered the grievance of their loss.

As I fear but little is known of the habits of birds generally, I beg to say a few words on the different kinds of birds as bearing on this subject, though I know they will be but very imperfect.

I propose in this letter confining myself to the birds of prey. The first, then, on our list will be the Eagle; and as the question is the good or harm they do, I shall have but little to say of him. His majestic flight, circling, soaring, and stooping over mountain or moor adds grandeur to the scenery, and there are those landed proprietors who would protect them on that account. On the other hand, as they prey on rabbits, hares, lambs, kids, fawns, and once or twice have been known to carry off a child, I do not think they can be considered a national benefit, nor will they become general favourites.

A step lower and we come to the Falcons, among which the Peregrine Falcon attracts notice. This bird, too, is admired for its aerial flights and enhancing the picturesque. It is also the great favourite of the falconer, who delights in the ancient and once noble sport of hawking, in which he may find amusement and health as well as giving some employment to others. As the Peregrine Falcon strikes or catches its prey on the wing, it is not thought to be very destructive to game; and consequently many sportsmen, if they do not actually protect them, at least do not destroy them. At liberty their favourite quarry seems to be Ducks, then Pigeons and Rooks: they are, therefore, injurious to wild-fowl decoys, although the birds are tolerably secure while they keep the water. To the Pigeon-fanciers they are his most dreaded enemy, whether he is a fancier of Homing birds or a flyer of Tumblers. Nor can any good arise from his

considered he will stand rather below the mark in utility.

There is one Hawk—the Kestrel or Windhover, which, though according to naturalists is a true Falcon, yet, despised by falconers, is a truly useful bird. His diet consists of mice, varied with an occasional cockchafer or other large insect, and on this account is of great use to the farmer and agriculturist. He is not addicted to poaching, nor need the farmer's wife suspect him of taking her chickens: therefore he should always be protected and regarded as a national benefactor.

Of the other Hawks, as the Sparrowhawk, the Merlin, and the Henharrier or Blue Hawk, I can say nothing in their favour, as they destroy alike game, poultry, and useful small birds. On this account they are destructive pests, but the farmer and gamekeeper will do well not to confuse the harmless and useful Kestrel with these destroyers.

Before closing this letter I must give a few words for the Barn Owl. This quaint fellow, which shuns the glare of day, sallies forth at evening and hunts through the night for mice. Mice are his principal food, of which he destroys immense numbers; and if he varies his food, it may be a large insect or young rat. Of game or poultry he is innocent, and has been known to live in the dove-cote without injury to the Pigeons old or young. He is, therefore, a great public benefactor. Every farmer and gardener should encourage and protect them. Gentlemen should forbid their gamekeepers and servants to destroy or interrupt them. Their great usefulness should cause them to be held in high esteem, whereas ignorance and superstition too often consign them to an ignominious death.

The Brown or Wood Owl is also useful in destroying vermin; but of its other habits I am unable to speak with certainty.—  
B. P. BRENT.

## THE INTERNATIONAL EXHIBITION.

(Continued from page 296.)

### WESTERN AUSTRALIA.

The colony of Western Australia comprehends the whole of that continent lying to the west of 129° E. long., extending in its greatest length 1280 miles from north to south, 800 in breadth, and having a coast-line 2000 miles long.

The climate is not so dry as that of Eastern Australia, and is generally considered very salubrious. All our English vegetables succeed well; and the Apple, Pear, Peach, Apricot, Orange, Melon, Banana, Olive, Fig, and Vine grow luxuriantly. To the cultivation of the latter particular attention is now directed with a view to the production of wine, of which 20,833 gallons were made in 1859.

Several samples of wines from different vintages are shown. Those from W. P. Clifton, Esq., Leschenault, are labelled Pedro Ximenes, White Frontignan, and Black St. Peter's; and we learn from the "Descriptive Catalogue" published by the colony that they were produced on strong sandy land capable of growing Wheat, the subsoil, at from 2 feet to 4 feet deep, being sand. The ground was trenched 2½ feet to 3 feet deep, and the Vines planted 6 feet by 4 feet apart; the produce of Pedro Ximenes is stated at 400 gallons per acre; that of another kind, the Fontainebleau, at 1200 gallons. Mr. Little exhibits wine from the Black Frontignan Grape grown on a soil of decomposed granite; Mr. McGuire, probably, the same kind of wine; and Mr. Barlee six bottles of a wine said to resemble a light claret, obtained from a small Black Cluster Grape grown on a loose dry sandy soil near Perth.

Dried fruit, and particularly figs and raisins, is another object to which the colonists have turned their attention, and is now rising into considerable importance, 18,952 lbs. having been dried in 1859. Mr. Hardy, of Peninsula Farm, is, however, the only exhibitor of dried fruit in the shape of a box of raisins made March, 1861, and accompanied with some finely-grown almonds.

Some fine Wheat is also shown here—that from S. Parker, Esq., weighing 64 lbs. 12 ozs. to the bushel; from A. Muir and Sons, 65 lbs. 6 ozs.; whilst Mr. D. Clifton has a sample stated to be of the extraordinary weight of 70 lbs. per bushel; from the same gentleman there likewise comes a gallon of apparently very good olive oil.

Mr. G. Clifton, Fremantle, exhibits 50 ozs. of "Eucheuma speciosum," or jelly seaweed, a quantity which is stated to be sufficient to produce 100 quarts of jelly or blanc mange. To

prepare it for use the following instructions are given:—First soak it in cold water for twenty-four hours, when it will become perfectly white, and swell considerably; then boil it in a quart of water or milk till it is perfectly dissolved; sweeten, and flavour to taste, and put into a mould. Let it stand until cold, when it will become a firm delicious jelly, remaining so in the hottest weather.

If on trial here this substance is found to bear out the account given of it, it would no doubt become an article of considerable import.

We now come to by far the most important part of the Western Australian exhibition—the timber, of which several kinds are shown.

The most valuable, apparently, is the Jarrah wood, a species of Eucalyptus, commonly called mahogany in the colony from its resemblance to that wood. It is remarkable for its immunity from decay, resisting the influences of the atmosphere and water, the white ant, and the sea worm, by which every other kind of timber is soon destroyed. As a proof of its enduring qualities a pile which had been twenty-nine years in the sea at Fremantle is exhibited. The lower portion was under water, and exposed to the attacks of the sea worm, the middle was between wind and water, and the upper part was exposed to the summer sun and winter rains. On examination we found it had scarcely suffered from decay, and that only on its outer surface. The resistance of the Jarrah to the attacks of the white ant is also shown by a beam which had formed a doorstep to a house, and which had been constantly subjected to the influence of wet sand from the oozing of a spring. It is still quite sound all but the surface, which had decayed to a very trifling depth.

From the Royal Engineer department at Fremantle there come two posts of the same kind of timber which had formed part of a bridge, and had been seventeen years in the water. The tenons were left in an almost perfect state, and one of the posts was polished on one side to show the small amount of deterioration which it had undergone. Captain Wray, R.E., says of this wood, "I have myself used upwards of 3000 loads of it in building jetties and bridges, and I have examined timbers which have been exposed to the action of the white ant and sea worm in situations where it would have been destroyed if liable to destruction from either of these causes, and I never saw any penetration deeper than the sapwood, though deal or other timber close by was completely eaten away. This immunity from destruction is generally attributed to its containing large quantities of gum resin. The strength and elasticity are about equal to Rigs Fir.

"I know of no objection to it except that it is somewhat slow to season, and if exposed before seasoned will fly and cast, perhaps, rather more than other timbers. The plan lately adopted in Western Australia to season it was to leave the logs in the sea for a few weeks, and then draw them up on the beach, and cover them with a few inches of seaweed, taking care to prevent the sun getting at their ends. My experience led me to the conclusion that logs might lie in this way without injury for almost any length of time."

It thus appears that the Jarrah is invaluable wherever timber is to be exposed for a lengthened period to the action of water or of the atmosphere. Accordingly, if found in other respects suitable, it might be very advantageously employed in ship-building, whilst its value for piling and railway sleepers is unquestionable. For the latter purpose large quantities are now exported to Eastern Australia and India.

The Tooart and Blue Gum, of which there are vast forests in the southern part of the colony, are said to be equally valuable with the Jarrah, and that the close hard-grained wood of these will endure a great amount of heat without splitting, and to be extremely durable; they are, consequently, recommended for engine-rooms and other ship-building purposes.

Of other species of Eucalyptus, that called Raspberry-Jam Wattle is a very handsome wood, susceptible of a high polish, and scented somewhat like the fruit from which it takes its name.

The White Gum which grows in the limestone district, is stated to be a most valuable wood for millwrights, shipwrights, and wheelwrights, as it is almost impossible to split it even when closely morticed. From its not being liable to splinter, it is suggested as likely to be useful for war ships.

There are also, accompanied with specimens of shoots, leaves, and seeds, planks of Morrel, a hard wood used for shafts; Tutala, not unlike Oak when polished; Mallet, a nice light wood; Wandow and Kirdang, together with Shea-oak, a kind of Casuarina,

used by wheelwrights, and to make shingles which are cheap and very durable for roofing; a log of the Sandal Wood of Western Australia, which is largely exported; and, lastly, several excrescences from Jarrah trees, cut through and polished, one of them being of immense size and very beautiful.

A pretty cabinet made of the various woods of the colony is exhibited by the Royal Engineer Department, under whose direction it was carried out by the convicts. It well displays the capabilities of the different woods for cabinet work.

Samples of barks used in tanning are exhibited, together with leather tanned by their agency, which has given such satisfaction that we believe orders have been taken for many thousands of skins since the opening of the Exhibition. Silver Wattle bark from a species of *Acacia*, and a fibrous Rush found plentifully on the banks of the Swan River, are shown as likely to prove good materials for cordage; also, the bark of a *Melaleuca* which being easily reduced to a pulp, might be useful for paper-making, though it appears scarcely fibrous enough.

A resinous gum which is found useful by the colonists for illumination, and from which it is believed that a new and valuable pigment can be obtained, is likewise exhibited. It is produced by the *Xanthorrhoea arborea*, called *Bulga* by the natives, and *Grass-tree* or *Black-boy* by the colonists. This is a useful plant to the natives. The frame of their huts is constructed from the tall-flowering stems; the leaves serve for thatch and for a bed; the resinous trunk makes a cheerful fire; and the flowering-escape yields a gum for food. The trunk affords a resin used for fixing the glass on their spears and other weapons. Fire is readily kindled by rubbing together the dry flower-stems, and the withered leaves furnish a torch. Cattle feed upon the leaves; sheep pull up the centre leaves when they can reach them, and eat the lower blanched ends; and settlers have even dressed the crown, which tastes like an Artichoke, for food; and also used the young stem when boiled and carefully scraped, but some persons are said to have suffered from doing so. Finally, there is a *hortus-siccus* of the Swan River, consisting of 140 specimens, exhibited by the Rev. A. Du Cane, and some of the poison plant, *Gastrolobium calycinum*, which is so fatal to sheep and cattle eating it. Several other plants of the same genus have the same effect.

(To be continued.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

PLX the fork frequently amongst the growing crops of Cauliflowers, Broccoli, and Winter Greens, and continue to manure and trench-up every piece of ground as it becomes vacant, for planting with any of the Brassicas for late crops. *Asparagus*, keep the weeds down in the beds, for which purpose an occasional sprinkling of salt is a great help, besides being of benefit to the plants. They also require to be properly supported, as the crowns may be much injured by the stems being blown down. If any are required extra fine they should not be allowed to perfect seed, but to have plenty of liquid manure, bearing in mind that if the drainage is not perfect such applications will be more injurious than beneficial. *Cabbage*, plant out some of last-month's-sown plants for use in the autumn. In Coleworts, make a sowing about the middle of the week for the first main spring crop. *Carrots*, thin the late-sown crops, and loosen the earth between them where they have been sown in drills. *Dwarf Kidney Beans*, a last sowing should now be made in a sheltered situation, the drills to be watered if the ground is very dry. *Endive*, transplant a few more and make another sowing. A few days' difference in transplanting at this season sometimes proves of great advantage. *Sorrel*, to be cut down if required for use in the autumn. At the time of planting Celery, *Endive*, or any other culinary vegetable, they should by no means be deprived of any portion of their leaves, the ill effects of such a practice may be easily proved by experiments. When planting great care to be taken to press the soil close to the roots.

### FLOWER GARDEN.

Evergreens which require pruning should now be attended to without delay. Clip Box-edgings and evergreen edges. By such attention at this season a higher degree of neatness and uniformity will be better attained. Advantage should be taken of moist weather to plant out the principal sowings of biennials—such as Wallflowers, Sweet Williams, Canterbury Bells, &c., into nursery-beds; allow plenty of room between plant and

plant if it is intended to allow them to remain in the beds till spring. Propagate *Antirrhinums*, *Pentstemons*, *Phloxes*, and other showy herbaceous plants by cuttings. They take root readily under the shade of a north wall covered with hand-glasses. The budding of *Roses* should now be proceeded with and vigorously followed up till finished. Cuttings of *Roses* may now be taken and planted in a cold frame with a northern aspect. In about a month they will show indications of rooting, when they may be taken up, carefully potted, and plunged in a slight bottom heat. Treated thus they make nice plants in a short time, and if kept under slight protection during winter, will fill their pots with roots, and be ready for planting out next May. Pink pipings put in early will now be ready for transplanting; and if so, this should be done at once, as they will require time to establish themselves before winter. If the situation ultimately intended for them is vacant, they may be planted there at once, but if occupied at present by something else, let the young Pinks be planted about 4 inches apart in nursery-beds in an open situation.

### FRUIT GARDEN.

Prepare the borders intended for new plantations of Strawberries by very deep trenching, and afterwards lay on a dressing of half-decomposed manure, and fork it in. Old worn-out beds to be trenched-up, and the crop changed. Keep the runners well removed from the permanent beds. Applications of liquid manure will be beneficial at this season. Thin-out the shoots of Figs, and keep them well nailed. Vines on walls will want frequent attention: see that late-growing spray do not shade the principal leaves; these should enjoy full exposure to the light. The Currant bushes to have some of the extremities of their watery and late growths cut away, cutting a handful or two also from the interior of the bush, when gross, to give them the benefit of sun and a free circulation of air.

### STOVE.

When a fire is necessary here it should be lighted about one o'clock, and allowed to burn briskly for a couple of hours, and permitted to go out of itself by four o'clock. The house to be shut close at five o'clock, and water to be used liberally to produce a moist atmosphere.

### GREENHOUSE AND CONSERVATORY.

Some of the early-blooming *Pelargoniums* will now be out of bloom, when they may be placed out of doors for a fortnight in a sunny situation to ripen their wood; then to be cut to the second or third eye on each shoot, and returned to the house or close pit, to be supplied very moderately with water until they break. When they have made fresh shoots an inch long, to be turned out of their pots, the soil shaken away, the roots trimmed, and the plants fresh potted in light loamy soil in pots a size or two smaller, according to the state of the roots, than they had been in before. *Cinerarias*, whether seedlings or suckers, should have regular attention, and those intended for autumn work to be potted forward without delay. Where Grapes are grown in the greenhouse they should be forwarded as much as possible, so as to have them fully ripe before any of the plants will require protection.

W. KEANE.

## DOINGS OF THE LAST WEEK.

"JUST one of that ilk—another of the same," might serve for all our jottings now; the work of one week so closely resembling the one that has passed, that a general routine characterises the proceedings.

### KITCHEN GARDEN.

We did what we have not had to do much this season—watered Celery, Cauliflower, Greens of kinds, so as to keep them growing freely, using clear water for the Celery, and manure water for the Cauliflower. Moved shading from vegetable seeds as soon as they were up, to prevent them being drawn. Filled every spare bit with Cauliflower, Winter Greens, &c. Pricked out a lot of Cauliflowers to come in after the Potatoes are raised, so that they can be lifted with balls. In finally planting such we generally take out a slight trench with the spade, and the plants scarcely feel the moving, which plants merely dibbled, however well done, constantly do. Run strings of soft twine along the rows of strong-growing Peas, as, owing to the moisture and the dulness, though not mounting higher than usual, the sticks are of little use in keeping them in their place sideways, and a storm of wind and of hail as we had here on the 16th, would be apt to break them down, and once by any means bruise or break

the haulm or stems, and farewell to fine-swelled, well-flavoured Peas. My sticker of Peas has rather helped the evil of the stems falling through the sticks by his very nattiness in staking. Before I noticed he had done the principal Peas, bringing the stakes together at the top, which no doubt



looks neatest, instead of standing apart basin-shaped, which gives more justice to the Peas. In the one case, the stems, if strong, will pass through the stakes; in the other case, room for them, and the stakes will keep them

up much better. Where the haulm is knocked about by imperfect staking, it would often be better to leave the plants on the ground, as in a field, in a state of nature. I think I mentioned last year that some great judges spoke so magniloquently about the flavour of the shelled Peas in Covent Garden, and more especially when they went to the expense of getting these passed through a sieve, so as only to have those that were very young. Well, I tasted lots of these shelled Peas in Covent Garden last week, and will only say, that those who can praise them would be satisfied with almost anything in the country. A first-rate Pea can only be obtained in Covent Garden when the Peas are taken there in shallow baskets, and are shelled at home, instead of in the market. No Peas carried for hours in bags or large hampers can have the rich flavour of a nice young Pea gathered only a short time before it is cooked. When I saw the women so busy shelling, and the huge heaps sweltering in the sun, I could not but think that some very wise people might do better than go down to the country, and so praise the Covent Garden Peas, as by implication to cast reflections on those they were eating at their friends' tables. I state it broadly as a fact, on which I would be willing to stake my professional reputation, that every amateur, eye and every cottager, that has a garden in the country, may have Peas on his table, that for flavour and richness far transcend those obtained in Covent Garden, if they are taken there in the usual way, in large bags and hampers, and are shelled in the usual way before they are purchased. Be it recorded, we find no fault with the system, which in many respects is suitable to and pleases our London friends; but that is no reason why we should permit a few would-be arbiters of taste to be croaking continually upon the thorough superiority of Covent Garden Peas. We say simply, that if equally young and of good quality, such Peas cannot be so rich as those fresh gathered in a garden. Of course, we make allowance for different tastes. Some people may prefer Peas that have gone through a heating, fermenting process. We find no fault with those who praise this and that kind of sour vinegar-like wine, though we are vulgar enough to prefer instead a glass of good London porter. I wish the humble cottager fully to know, that in cutting a nice Cabbage in his own garden, and cooking it properly, he may have a delicacy which a peer in London cannot obtain at his club, if the Cabbage of which he partakes formed one of hundreds of Cabbages in a waggon at market.

#### FRUIT GARDEN.

Besides routine of nipping, fastening, gathering fruit for preserving, which we were fortunate to do after several days' dry weather, and before the dreadful hail of the 16th, we have gone on with layering Strawberries for forcing, planting-out Melons, which we prefer doing to cutting back the old plants, as, if a heavy crop is taken, and the plants are kept rather dry to secure flavour, the plants rarely will do so well afterwards. In case there should be any insects or their eggs, we generally remove 2 inches or 3 inches of the surface soil, dig up and add more fresh before planting, and whitewash the walls or boards, if a frame, with lime and sulphur. If in a frame or in a whole pit we would use the precaution of burning a little sulphur a couple of days before planting; but this cannot be done when only a part of a frame or a box is to be planted, as the burnt sulphur will kill every green thing it has access to. The squares of glass, 15-oz., 20 inches by 12 inches, stood the hail well, though it fell with such force as to rebound frequently 2 feet from the glass. In a moment the spouts were filled, and the hail hanging over them as in a snowstorm at Christmas. Many stones were as large as good-sized marbles, and I noticed the glass bent and bounded considerably. What is the experience of friends and readers as to thicker glass in similar circumstances? I sometimes think that where there is no bending, there is more danger of cracking.

#### ORNAMENTAL GARDENING.

When we cannot do what we wish, the next best thing is to do the best we can. Go into such nurseries as Mr. Veitch's, &c.,

and you will find Azaleas making their new wood in a more close, moist, tropical heat than they give even to their Indian Orchids. This presupposes, at least for the time, a house for the purpose; and growth being made, the hardening-off process will be equally well and systematically attended to. Of course, with one house an approach can only be made to such a system by keeping the plants needing fresh growth together, giving more of the syringe and less air than would be suitable for flowering plants. We learn little even from the largest and best-managed establishments, if we do not carry along with us this accommodating-to-circumstances principle. All hard-wooded plants would, less or more, require similar treatment when making their wood. The thing which young beginners most commonly err in is acting at least on the principle that a plant when placed in a certain position, be it a Heath, an Azalea, or a Chrysanthemum, is to remain there. The man of intelligence and action, who thinks as well as works, tries according to his means to give each plant what it wants at every season of the year, and is not more careful that growth should be made under stimulating circumstances, than that growth should be duly matured under certain other circumstances of sun and air; and for this purpose the character of the house is changed, or a part of it changed, or the plants are moved out to another more suitable place. In most gardens of limited extent this moving, at the right time, will make all the difference between the very successful and the very indifferent. It is always pleasing in large princely establishments to find things used and valued according to their simplicities. The house in which the Azaleas were made to grow was a large span-house with no staging. Much fewer plants of large size would have been accommodated on the floor, and the syringe could not have played so well beneath and all through them. Each plant was therefore raised on a pedestal, which brought it nearer to the glass, enabled more plants to be placed, and gave every facility for getting thoroughly about them. But what about the pedestals? Aye, there was the simplicity. Four boards some 10 inches wide, and in height—say each four from 2 feet to 1½ feet, were fastened together at the corners so as to make a hollow square tube. One end of this was fixed in the floor of the house, and the huge pot on the other end kept it steady enough; and when done with the boards could easily be removed and packed in a heap until they were wanted.

Proceeded with potting stove and greenhouse plants, and the hardier Geraniums, Fuchsias, Balsams, feathered and other Cockscombs, Amaranths, &c., for late blooming; and began taking a few cuttings of some scarce bedding Geraniums. Out of doors, as the ground is now getting warm, began mulching the Calceolarias to keep them cool. Pegged down with cracked sticks Verbenas, &c., the crack making them just as useful as wire hair-pins. Tied-up Hollyhocks: those sown in autumn will bloom very late. Tied-up Dahlias; bush-staked the dwarf ones. Kept the hoe going, as small weeds were never more troublesome, and may top-dress Scarlet Geranium-beds when the ground gets warmer; at present it is rather cold to have them in full perfection, and the slightest mulching would keep the heat out. When the ground is hot enough, then we must try and keep heat and moisture in.—R. F.

#### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.,"* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

ASPARAGUS-BEDS (*B. W.*).—For the present be content to give the salt and liquid manure as we before directed. When the stems of the Asparagus are cut down in the autumn, remove "the gravelly poor stuff," and replace it by a mixture of light loam and decayed stable dung, or fowl's dung, in equal proportions. Do not cover the crowns more than 2 inches deep.

**SEEDLING GERANIUM** (*W. Hutchison*).—The trusses of bloom which you enclosed are very fine, and the pink of the petals bright. We can say no more, not having seen the plant. In what does it differ from *Christie*?

**INSECTS** (*T. T.*).—Your Mangold Wurtzel leaves are infested by the larvæ of a two-winged fly (*Anomyia beta*), very closely resembling the common house fly, the larvæ of which burrow within the leaves. As there are several generations in the year, we advise you to pluck off and burn every infested leaf. (*P.*)—The thin fleshy maggots which are destroying your Carrots are evidently the young of a pretty two-winged fly (*Psila rosea*), which lays its eggs on the young Carrot roots, and causes the disease called rust. We advise you to water your plant with gas-tar water or strong lime and soap-suds.—*W.*

**TOMATOES AT A FRUIT SHOW** (*G. S., Birkenhead*).—Mr. Beaton thought they were out of place, and you differ from him in that conclusion; but that is no reason why you should be discourteous. You are both entitled to abide by your opinions; and we shall not charge you with "evident ignorance" when we add that we differ from you. Cucumbers strictly are not entitled to a place at a fruit show, and can only be tolerated in a miscellaneous class. The same observation is applicable to Tomatoes, which, like Cucumbers, are only fruit in a botanical sense.

**ERYSIMUM PEROFFSKIANUM** (*H. P. D.*).—We have often had it vary, but we never thought of the convertibility of the two species. The seed we always took for *Erysimum diffusum*, and it is difficult to clear a sample of it if once it is gathered with *Peroffskianum*.

**DELPHINIUM FORMOSUM SPORT** (*Idem*).—Your seedling sport from *Delphinium formosum* is quite new to us, and quite as valuable as ever *formosum* had been. The *Salvia patens* blue in *formosum* is, in this new form of it, converted into a deep violet purple, making a very rich *Delphinium*.

**LILIUM GIGANTEUM** (*Idem*).—This great Indian Lily requires exactly the same kind of treatment after it has gone out of bloom, down to the period the leaves cease to be green, as it had in the fore part of the season. We have seen it go to rest early in October, and not till November, December, and the turn of the new year. The seeds being of little or no value to most amateurs, if the plant were ours we would cut the flower-stem off just below the seed-pods, and plunge the pot in the hottest and most sheltered border in the kitchen garden, there to take care of itself for the rest of the season; but we would stand the pot on two pieces of brick to secure perfect drainage, as, if the autumn should turn out after the manner of long wet, long dry, it may need some heavy waterings, and heavy watering is dangerous to some plants when thus plunged, for fear of bad drainage.

**GLOXINIAS** (*R. P., Shrewsbury*).—Your two flowers were destroyed by the post-office punch; but if they had not been it is rarely possible to give the name of a flower where the varieties are legionary, from the mere inspection of a single flower. We cannot say whether a box from you was received—we have none the contents of which are waiting for naming.

**CAMELLIA CULTURE** (*A Beginner, Chesham*).—Water the seedlings carefully, and as soon as handleable prick them off in sandy loam and peat, four round the sides of a four inch pot. When growing freely, and filling the sides of the pots with roots, break the ball carefully so as to pot each separately in a small pot in similar material. Keep the plants in as close and humid an atmosphere as they will bear without damping. When these pots are filled with roots, you can grow on, or bud, inarch, or graft the seedlings.

**LEAVES OF STOVE PLANTS INJURED** (*H. H.*).—The leaves have every appearance of being scalded. Use less deluging with water; give more air, especially early in the day; shade in bright sunshine, especially when it comes after a few dull days; in dull weather, use less heat, and little or no water on the floors.

**PRUNING ERICA CAVENDISHII** (*Idem*).—When cleared of its dead flowers, it will require little more trimming with a sharp knife than merely to stop free-growing shoots, and to induce fresh growth regularly all over the plant. If at all symmetrical, little pruning beyond this will be required. It is not like a very strong grower, which you may round-off with a pair of scissors.

**REPORTS** (*G. B.*).—We are greatly obliged by your letter, and assure you that suggestions made in the same courteous tone are always desired and welcomed. If we saw that our not reporting the Society you name was an occasion of any loss to our readers, we should take care that reports should appear in our columns; but after carefully watching the subject we find that almost every novelty of the season is exhibited at the Shows of the Royal Horticultural Society and Crystal Palace, and any novelty which appears elsewhere we take care to have noticed in another form. There is no need, therefore, to occupy with repetitions the space which we can fill with fresh information.

**GEOMETRICAL DRAWING** (*J. C.*).—We shall be obliged by having your address that we may compare notes.

**NAMES OF PLANTS** (*H. B.*).—1, *Phillyrea media*; 2, *Magnolia glauca*; 3, *Acanthus spinosus*; 4, *Alstromeria aurantiaca*; 5, *Sisyrinchium striatum*; 6, *Silene armeria*. (*W. H. K.*)—*Cerastium tomentosum*, *Alyssum maritimum variegatum*. (*J. O., Salop*).—1, *Viburnum lentago*; 2, *Hypericum calycinum*. (*S. K. B.*)—1, appears to be *Myrsine africana*; 2, a small state of *Polystichum aculeatum lobatum*; 3, *Festuca ovina vivipara*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

**JULY 29.** NEWMILLERDAM. *Secs.*, Mr. J. Turner, Walton; Mr. W. Pashley, Newmillerdam.  
**AUGUST 2nd, 4th, and 5th.** SHEFFIELD. *Sec.*, Mr. George Westerholm, 49, Queen Street.  
**AUGUST 25th, 26th, 27th, and 28th.** CRYSTAL PALACE. *Sec.*, W. Houghton. Entries close July 26th.  
**AUGUST 27th.** COTTINGHAM. *Sec.*, Mr. J. Brittain. Entries close Aug. 20th.  
**SEPTEMBER 2nd.** PÖCKLINGTON, Yorkshire. *Sec.*, Mr. T. Grant. Entries close August 20th.  
**SEPT. 4th.** WAKEFIELD AND WEST RIDING. *Sec.*, Mr. J. Crosland, jun., Entries close August 23rd.  
**SEPTEMBER 9th.** WORSLEY AND ARMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.  
**DECEMBER 1st, 2nd, 3rd, and 4th.** BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### GRAVEL IN EXHIBITION PENS.

We are asked to use our influence with committees and managers of poultry shows to induce them to cover the bottom of the cages or pens with gravel. Where they can do so, it is beyond doubt the best thing there is for the purpose; but in some districts it cannot be had. We were lately paying a visit to some model poultry-houses, and finding the floors of asphaltum covered with a sticky sand, we urged the use of gravel, both for the hard and the loose floor. We were told there was not a cartload of gravel within twenty miles of the place. Much mischief has been done by the use of sawdust, which swells in the gizzard, and renders the grinding and consequent digestion of food impossible.

### THROAT DISEASE IN POULTRY AND PHEASANTS.

I HAVE a pullet nearly four months old suffering from some affection of the throat; she has been ill for several weeks, is very thin and weak, gasps for breath, and makes a loud noise clearing her throat. She is not of much value, but I should like to know what remedy to use, as I may have the same complaint with valuable poultry. The disease does not appear like the gapes in younger chickens, which I have often seen.—

[The disease you mention has many points in common with that which has nonplussed fowl and Pheasant breeders in many cases this year; and if, when handled, the bird is found to have a hard lump in the throat, it is a bad case. We do not know its origin. The only treatment we have found effectual is to give decoction of wormwood in their water, and to feed freely on bread and ale. This has been successful only in the early stages. If there is no improvement, we advise you to kill.]

### LEEDS AND WEST RIDING POULTRY AND PIGEON SHOW.

AN attractive and pleasing Exhibition was held in the Music Hall, Leeds, on the 9th, 10th, and 11th inst., in connection with the Leeds and West Riding Horticultural, Floral, Poultry, and Fancy Pigeon Society. This is the first show held under the auspices of the Society, which has been lately established, and of which the Right Hon. the Earl Fitzwilliam, K.G., Lord-Lieutenant of the Riding, is the President.

The result of the efforts of the Society are, for the first year, highly gratifying, and augur well for its future prosperity. Not only was the Exhibition a success; but it may be safely said that it was, as far as regards the poultry and Pigeons, which formed its chief attraction, superior to any that has been held in the West Riding.

The following is a list of the awards:—

**SPANISH.**—First and Silver Medal, R. Teebay, Fulwood, near Preston-Second, J. R. Rodbard, Writington, near Bristol. Highly Commended, S. Corner, Fulwell, near Sunderland; T. Greenwood, Dewsbury; F. Crook, London; E. Brown, Sheffield.

**DORKINGS** (any Variety).—First, Silver Medal, and Second, T. W. Hill, Heywood. Highly Commended, H. W. B. Berwick, Helmsley.

**GAME** (Black-breasted and other Reds).—First, H. Beldon, Bradford. Second, C. W. Brierley, Rochdale. Highly Commended, J. Fletcher, Stonecough.

**GAME** (Duckwings and other Greys and Blues).—First and Silver Medal, G. Hellewell, Sheffield. Second, J. Riley, Dewsbury.

**GAME** (any other Variety).—First, J. Fletcher, Stonecough. Second, W. Wood, Sheffield. Highly Commended, T. Hartley, Gomersal; H. C. Mason, Drighlington.

**COCHIN-CHINA** (Cinnamon and Buff).—First and Silver Medal, H. and G. Newton, Garforth. Second, R. White, Sheffield. Highly Commended, E. Smith, Middleton.

**COCHIN-CHINA** (any other Variety).—First, R. White, Sheffield. Second, W. Dawson, Mirfield. Highly Commended, E. Smith, Middleton; A. Cattle, York.

**HAMBURGS** (Gold-pencilled).—First, F. Hardy, Laister Dyke. Second, C. W. Brierley, Rochdale. Highly Commended, Carter & Vaillant, Poulton-le-Fylde; R. Hemingway, Halifax.

**HAMBURGS** (Silver-pencilled).—First, G. Hellewell, Sheffield. Second, H. Beldon, Bradford. Highly Commended, W. Wood, Sheffield.

**HAMBURGS** (Gold-spangled).—First and Silver Medal, N. Marlor, Manchester. Second, R. Tate, Driffield. Highly Commended, W. Lawson, jun., Otley; J. Ellis, Leeds.

**HAMBURGS** (Silver-spangled).—First, H. Beldon, Bradford. Second, S. Campling, Collingham.

**POLANDS.**—First, H. Beldon, Bradford. Second, F. Hardy, Laister Dyke. Highly Commended, F. Hardy.

**ANY BREED NOT PREVIOUSLY CLASSED.**—First, R. Teebay, Fulwood. Second, H. & G. Newton, Garforth. Highly Commended, — Robinson, Mansfield; R. Tate, Driffield; J. Harrison, Blackpool.

**CHICKENS of 1862 (any Variety).**—First and Silver Medal, T. Greenwood, Dewsbury. Second, A. Nuttall, Newchurch. Third, H. Mantle, Collingham. Highly Commended, S. Dupe, Everecreech; W. Bentley, Low Moor; R. G. Gilbert, Claxton.

**GAME BANTAMS (any Variety).**—First, and Society's Silver Medal, C. W. Brierley, Rochdale. Second, G. H. Crosland, jun., Wakefield. Highly Commended, R. Tate, Driffield; G. H. Crosland, Wakefield.

**GAME BANTAMS (Black or White).**—First, E. Holdsworth, Leeds. Second, G. H. Crosland, jun., Wakefield.

**GAME BANTAMS (Gold or Silver).**—First, E. Hayton, Pudsey. Second, G. H. Crosland, Wakefield.

**GUINEA FOWL.**—First, H. & G. Newton, Garforth. Second, R. Tate, Driffield.

**Ducks (White Aylesbury).**—First, R. Tate, Driffield.

**Ducks (any other Variety).**—First, and Society's Silver Medal, R. Tate Second, H. & G. Newton, Garforth.

**TURKEYS.**—Prize, Lady Hawke, Womersley Park.

**GESE.**—Prize, Lady Hawke, Womersley Park.

#### SWEEPSTAKES.

**GAME COCKS (any Colour).**—First, C. Brierley, Rochdale. Second, M. H. Walker, Clowae. Highly Commended, J. Robshaw, Whixley.

**SPANISH COCKS.**—Prize, R. Teehay, Preston.

**DORING COCKS (any Colour).**—Prize, H. W. B. Berwick, Helmsley.

**COCHIN-CHINA COCKS (any Colour).**—First, W. Dawson, Hopton. Second, R. White, Sheffield. Highly Commended, W. Cople, Prescott; H. W. E. Berwick, Helmsley; C. E. Kildale, Halifax; W. Wood, Sheffield.

**HAMBURGH COCKS (any Colour).**—Prize, T. Carr, Lancaster.

**GAME BANTAM COCKS.**—Prize, E. Holdsworth, Leeds.

**BANTAM COCKS (any other Variety).**—Prize, E. Holdsworth.

#### PIGEONS.

**Carriers.**—First, A. L. Sylvester, Birmingham. Second, S. Robson, Brotherton. Highly Commended, Miss H. Hughes, Leeds. *Almond*

**Tumblers.**—First and Silver Medal, E. Holdsworth. Second, A. L. Sylvester, Birmingham. Highly Commended, A. Evans, Salford. *Tumblers*

(any other Variety).—First, E. Holdsworth. Second, J. W. Edge, Birmingham. Highly Commended, J. Percival, Birmingham; Miss H. Hughes.

**Croppers.**—First, S. Robson. Second, Miss H. Hughes. Highly Commended, S. Robson. *Jacobins.*—First, G. H. Crosland, jun., Wakefield. Second, A. L. Sylvester. Highly Commended, H. Yardley, Birmingham; Miss H. Hughes.

**Owls.**—First, H. Smith, Skipton. Second, F. Key, Beverley. Highly Commended, E. Holdsworth; H. Yardley. *Nuns.*—First, F. Elze, Bayswater. Second, H. Yardley. *Turbits.*—First, E. Holdsworth. Second, A. L. Sylvester. Highly Commended, F. Elze; J. W. Edge, Birmingham.

**Fantails.**—First, F. Elze. Second, F. Key. Highly Commended, A. Evans.

**Bars.**—First, E. Holdsworth. Second, A. Evans. *Trumpeters.*—First, F. Elze. Second, F. Key. Highly Commended, Miss H. Hughes. *Antwerps.*

—First, E. Holdsworth. Second, Miss H. Hughes. *Any other Variety.*—First, E. Holdsworth. Second, G. H. Crosland, jun. Highly Commended, J. W. Edge.

**RABBITS.**—Second, G. Bentley, Kirkstall.

The Judges were Mr. George S. Sainsbury, of Devizes, and Mr. S. Bird, of Shipley.

### RAISING TURKEYS.

I GENERALLY raise more Turkeys than I know what to do with, and I have Turkeys now left over from last season that will be eaten as we want them. Last winter we fairly revelled in roast Turkey—gave quite a number away, sold others, have some, beside the breeders, still left.

My plan of raising is simple, and I will give it in as few words as possible. First, I never allow a Turkey to sit until about the middle of May. They will commence to lay early in April, but I take their eggs away as fast as laid, and keep them until they lay their second batch, which will be finished about the second or third week in May. I then give the hen some eighteen or twenty of the eggs, and let her sit. About the middle of June she will be off. I then take her, put her with her young on an old barn floor, or other outbuilding that is dry, and feed on curd and cracked corn. Curd is the best for a continual feed when the farmer has plenty; but cracked corn or coarse meal, mixed with lobbered milk, will answer about equally as well. After they have been in-doors for two or three days, or long enough to get fairly on their legs (for the Turkey is the weakest of all fowl when young), I let them out, providing the weather is fine, and there is no dew on the grass. The great reason why people cannot or do not raise Turkeys is because they turn them out as soon as hatched, and about the first wetting they get they keel over and die. To succeed in raising Turkeys, therefore, you must keep them dry until at least ten weeks, when they will stand as much water as other fowls—Geese and Ducks excepted. Of course, they must be driven in every night, and on all occasions when a storm is threatening.—(*Dollar Newspaper, American.*)

**ROYAL AGRICULTURAL MEETING, 1863.**—We are informed by Mr. John Holland, the Secretary of the Committee of the Worcester Poultry Show, that an Exhibition will be held in July, 1863, during the Agricultural Society's Meeting, for which a liberal prize list will be issued. At the same time a Dog Show will be held, particulars of which will appear shortly. Many well-known local sportsmen are its supporters.

### INFLAMMATION OF THE LUNGS OF PIGEONS.

I HAVE a flock of from twenty-five to thirty pairs of birds, Carriers and Tumblers. The first bird which was attacked was a cock three years old. I first discovered it by his breathing, and shortly he appeared as if he had inflammation on the chest. He laboured hard to breathe, just as one does who has a bad cold in the head, or having the sniffles. I took him in and gave him several things, but he died in a week. Since that time one after another of my birds have been attacked. The crop at first seems distended and puffed out with wind, the wattle becomes unusually red, and the wheezing and breathing very difficult. The birds lose flesh, get very thin and mopish, but I have not had one die since, and some of them are better. The breath is very offensive, and there is a coating of mucous-like matter on the inside of the mouth, which I can wash off. There is no running of the nostrils. It is singular that none of the Tumblers have been attacked, while one after another of the Carriers have and are getting it.

My houses are open and airy, from 30 feet to 50 feet long, and 8 feet high, and they can have free access to open cages of 10 feet by 8 feet, wired over.

On its first appearance I had all the flooring taken up, hot lime laid over the whole of it and well gravelled, and the walls well washed with strong lime.

I feed my birds with a mixture of tares, peas, Indian wheat, and buckwheat, with barley mixed altogether, and they are never without food. They have also a mixture of sand, mould, and coarse salt, which they seem to use freely. The only thing I have given either of them since the first, when I discovered them to be ill, is an aperient pill and a lump of beef or mutton suet, which I fancy has benefited them. As I said before, I have not had one die since. I am not aware if such a disorder is prevalent among Pigeons, if so, perhaps some one has discovered a remedy which may be serviceable to the fancier generally, and will be thankfully received by me in particular.—W. VICKERS, 3, Coburg Place, St. Sidwells, Exeter.

P.S.—I should state that ever since my keeping Pigeons, my houses and floors have invariably been raked and scraped twice or thrice a-week; indeed, I have been told that my success in rearing has been marred by too frequently cleaning my houses.

[Your birds are evidently suffering from inflammation of the lungs, most probably of a contagious character. We should advise the immediate removal of those affected from the remainder. The disease is of a very intractable character; but we have found more benefit result from the administration, in the first instance, of one-twelfth of a grain of tartar emetic, and one grain of calomel, than from any other remedy whatever. After the inflammatory symptoms have subsided, a capsule of copaiba balsam has great effect in enabling the bird to throw off the diseased secretion.]

### BEE-CELLS IN JAMAICA NOT LARGER THAN IN ENGLAND.

I AM sorry that you did not append the closing sentence to my communication about the Jamaica bees, as it would have shown your readers that I was doubtful on the subject. I have now to confess that I have made a gross blunder. The cells which I measured were drone-cells, as I am informed by the "DEVONSHIRE BEE-KEEPER." I could offer some explanation and apology to your readers for making so great a mistake; but it is a personal matter and would not interest them. How the statement in French works arose that the cells in West Indian combs are larger than those in European combs, I cannot conceive.—C. DARWIN.

[We certainly did not understand, nor do we think our readers understood, that Mr. Darwin stated the increased size of bee-cells in Jamaica as an established fact, and we made our comment hypothetically. We have seen combs from Jamaica since then, and the drone and worker cells are of the same sizes as in England. When Mr. Darwin wrote, he, probably, had not seen the cells of the workers.—EDS.]

### UNITING SWARMS.

I WISH to transfer the bees of a second swarm to the hive of a first swarm, having an old queen, and intend to fumigate the bees of the first swarm, and then drive the bees of the second

swarm into their hive; and when the greater portion of the bees have ascended place it where the hive of the driven bees stood, and put the hive from which they have been driven on the top of the other, and draw out one of the slides so that I may preserve the late brood of both hives. My reason for doing this is that the hive is to be removed to a distance in September, and the second swarm, in consequence of the very unfavourable weather, has not half filled the hive with comb, so that it could not be carried so safely as a hive quite filled and firmly fastened at the sides.

Will the fumigation either with fungus or chloroform destroy the brood which may not be sealed over? and will the queen of the driven bees be sure to ascend with the first rush into the hive placed over her own reversed one where she will find honey and brood? I have some puff-balls gathered last summer, but do not know how they should be prepared for fumigating.

[Stupefaction by chloroform is very destructive to adult bees; of its effects upon unsealed brood we have had no experience upon which to base an opinion, nor have we any authority to quote upon the point. With regard to fumigation, a German writer, whose name we do not now remember, declares it to be fatal to unsealed brood; but how far he may be correct we are not prepared to say.]

The ascent of the queen with the first rush of driven bees is probable, but by no means certain unless the *spirit* moves her. She is often not to be driven up by any amount of rapping. Are you sure that the queen is an old one, and that she has not recently been changed, as is very often the case? Would it not be better to let well alone, and unite by driving in September as recommended in pages 45 and 46 of "Bee-keeping for the Many?" Bees in a half-filled hive are, however, very difficult to drive, but when once subdued by drumming, the combs may be cut out one by one, and the bees swept off with a feather into an empty hive without the slightest difficulty. Puff-balls should be dried in the sun, or in a cool oven. If those you have will hold fire and smoulder slowly they will probably answer.]

#### "B. & W.'s" ITALIAN ALP BEES.—1862.

On settling accounts last year with my esteemed apiarian friend, who is so favourably known to the bee-keeping readers of THE JOURNAL OF HORTICULTURE under the signature of "B. & W.," I found I owed him a Ligurian queen, which debt I was not able to discharge until the 4th inst. The following interesting particulars by way of acknowledgment have been kindly furnished by him to—A DEVONSHIRE BEE-KEEPER.

"My dear Sir,—Your letter of the 4th announcing the intended arrival of another Italian queen, described as 'a beauty, of the best blood, and amazingly prolific,' was a most welcome communication; and still more welcome, of course, was the arrival of the precious little box itself on Saturday afternoon. I had a good view of the queen the same day, and was glad to observe her to be lively and vigorous; and a 'beauty,' too, she is, being of good size and decidedly marked. At the same time I do not think she is yellower or larger than a splendid hybrid which I raised artificially this year, in May, out of worker-brood, which was the offspring of one of my hybrids of last autumn. Her mother was hardly, if at all, distinguishable from a common English queen.

"The box arrived too late on Saturday for anything to be done that day, so it was put carefully by till Monday, the 7th, the bees being only supplied with food. The condition of my apiary did not allow me to adopt your plan, excellent as it is,\* so having succeeded in a plan of my own, which I adopted last year (see page 509, Vol. I., JOURNAL OF HORTICULTURE), I had recourse to it again, and, I am happy to report, with the most complete success. I varied my plan of operation so far as to drive all the bees out of one of the stocks in my bee-house, at the same time catching and killing their queen. The stock itself full of brood was removed elsewhere, and an empty bar-box with some comb of their own making put in its place. Of course, the bees returned to their old haunt as soon as they missed their queen, when I immediately set your Italians over a hole at the top of the box, a piece of perforated zinc intervening. When I say 'your Italians,' I should state that I find it convenient to

\* I know of but one way of placing a queen at the head of a stock without any risk, and that is to drive all the bees out of a hive, and having made an artificial swarm of them give their hive full of brood to the strangers."

retain only a very few common bees (half a dozen at most), as a guard to the queen during the process of uniting the queen to a stock. So out of the sixty or more bees which you sent, I only retained four, which I put with the queen into a small bee-glass, which had some bits of comb adhering to its sides. A large number of bees increases the difficulty of effecting the union, as a proportion of them are sure to be irascible, and it is as well to provoke as little fighting as possible. Now, if you will imagine the bee-glass containing these five bees (including the queen) placed upon a piece of perforated zinc over the top hole of the box, you can easily follow my movements. About an hour after the old queen was dead, the bees being very much agitated, I let in one bee from below, by pushing the zinc very gently a little on one side. As this bee was well received and behaved well, I proceeded to admit one more. This one, too, appearing to be well received, I next let in two. One of these instantly rushed up to the queen, seized her by one of her wings, and pulled her about for some little time. You can imagine how anxiously I watched these proceedings, being ready to interfere at a moment's notice. However, no real injury was inflicted upon the queen, but a fight among the common bees immediately occurred, and three of the lately-admitted ones perished. Warned by this mishap I waited an hour and tried again. This time no fighting occurred, so every quarter of an hour I introduced a few more, increasing the number admitted till I thought it safe to admit the bees en masse, who rushed up from below in streams in the most joyous manner. Thus you will perceive that only three lives were sacrificed, and the junction effected most satisfactorily. The whole operation was a lengthy one, however, and took me from morning till night, owing to the extreme care which I took to avoid mishap. I may mention that I did not restore the brood-box out of which I had driven the bees till the following morning, when the bees had passed a whole night with their new queen. The hive is now just as it was before the Italians arrived.

"I was amazed to find from the condition of this stock how poverty-stricken the bees are this year. It was an artificial swarm of May 16th, but though full of comb I could not see a single cell with sealed honey, and, in fact, no honey at all was visible. I can say the same of two other of my stocks, both swarms of this year (one of April 30th), which I fear are in a miserable condition. The only swarm of this season which has sealed honey-comb is that which I made out of my old Italian stock on the 29th of April. Am I to consider this a proof of the superiority of the Italian? Breeding has gone on amazingly in all hives, but very little honey has been stored. I have made in all this summer four swarms out of seven hives, after the plan recommended by Langstroth; and three of the queens have been reared artificially. One only have I seen as yet, the one to which I have alluded in the earlier part of this paper. Those hives which have had to rear queens are the best provided with honey of any in my apiary, having had little else to do but to collect honey during the month of May, when there was no breeding going on. But a worse season for honey I never knew.—B. & W."

#### SAVING THE DRONES—MAKING ARTIFICIAL SWARMS.

My Ligurian box is brim full of bees, but owing to the bad weather they are turning out their drones. Will "A DEVONSHIRE BEE-KEEPER" kindly inform me if it be advisable to take the queen away and make an artificial swarm? I trust bees are doing better in Devon than they are here (Wiltshire). I can see but little honey in any of my hives, although they are all crammed with bees. I am quite delighted with the Woodbury-bars, the bees have attached their combs to them very regularly indeed.—H. C.

[Regular and liberal feeding until honey-gathering recommences is the most probable mode of saving your drones.]

The safest and best mode of making an artificial swarm is the following:—Set an empty box close to one side of your Ligurian stock, and shift the combs one by one into it, looking each carefully over until you see the queen. When she is discovered, put her with the comb she is on\* into the middle of an empty hive, and fill up on either side with bars and as many clean worker-combs as you can spare. This box must take the place

\* This comb should be carefully examined in order to ascertain that no royal cells are attached to it. If any be found, the queen must be transferred to another comb, and the royal embryos returned to the hive.

of the old stock, and all the bees on the remaining combs should be brushed off with a feather on the top of the exposed bars; the combs being carried one by one into a warm room out of the reach of the bees until all are cleared, when the crown-board should be screwed down. The combs that have been abstracted must be put into a hive, which should take the place of a strong black stock which must be removed to a new position. The returning bees will raise a Ligurian queen from the brood in their new domicile. All this must, of course, be done in the middle of a fine day when the bees are in full work. Unless the weather alter very much for the better, the swarm will require liberal feeding to enable it to proceed with comb-building.

I do not think the season can be worse anywhere than it is at present in the locality of—A DEVONSHIRE BEE-KEEPER.]

### COMMENCING BEE-KEEPING.

WISHING to commence the keeping of bees, both for the study of their habits and for the profit said to result from their careful management, I find a difficulty at the outset from the multitude of counsellors and the various, not to say contradictory, advice they give. May I be allowed to ask the following questions? Is it better to begin with black bees or Ligurians? If the latter, how must they be obtained? I fear almost to ask, What is the most useful hive for general purposes? What are the best books on the management of bees?

Whilst reading some of the papers in your Journal on the winter ventilation of hives, and the evils resulting from damp, it has occurred to me that advantage might probably result from placing a piece of unslaked lime within the hive; of course properly secured from the bees. Its position would be determined by the construction of the hive; but skilful apiarians would require no hints on this point. It would, of course, need renewal from time to time; but its well-known property of absorbing moisture could not fail to be useful to some extent—at least, in maintaining the wished-for dryness of the atmosphere within the hive. This may or may not have been tried, but I trust you will pardon its suggestion by so complete a novice.

How can I obtain Mr. Woodbury's "Essay on Bee-keeping?"—M. D.

[If you have no black bees within a mile or so, you might commence at once with Ligurians. If otherwise, perhaps you had better wait until you attain sufficient practical knowledge to aid you in keeping the breed pure. Mr. Woodbury, of Mount Radford, Exeter, would supply you with an Italian stock.

If by "general purposes" you mean keeping bees in the common way, we think nothing answers better than straw hives with flattened crowns, and apertures at top for feeding and occasional supering.

Taylor's "Bee-keeper's Manual" and "Bee-keeping for the Many" are good practical books.

One of our bee-keeping friends, who is also an excellent chemist, suggests caustic potash, and we believe intends trying it, as well as lime and other substances of like properties, with the view of maintaining a dry atmosphere within his hives during winter. We may, however, hint that even this may be overdone, since much has been said in Germany of the danger of bees that have upward ventilation perishing in winter from want of water.

Mr. Woodbury's "Essay on Bee-keeping" appeared in the last "Journal of the Bath and West of England Agricultural Society," published by Ridgway, Piccadilly, and obtainable through any bookseller.]

### SYDSERFF ON BEES.

It is many years since I first met with this book, and I must confess that it never impressed me with any particularly high idea of the author's "being in advance of his age." But as this seems to be the opinion of the Editors of THE JOURNAL OF HORTICULTURE, I have been induced to reperuse the book with increased care; and without wishing to controvert the judgment passed upon it, a few matters have presented which seem worthy of observation, some of which may perhaps rather modify the somewhat high encomium passed on the book and its author.

From his own assertion in the commencement, he allows himself to have been indebted to M. Réaumur in some degree, and

it is evident to me that he was even much more indebted to him than he allows.

That he was a practical and fearless operator, and that he was in advance of most bee-keepers of his condition, is evident from the succeeding pages; but that he had certain curious crotchets of his own, and that all his views were not quite correct, it will be my purpose to demonstrate by a few extracts.

He believed that a multiplicity of stings in or near the same place counteracted the effects of the poison, and devotes several pages to the promulgation of this theory. He strongly recommends that a person when stung by one bee should make others sting him in the same place. Strong-minded Mr. S., how many would wittingly follow your advice? To illustrate this he mentions an accident which befell his little brother, "then a child in coats," who, pushing off part of a cluster of bees which hung out of their hive, was furiously attacked by them, and stung from head to foot—many stings being extracted from the tongue, and no less than thirteen from one ear. By the advice of the apothecary the child was anointed with sweet oil from head to foot; but he says, "I believe it did the child neither good nor harm." The only ill effects were that he looked pale and appeared sick, but there was no sign of any swelling. After some hours' sleep "he opened his eyes and appeared to be perfectly recovered." Now, in this case, the soothing qualities of the sweet oil and the child's favourable constitutional temperament are perfectly ignored. If I get a sting or two, the swelling and subsequent irritation are in general, but not always, very great; but my friend, Mr. Woodbury, I have often seen quietly picking off stings on nose, face, and hands, with perfect nonchalance, and with little or no subsequent inconvenience.

But this puts me in remembrance of your late correspondent's assertion as to the comparatively harmless effects of the sting of the Ligurian bee. Now is the thing easily accounted for. It was not because of their nationality that their "bark was worse than their bite," but because he was stung by thirteen in or near one place. But I also can relate a fact, which, to the credulous, may appear certain proof that Mr. Sydserrf's theory is correct. Some years since, while cutting out the combs of a hive that had been fumigated, I received five stings on the middle finger of the right hand; at the same time one sting was planted in the fourth finger of the left hand. I remember thinking at the time that it was a grand opportunity for testing the truth of the author's theory; and, singularly enough, there was little or no pain or swelling in the hand which received the five stings, while in the other I suffered considerably. Nevertheless, I was sceptical on the point, as I noticed that the finger which was most stung was thickly covered with honey, which I have frequently noticed modifies the effects of the poison, while the other finger was quite dry. But it is also very certain that a sting or stings will take much greater effect at one time than at another, probably from the state of the blood; and also that some stings will be vastly more painful than others, attended with more or less swelling according to the spot in which they are planted, no doubt from the vicinity to certain nerves or blood-vessels which facilitates the spread of the poison.

Mr. Sydserrf carries his view on this point so far as to assert that if "stung once, I have no objection against being stung twice; and after I have been stung twice or three times, I do not mind if I am stung fifty or a hundred times;" and further on he says, "I formed a resolution never more to be stung by one bee alone unless another cannot be had."

He is common with many old authors asserts the drones to be the nurses of the brood. While we cannot coincide in this opinion, may not drones be of more service in the hives than many are disposed to believe? During the height of the honey-gathering season drones are most plentiful. May they not serve to keep up the temperature of the interior when so large a number of the working bees are abroad?

We may notice that if cold and wet weather sets in during the summer, the drones are attacked and slaughtered by the bees; but with a change for the better, not only are the lives of those in existence spared, but the queen renews her deposit of drone eggs.

Mr. Sydserrf asserts, that in uniting bees of different hives there will be no fighting if there is only one queen. Now, we know that this is not always the case, I have had as much fighting under such circumstances as any other. Warder also, as well as Sydserrf, states that fighting will continue until one of the rival queens is destroyed, but that it immediately ceases so soon as this occurs. This is by no means correct. I have frequently

united bees where the deposed queen was the only sacrifice, except a few crushed or accidentally injured bees. It is not likely that she was killed the very instant that the union was effected; as in the case of knocking out on a cloth and placing the hive to be reinforced over them, hundreds and thousands of the workers most probably ascended among the others before the queen attempted to do so.

Sydserriff evidently believes that bees invariably exhibit loyalty to a strange queen—that is, if they have lost their own. This is certainly not correct, as I have found to my cost in attempting to place Ligurian and other queens at the head of stocks from which the rightful monarch has been deposed, the failures have far exceeded the successful issues of this experiment. In an instant after liberation has the queen been violently assailed by several bees, her wings gnawed to pieces, and the fatal sting applied to her defenceless body.

Another of Sydserriff's fond fancies is that the queen is always attended by certain guards; and more than this, that these guards are easily distinguished from the rest "by the crest, tuft, or tassel which they wear on their heads. They are different in colour, and in some greater and some less, perhaps according to their dignities. These may be seen to walk in and out of good hives, several in an hour in the swarming months; at other times they are not so visible. Many of them may be seen in a swarm; and in hives pestered with robbers they will be seen about the door, walking to and fro among the bees, as if directing their fighting. When I want to look for a queen in the midst of a swarm, I look for these attendants."

In the case of your being surrounded by angry bees, our author directs you to spit on them. As I never tried it, I cannot speak as to its effectiveness.

In driving he seems, like Warder, to have been an adept, and to have understood the value of this mode of possessing himself of a hive's contents, and of forcing an artificial swarm much better than many a more modern author.

At pages 63 and 64 he states, that when cells are being gradually filled with honey, a crust or cream is formed on the surface of the honey in every cell; that every bee that deposits honey in the cell pierces this crust, and, having discharged its contribution to the hoard, at once closes up this crust again. I believe there is no crust, cream, or covering of any description until the wax-cover itself is formed and closed.

The last of his crotchets which I shall allude to is that of the medicinal property of dead bees dried to a powder. This given to either man or beast will give immediate ease in the most excruciating pain, and many lives have been prolonged by its use. He therefore, for many years, desired persons when they killed their bees to preserve as many as possible in clean paper. "I have often been applied to for dead bees, and in some particular cases, in order to save life, I have gone and put my hand into my hive and took out as many live bees as necessary, and killed them." I should like to know in what their marvellous medicinal property may lie.

This book was published in 1792, so that it is not so very ancient a treatise. The Rev. Mr. Thorley's work was published about the year 1761 by his son; but the experience therein detailed relates to a period including the year 1713. With some exceptions I consider Thorley's book superior to Sydserriff's. Warder published in the reign of George I. a fine old treatise. This may well be styled in advance of the age.

Keys, a cotemporary of Sydserriff (whose first treatise was published in 1780, but the edition which I have in 1814), is the author of a work very far superior to Sydserriff in practical value, and in views generally equally if not further advanced.

Wildman's work, also of a considerably anterior date, is practically infinitely more useful, and altogether superior. There is much to be learned in the perusal of all these old authors; but it appears to me that Sydserriff's treatise must take rank among the lowest of those mentioned.—S. BEVAN FOX, Exeter.

[We were quite aware of Sydserriff's shortcomings and erroneous opinions, and intended to assert no more than Mr. Fox admits—namely, that Sydserriff "was a practical and fearless operator, and that he was in advance of most bee-keepers in his condition," and this we think is especially so in relation to driving bees. We quite agree in thinking the works of Thorley, Keys, Warder, and Wildman are superior to that by Sydserriff; but they were men in a higher station, and yet they are not free from crotchets and errors demonstrated by later apirians.—Eds. J. or H.]

DOG MUZZLES.

THE muzzles generally used for the purpose of preventing dogs from biting are those made of leather, having a strap surrounding the nose and under jaw in such a manner that the mouth cannot be opened. This contrivance is most cruel in its effects. It prevents the animal from breathing and perspiring freely when the respiration becomes accelerated from exertion and the perspiratory action increased from heat—whether that acquired through the medium of the surrounding air, or generated within the system from violent exercise. It should not be forgotten that the dog perspires from the mouth instead of the skin; also that, from the formation of the air-passages of the head and nostrils, a sufficiency of air cannot pass through them to the lungs for the accomplishment of quick breathing: therefore, unlike the horse, whose even quickest breathing is carried on entirely through the nostrils, the dog is obliged, when his respiration becomes at all hurried from increased circulation, to breathe through his mouth, which he opens for that purpose as well as to allow the increased salivary secretion to freely flow from it. Who has not observed the copious flow of saliva from the widely-opened mouth and tremblingly protruded tongue of the panting dog in warm weather after exertion? The ordinary leather muzzle, by keeping the jaws together and the mouth consequently closed, though it has the advantage of preventing the animal from biting, has also the disadvantages of inflicting on him the cruel tortures of partial suffocation from want of sufficient air to the lungs, as well as from the accumulation of saliva within the mouth having a tendency to embarrass the throat; also those of thirst—for the dog, excepting from the mamæ of his maternal parent, drinks not like the horse and human being by suction, but by the process of lapping with his tongue, to accomplish which the mouth must have perfect liberty of opening.

The wire-basket or cage-muzzle, when made sufficiently large to admit of the jaws being opened apart for drinking and tongue-panting, is a humane and efficacious invention. It effectually prevents the animal from doing mischief with his teeth, while it allows sufficient freedom to the mouth and tongue for his comfort. The mere screen muzzle of wire projecting forwards from the upper part of the nose, leaving the under jaw and mouth uncovered, is often found ineffectual as a preventive of biting, particularly when dogs quarrel with each other, as in the scuffling and wrestling, a limb or some other part of the animal attacked may present itself under the wire projection at the top of the nose, and enter the very jaws of the assailant.

All persons muzzling dogs, particularly in warm weather, with the ordinary leather muzzle that prevents the opening of the mouth, should be punished for cruelty to animals.—PROFESSOR FEROUSON, *Veterinary Surgeon to Her Majesty in Ireland.*—(Dublin Agricultural Review.)

OUR LETTER BOX.

COMBS OF COCHIN PULLETS (*Cochin Breeder*).—The twist in the combs of your Cochin pullets is a disqualification. They could only be successful where there were no perfect pens, and then only on the principle that "where all are blind, a one-eyed man is king." Nevertheless, these twists are very common among chickens, and as many are in the same vicinity, we advise you to show those that approach nearest to perfection. Faultless pens are very rare, and you may, therefore, have a good chance of a prize.

DOVE WITH DARKENED PLUMAGE (*A Regular Subscriber*).—It is not likely that the p usage of your Dove will revert to its original hue until after the next moult. We have never found medicine of much avail with these delicate birds, but when sick have endeavoured to re-toen them by a change of diet and enlarged space for exercise. To do well Doves require pulse, grain, a little green food as tufts of grass in seed, lime rubbish, water to wash in, and above all a place sufficiently large to admit of their exercising themselves by flight.

LONDON MARKETS.—JULY 21.

POULTRY.

The trade becomes less, and supply greater. Diminution of price is the natural consequence, and it will, doubtless, continue till we reach the usual average of the dull time in London.

Large Fowls .....	3 0 to 3 6	Ducklings .....	2 6 to 3 0
Smaller do. ....	2 6 ,, 3 0	Hares .....	0 0 ,, 0 0
Chickens.....	1 6 ,, 1 9	Rabbits .....	1 4 ,, 1 5
Geese .....	0 0 ,, 0 0	Wild do. ....	0 3 ,, 0 9
Goslings .....	6 0 ,, 6 6	Pigeons .....	0 8 ,, 0 9

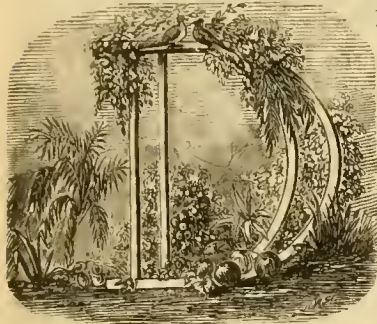
WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	JULY 29—AUGUST 4, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.	Sun Sets.	Moon Rises and Sets	Moon's Age.	Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.						
29	Tu	Diosma scoparia, &c.	30.034—29.753	degrees. 78—52	S.	—01	m. h.	m. h.	m. h.	3	m. s.	210
30	W	Salvia fulgens, &c.	29.850—29.773	77—45	S.W.	—	21 af 1	32 af 7	26 8	4	6 9	211
31	Tu	Witsenia eorymbosa.	29.987—29.946	74—51	S.W.	—04	23 4	49 7	1 9	5	6 7	212
1	F	Adamsia versicolor.	30.010—29.935	77—42	S.W.	—	IV	VII	21 a 9	6	6 4	213
2	S	Adesmia viscosa.	29.785—29.627	82—51	S.	—03	26 4	46 7	51 9	7	6 0	214
3	SUN	7 SUNDAY AFTER TRINITY.	29.934—29.735	67—55	S.W.	—01	28 4	44 7	25 10	7	5 6	215
4	M	Anmobiium alatum, &c.	30.028—29.974	79—47	W.	—	29 4	42 7	8 11	0	5 51	216

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 75.3° and 51.4° respectively. The greatest heat, 92°, occurred on the 1st, in 1846, and 2nd in 1856; and the lowest cold, 33°, on the 29th, in 1858. During the period 134 days were fine, and on 111 rain fell.

THE KENSINGTON GARDEN OF THE ROYAL HORTICULTURAL SOCIETY.

SIR JOSEPH PAXTON'S GARDEN.



Did not I have many irons in the fire just now, and were I not behind time in my annual reviews of the state and progress of my calling around London, I should be much tempted to review the last Number of THE JOURNAL OF HORTICULTURE, if only to get a say about

eagles, hawks, and falcons, with Mr. B. P. Brent, our great authority for all that is on the wing, and what is in the wind about them. Having begun life, as it were, in the very eyrie of the eagle, the raven, the roe, the "glade," and the ptarmigan, my own favourite bird out of the British fauna, I could tell and say things about them worthy of Audubon himself, for I was with him in the spirit when he first saw that grand eagle, the "Bird of Washington." But, of course, I would begin at the beginning, shake hands with my friend, "Jas. Anderson, Meadow Bank, Uddingstone;" tell him "as how" I once mistook Uddingstone, in the west country, for Duddingstone, in the heart of Midlothian, and the Anderson of Meadow Bank, for the great hybridiser who sits in the 'ha' where the laird of Cockpen found the solace of his best days after all, or thereabouts; then tackle him for having been led away by the rattling of the "broken bottles." For although I never pretended to any very great things in the line myself, yet I have not disguised from the first that, having had the ear of the gardening public for so many years, I was made the acknowledged mouthpiece of a large section of the class to whom the subject is as familiar as their own gloves; and they tell me, and I tell it to you with the greatest pleasure imaginable, that all the criticisms that have yet appeared upon this garden have their basis just as substantial in fact, as the basis on which Chevreul built up his ideas on the way by which flowers ought to be set for effect, and you all know by this time what that effect ended in.

Now, I shall just tell you a secret. I told of the fact that I was deterred from reading Chevreul's book for three years after it appeared, from merely reading the nonsense for which Dr. Lindley and the Times had given leaders to explain. But the utter nonsense of the matter was pointed out to me, and I was told that I was not then firm enough in the faith to enable me to resist the fascination of the strange doctrine in that book about flowers; and when I did read it I said I would as soon read the Koran on flower-gardening as the French dyer. And only last week I received full powers to say, that

with a few accidental errors in the details, by Mr. Nesfield, the rest is as true in artistic design as anything that is on record since art left the cradle, without having any material thing new in the composition. Ten or twenty artists might produce as many different designs for the same piece of ground, and every one of them might be as true to art, and to the history of art so exemplified, as this one is, and yet scope enough be left for the fancy in criticism without foundation. As long as an artist does not violate a principle, he is safe from criticism; for all that the critic can bring against him is based on fashion only, and fashion is as the wind for constancy, while principle remains firm as the tide of time.

Mr. Nesfield made an egregious blunder, and broke a principle in natural science itself, in the very centre of each of the four glaces, by making the English Rose with six petals—a mere matter of detail, which Mr. Eyles could put right for the value of one man's time for two days. There is another great error of detail in not making the highly artistic fans in the centre of the garden neither duplicate nor balancing each on its own axis. Both fans, therefore, are as a pig with one ear, as artists have it, when a thing of the sort is seen; and there is a third error in detail, in the planting of the rows of trees the whole length of the middle terrace on both sides.

There are two rows of trees on either side of the garden, and the "ramps," or the beautiful and easy incline of grass from level to level in place of steps, come in between the two rows, but not in the very centre between the two rows: therefore they, the rows of trees, are "out of joint," as they say, or else the ramps from north to south are a pig with one ear.

Correct these three manifest errors, and the rest that you can bring against our most beautiful and most artistic town garden is a mere matter of taste or fashion. Then one fashion or one taste is just as good or just as bad as another, and all you say for or against it goes to the four winds of heaven without detracting a hair's breadth of merit from the design.

After discussing all that, with variations about Repton and London, with my esteemed west-countryman, I would hold him by the button-hole while I would discuss with him about the value and about the weight of the value of the opinions "of the best-informed" of our ain kinsfolk, "who have seen the garden for the first time;" and I would tell him from my own experience of my corner of the column for correspondents, that better folks than the "best-informed" among the Scottish clans do fall into as much and much greater errors from preconceived notions about things they learn, or endeavour to comprehend, from seeing it in black and white.

Nothing is more common than to hear, "I was, or we were, quite disappointed." I myself was as thoroughly disappointed as any man ever was about anything on this earth, when I first saw the King's London house; also London west, as compared with the new town of Edinburgh, was a sham and a delusion in my eyes, just like those who thought Mr. Nesfield's plan of our garden

looked so fine on paper, and so much different from the looks when they looked at the reality.

Now, I shall just tell you a truth, with which I would illustrate this part of the question, while I held him still by the button-hole. I once knew a great man; he was very rich, and he had very good taste, and was a good critic, and yet he had not a good eye. He would need to see a model of a thing before he could tell you how it would look; but a journeyman in the art by which the model was made, could see and point out any fault or any superiority in the model quite as well as the great man, or any other person or critic whatever. I knew another who was, by a gift of Nature, exceedingly clever, in addition to good taste, and a thorough good eye, and that other would readily detect the smallest error in the largest design or plan after a few glances. There is nothing of the fancy in this, I know the parties well. Now, the application I make of my knowledge of the facts just stated is this: When a man tells me he was very much disappointed with a book or a plan after reading and seeing so much of it on paper—say in plans, or in reviews, I put him down as a man who would need a model to understand a thing of that sort; and as models cannot be made of anything, or seen by all such men, there must always be certain men who must necessarily pass through this life in disappointments of one sort or another: and therefore I weigh the value of the weight of their adverse or fair criticism before I would be influenced by them one way or the other; and if others would take a leaf out of that part of my book, they would soon find out the weight and value of it when they had a need of putting it in practice. The great natural defect in the great mass of mankind is their liability to put their fancy in place of a model, before the mind's eye, and so misjudge or be led by misjudgment.

After saying all that, with what his remarks might suggest in addition, I would attempt a paraphrase of part of the dialogue between Louth and Cecas, Burn's two dogs; and to break off in better mood than you might think of, I would say the most funny thing that I could think of, in comparison between the Irishman and his horse, and the "miserable lines of Portugal Laurels and those forlorn groups of Limes," from Lord Holland's place to our garden. You recollect Paddy sold his horse free from all faults; and when it had been discovered that the beast was blind of one eye, and half blind of the other, he declared that was no fault at all at all, but a misfortune. Neither is it a fault of us or ours, that our trees and shrubs have not yet recovered sufficiently, in eighteen months, from the effects of their removal to a more smoky climate, to be of much interest to people who have been familiar with what Sir Henry Stewart had done at Allanton Park.

But what I was going to write about to-day was altogether different. I was going to bring up all my arrears in a lump, now that the summer shows are over; rehearse all the new bed and edging plants of this season; say what I had seen afresh and what I had been doing at home—and, as charity begins there, so will I.

I cut out-of-door Grapes in July this year for two reasons: the first to get before Capt. Hopkins, of Surbiton Hill, who had done me in Grapes; the second reason was, because the weather, be it ever so fine, would not ripen one of them, except it might be for Covent Garden. I went then and told the Captain I had the start of him, and I was startled myself at his flower-gardening, his ribbon-borders, his new edgings, his Farfugiums, his Harry Moore's system of growing specimen Geraniums up to seventeen years of age, his propagation, and his waterworks; and, above all, after discussing some of the reminiscences of our garden exploits with his father, the best specimen we have in Surbiton of the old English gentleman, now over eighty years of age, I thought the least I could say about my Grapes the sooner I could get the Captain in the humour to allow me to report him as he is.

Sir Joseph Paxton's bedding plants are much the earliest I have seen this season anywhere. I thought Mr. Eyles was more forward with Geraniums and Calceolarias at our new garden than any one else till I got to the heights of Sydenham, and when I could hardly believe my own eyes there they told me the whole secret. Sir Joseph's Geraniums are on Harry Moore's system, very old, very strong, and one mass of bloom all over and down the sides, in the same pots goodness knows how long, and the pots planted with them and taken up and housed with them, wintered and set out again and again till at last they gain in their turn one whole month in advance of bloom in the London season. But it requires good gardening to do such

masses of plants as they should be under that system, and no gardener out of five thousand has the command of house-room to keep a whole host of specimen plants in pots, and in a way that some Australian plants for exhibition do not receive. But depend upon it, ere many years are passed over our heads, all the chief bedders for the London season will be done on this plan and principle.

It has now been proved practicable by the first garden authority of the age, and no doubt at all about it, and others who are able to afford the expense and the luxury will follow suit; and like the fashion of the dresses where there are not many years between the drawing-room and the back-kitchen, the fashion of the early flowers of the London season will reach the back premises of suburban gentility; and if you want to see a fashion carried out with the pride and spirit of our race, that is just the very place to look for it. Every kind and sort of bedding plant will then, and must, therefore, have a compartment or so much room for its own necessities till the plants are too big to move about.

Well, at the first day of the Handel Festival, and again at the Rose Show at the Crystal Palace, the very Lobelias in Sir Joseph Paxton's garden were 9 inches and a foot respectively in diameter; they must have been big enough last Christmas for planting-out as we have been accustomed, and they must have been in bloom by the 1st of May to make such a start as I have seen at those periods. There is a chain pattern on grass in front of a long verandah, where the new lovely Lobelia Paxtoniana runs all round, and in and out through the pateras—the most beautiful thing I ever saw; but the blaze of yellow and scarlet, of white and blue from the bank beyond, must have lent aid to the brilliancy, and the sun was just getting low enough behind one to make the whole thing an Eyebright.

In the different orchard-houses there is not a fruit tree in a pot—all are planted-out, trained in various ways, and closely stopped, the crops very large and promising. In one house, in which Strawberries had been ripened early, there was a full crop of early Potatoes just as in an open border; the large house for the supply of early Kidney Beans. Melons were again the same as last year—no bottom heat, or bed of any sort; a hole in the border under the centre of each light, and a barrowful of compost mixed with the natural soil, and the "hill" raised 2 inches above the level of the border, the surface of the whole of the borders covered with coal ashes for standing the pots of Beans on, were all the preparations which were visible, the plants and the crop looking splendid.

Of all the writers about Melons Mr. Fish comes the nearest to Sir Joseph's practice. The practice of both and the result appear to me to be just as close as any two methods not exactly alike can possibly be; the only difference is, that there they do not disbud the main leaders as he does, but they keep the Vines or stems as far apart as he recommends—indeed, no two leaves are allowed to touch, and yet you do not see an inch of bare stem in the house. The fruit is elevated a little on some nonconductor of moisture as soon as it is set, or just when setting.

D. BEATON.

## GRAPES SHANKING.

I TOOK charge of a vinery the latter end of January last, the Vines in which, all Black Hamburgs, I pruned at once, and commenced forcing about the middle of February. They have made some good, strong, healthy wood, and shown plenty of middle-sized bunches of Grapes, which looked well until the swelling-off and colouring process, then they began to shank off very badly. I suppose my predecessor had the same Vines under his care nearly fourteen years, and he was known to produce some very good crops of Grapes, but rather wanting in colour and flavour. I doubt this cold wet season is telling on their roots. The two original Vines are planted outside, one at each end of the house. Since the Vines were first planted they have been layered in the inner border at the back of the house, and two stems allowed to run down each rafter. The two original Vines are planted outside under a gravel-walk that leads from the kitchen garden, &c., where neither protection nor nutriment can be given satisfactorily. I understand the stems that are layered at the back of the house were lifted about seven years ago, and replanted in fresh compost, into which they were expected to root and run across the inner border under the flue and front wall into a new border made at the same time in front of the house, 4 feet deep by 18 feet wide. I am afraid their roots are too deep. I have examined the roots in the inner border, and find that they are

not within a foot of the surface; and if that is the case (so near home), how deep will their roots be after they have gone under the front wall, &c., into the outside border, which is 2 feet above the inner border and ground level, making the roots between 3 feet and 4 feet deep in the outside border?

Will you give me some information respecting their further treatment, &c.? Do you think it would be advisable to purchase half a dozen strong, healthy Vines, and plant them in the outside border, and cut one of the old stems away to make room for the young Vines, retaining the other old stem for further crop, until the young Vines come into bearing?

I forgot to say that two or three old dead horses were cut into pieces and buried in the outside border. For my own part I am no great advocate for such carrion borders. I propose to turn the border the latter end of January next, and at the same time to mix a few cartloads of turf, to lighten and make the soil more porous, to cause the wood to grow short-jointed, and to give the fruit higher flavour. If you should approve of planting young Vines, will you kindly inform me whether the annexed list of Vines would answer in this cold part, in the north, near Newcastle? I had almost forgotten to say that the house in future will be used as a greenhouse in autumn, winter, and early spring for bedding-out plants, &c.

Black Hamburgh, Dutch Sweetwater, Black Hamburgh, and Golden Hamburgh, at the warmest end. Black Hamburgh, Royal Muscadine, and Black Prince, at the coldest end.—A SUBSCRIBER, *Newcastle*.

[Your case is a singular one in many respects, and Vine-borders having formed a prominent feature in the last and present volumes, we will just shortly offer a few ideas on your case.

Firstly, We do not think that the wet season would have much to do with the shanking and want of colouring, because so great a proportion of the roots would be inside the house, where rains, &c., would not reach them, and we should not imagine that many of the roots had got into the outside border. If many had got there, and at such a depth, that would no doubt account for it; and so would having a high temperature and a moist atmosphere in such dull weather, with a languid root-action owing to the coldness of the soil, and the depth of the roots in it.

Secondly, All layering of Vines, however vigorous the growth afterwards, has a tendency to produce bad colouring and shanking, inasmuch as the roots are placed in different circumstances, and one set may be excited whilst the others are comparatively dormant. Plants layered so that each layer shall have its one set of roots, and the layer then be separated from the parent plant, will then be much in the same condition as a plant raised from a cutting, with its roots radiating from one point. If left to continue as a layer, the plants will not have fair play, as one part of the roots, as in the present case, will be in very different circumstances from the other. We know some houses where there has been such twisting and layering, that it would be difficult to know which was the original plant, and which the layer; but we have never seen the Grapes free of shanking and shrivelling, and that chiefly because while one set of roots might be 3 feet down, others might be no more than 3 inches. The discord among the roots left the tops in the lurch whenever a stress came.

Thirdly, In most cases where forcing is to be given to Vines, we prefer them being planted inside, as then there is no trouble in securing their stems from frost; but, then, we have equally insisted on one of two things—either that the roots shall also be confined inside, or if allowed to go out, the outside border shall not only slope, but be lower than the inside one, so that the roots shall not be buried. In your case, after layering the Vines at the back wall of a lean-to house, and giving them some 12 feet or 15 feet, or more, inside the house, another border is made outside not only 18 feet wide, but 2 feet higher outside the house than the floor inside. Were no other remedies applied, and this outside border was made, we would remove the 2 feet outside, and as much more as would render the inside border the highest. We should then expect the Vines you have to do better.

Fourthly, But the border being made there seems no reason why it should not be occupied with young Vines, and the old ones retained until the young ones were in full bearing. The first thing against doing this at once is the depth of the border—4 feet, which will have a tendency to give strong, luxuriant, instead of well-ripened wood, a tendency increased by the carrion of which you disapprove. That, however, having lain so long,

will be somewhat mollified now, and if there is good drainage, one of two modes might be adopted now. 1st, Supposing that after drainage the soil is pretty good for the purpose, get good young plants, and plant at once; they will grow a good bit, and ripen their base buds this season well, so as to start strong in the next. But in this case in such a border the plants would require to be raised, and planted again in two years near the surface, and surfacings and mulchings would require to be afterwards used to keep the roots near the surface—in other words, entice them to the surface, instead of letting them go down as they otherwise would. This would involve, on the whole, less trouble, but would not be so satisfactory.

As to your second plan. The border seems to have just the right slope now. Well, then, see the drainage in front is all right, take out 3 feet of the soil, beat the bottom, concrete it, lay drains across to the front drain, place over that 9 inches of rubble, and an inch of finer lime rubbish, then replace with 2½ feet of soil, using the best of the old and a little new, and lime rubbish, and plant as soon as finished. You may expect this to settle from 3 inches to 6 inches, but then the border will be as high as it is now. Such a border should produce Vines more fruitful than extra luxuriant, and luxuriance can be supplied by top-dressings. This plan would be the best; but if the deep border was otherwise good, the first plan would involve less labour, and if Vines are raised the second year after planting, there is not the same disposition in the roots to descend afterwards, if the soil is kept moist and mulched at the surface. For the extra trouble, however, it would be well to make all sure. The Vines are all right, only we would place Dutch Sweetwater at the warm end.—R. F.]

#### BLUE VITRIOL AS A CURE FOR ROSE MILDEW.

In reply to your correspondent, I beg to state that the vitriol which I use for white mildew in Roses is blue vitriol (sulphate of copper). Sulphur out of doors is not a sure cure. I have used vitriol with complete success on strong Rose plants. For pot plants when their leaves are tender, probably 1 oz. to a stable-bucket of cold water would be safer than 2 ozs., which is the quantity I have used for older plants with hardened leaves.

I may observe by the wayside that hot and close situations are sure to produce white mildew in pot plants. The novelties of 1862 planted in the open garden have been quite free from it, while those planted in front of my house have been attacked. The fingers are the best cure for aphides and white mildew.—W. F. RADCLIFFE, *Rushton Rectory*.

#### COUNTRY HORTICULTURAL SOCIETIES AND THE RAILWAY COMPANIES.

We think that the railway companies are not only illiberal but penny-wise and pound-foolish in their conduct towards local horticultural societies. For example: neither the North-western nor the Great Northern would convey free of carriage the unsold plants from the Stamford Horticultural Fête: consequently we are told of first-rate specimens which were not sent. Surely the companies in question might have afforded this encouragement to the Exhibition, since we are informed that they had to run ten or twelve special trains for the conveyance to it of passengers. We are willing to lend our aid to promote these great local shows, and wished to send a special reporter, but the Great Northern Railway declined to give him a free pass. Now, they act more liberally in the conveyance of live stock and reporters to and from agricultural shows, and we are unable to penetrate the subtleties of the railway mind so far as to discern why they make a distinction where there is no difference.

At the Stamford Horticultural Fête were from 10,000 to 12,000 visitors, and surely if the Marquis of Exeter will incur the intrusion of such numbers on his grounds at Burghey; if the Committee and the Secretary of the Society will undergo the labour and bestow the time required for such a Show; and if the Press are willing to help and increase such gatherings—surely the railways ought to be more liberal, for they are the only parties who are peculiarly benefited by them.

We will take this opportunity to add a few notes with which we have been favoured on the Roses exhibited at Stamford.

There were over a hundred entries for Roses, which formed an extensive feature in the Exhibition. These were contained

in a tent 120 feet long, in double rows down the centre after the plan of arrangement at the South Kensington Exhibition.

The first prize in the Open Class of three trusses of 48's was awarded to Messrs. Paul & Son; but the stands of Messrs. Francis, Cant, and Harrison, of Darlington, contained some very fine blooms. We noticed particularly the unequalled trusses of *Senateur Vaisse* and *Anna de Diesbach*, two gems in the stands of Mr. Francis.

Mr. Wm. Draycott, of Leicester, was first in the 24's; Mr. Walters, of Trowbridge, was second; Mr. Batley, of Rugby, third.

The Rev. S. R. Hole carried off his due—the cup for 24 varieties in the class for Gardeners and Amateurs; and Mr. Wm. Corp, of Milford, that for the 12 varieties.

The Rev. S. R. Hole was again first in the Class of 12's for Gardeners only; and Mr. Corp first for the 6 varieties.

In Tea-scented *Roses* Messrs. Paul were first with *Triomphe de Rennes*, and Mr. Cant second with *Céline Forestier*. Mr. Cant exhibited a stand of Cloth of Gold in fair condition—a novelty indeed for this season.

The first for 12 blooms of *Senateur Vaisse* was awarded to Mr. Francis, whose blooms were dazzling and well coloured.

Louis XIV. was well shown by Mr. Walters, of Trowbridge, who was first in *New Roses*; and Mr. Cant second.

As a *Rose show*, the Exhibition has barely been equalled. A heavy thunderstorm on the previous Wednesday marred the hopes of some intending exhibitors; but, considering the season, the *Roses* were decidedly good. From the success which has attended this Exhibition we trust it may not be the last. The fine old town of Stamford, with its magnificent mediæval churches and remains, combined with its convenient and delightful situation, render it a most suitable centre for a joint meeting of northern, midland, and southern growers.

## ROYAL HORTICULTURAL SOCIETY.

JULY 22ND.

**FLORAL COMMITTEE.**—There were two grand novelties before the Committee at this Meeting—the great gold-gilt Lily of Japan, *Lilium auratum*, referred to at page 311, from Messrs. Veitch and Son, the Exotic Nursery, and a new crimson and gold *Disa*, a superb variety of *Disa grandiflora*, from J. C. Leach, Esq., Clapham Park. The Committee were unanimous in their awards to these splendid flowers, giving a Special Certificate for the Lily, in addition to the first-class honours which were bestowed on it at the July Exhibition of the Society.

Mr. Leach sent a noble specimen of *Disa grandiflora*, that the Committee might compare it with the much superior variety shown now for the first time. They named it *Disa grandiflora superba*, and gave it the highest award at their disposal, a First-class Certificate. The difference between it and the species consists in the superior colouring of all the parts of the flower. There were three noble spikes of bloom on it, and three flowers open on each spike.

The variegated Day Lily from Japan (*Hemerocallis*), which was particularly referred to in our report of the Exhibition in July, was also awarded a First-class Certificate at this Meeting.

The first *Dahlia* of the season was there, but no one proposed honours for it. A pale-flowering *Fuchsia* was exhibited from Buckingham Palace, to show the ancient tendency in the family to bloom at the extreme points of the shoots in close cymes or trusses of bloom, standing upright, as in *Fuchsia arborescens*. In this instance the flowers were not in "heads," like those of *F. arborescens*, or say like *Laurustinus* flowers, but they were most numerous towards the points of the shoots, and standing upright. Some of the members were familiar with this kind of deviation from the usual habit of the family.

There was a good collection of superior *Verbenas* exhibited by Mr. Smith, of the Hornsey Road Nursery, for which a Special Certificate was given. Also, a collection of white *Fuchsias*, of which *Prince Alfred* and *Bridesmaid* were our choice. But *Fuchsias* must be something very superior in these days, and so must *Pinks* and *Carnations*.

Mr. Turner, of Slough, sent three boards of *Carnations* and *Picotées*, every one of which was quite good enough to present to the Pacha of Egypt, and sweet enough to vie with the most spicy odours of Arabia; and yet the florists, to whom all such are specially referred, selected one kind only for the highest honours to the race. That one is called after *Lady Elcho*, and is

ivory white, and of ivory substance, with a fairy ring of puce purple all along the edges—that is to say, Mr. Turner has changed this flower at last from being a *Picotée* to be a plain flower, and is rewarded for cancelling the very best flower that his grandsires had in their borders.

A pyramidal device was exhibited, wide as a bushel measure across the bottom, and high as a heaped measure on the rise. This was planted with the finest of our tiny flora, the *Sundew*, *Drosera rotundifolia*; but the sun was not up enough to give the reflection from the pearl-like dew or natural secretion of the plant standing on all parts of the surface of the plant.

**FRUIT COMMITTEE.**—A Meeting of the Fruit Committee was held on Tuesday, the 22nd inst. Mr. Edmunds in the chair. Prizes were offered for the following subjects. Class A.—For best dish of Peaches. In this class the only exhibitor was Mr. Charles Turner, of Slough, who produced *Grosse Mignonne* in fine condition. The fruit being well grown and highly flavoured, the First Prize was awarded to Mr. Turner. The same gentleman also exhibited a very fine dish of *Noblesse*. In Class B, for the best dish of Nectarines, Mr. Turner was again the only exhibitor. The variety shown was *Hunt's Tawny*, and to this the First Prize was awarded. In Class C, for the best dish of Plums, Messrs. Lane, of Berkhamstead, exhibited handsome fruit of *Kirke's Plum*, which were unripe; and Mr. Tillyard, gardener to J. Kelk, Esq., of Stanmore Priory, exhibited *Green Gage*, *Jefferson*, and *Victoria*. All three were remarkably fine productions, particularly the *Green Gage* and *Victoria*. The First Prize was awarded to *Green Gage*, and as *Jefferson* was not quite ripe, the Second was awarded to *Victoria*, which was not only of large size but of excellent flavour for that variety. In Class D, for the best collection of the newer sorts of Strawberries, Mr. Ingram, of Frogmore, exhibited *Cockscob*, *Rifleman*, *Frogmore Late Pine*, *Elton Improved*, and *Fairy Queen*. This being the only competition and the examples being very good, the First Prize was awarded. In Class D, for the best collection of any varieties of Strawberries, Mr. Turner, of Slough, exhibited *British Queen*, *Carolina Superba*, *Rifleman*, *Frogmore Late Pine*, *Rivers' Eliza*, *Wizard of the North*, *Ingram's Prince of Wales*, *Ingram's Prince Arthur*, *Elton Pine*, *Filbert Pine*, *Empress Eugénie*, *Sir Charles Napier*, *Crimson Queen*, *Oscar*, *Trollope's Victoria*, and *Eleanor*. This was a fine collection, and received a First Prize. In Class F, for the best collection of Currants, Mr. Turner showed fine dishes of *Cherry*, *Red Grape*, *Willmot's Red*, *Black Naples*, *White Dutch*, and *Champagne*. The bunches and berries in every case were large. Mr. Lakeman, gardener to J. Campbell, Esq., Grove House, Hendon, sent *Houghton Castle* or *Goliath*, *Red Dutch*, and *Knight's Red* (which were the same), *Black Naples* and common *Black* (also the same), *White Dutch*, *Pearl White*, and common *White* (all three the same), and the *Green-fruited Black*. Mr. Turner's collection being the best, he was awarded the first prize, and the second was given to Mr. Lakeman.

A seedling Strawberry was received from Capt. Goldney, of Slough, called *Etonia*; but the flavour was very inferior and acid. It evidently wants a better season to perfect it. Robert Wrench, Esq., of London Bridge, sent a dish of the now very rare *Myatt's Pine Apple Strawberry*, a very richly flavoured variety, having the true *Pice* flavour.

Mr. William Thomson, gardener to his Grace the Duke of Buccleuch, Dalkeith Park, sent fruit of the same seedling Grape which he exhibited last year. On this occasion the bunch was a foot long, and weighed 1 lb. 2 ozs. It was well set, and the berries were larger than they were last year. The flavour is as fine as that of the *Chasselas Musqué*, but it is a totally distinct Grape from that variety. It was not quite ripe, but it was sufficiently so to enable the Committee to form a high estimate of its value. Mr. Thomson intimated that he would submit this Grape again to the Meeting on the 12th of August. Mr. Thomson sent three other seedlings, which, however, were in too early a stage to enable the Committee to form an opinion upon them.

A very nice collection of Grapes was received from the garden, grown on Vines in pots.

A seedling Melon was sent by Messrs. Carter & Co., of Holborn, which, however, was found not to possess any remarkable merit.

**CRYSTAL PALACE.**—The gardens and grounds of the Palace are now in their prime, flowers and foliage at their best. The beds on the terraces and the rosery have been kept back by the unseasonable weather, but the sun of the last few days is now

bringing them out in astonishing beauty. The view of the surrounding country from the terraces, and from the superb dining-rooms in the south wing, are most charming; while to those who do not mind a little fatigue, the panorama spread out before them when at the top of the lofty water-towers is without its equal. The whole of London spread out as a map, the windings of the river, the extensive views into Middlesex, Essex, Kent, Surrey, Sussex, and Berkshire, show a beauty of home scenery which cannot be surpassed. Attendants with telescopes are provided in the tower galleries to point out surrounding objects of interest.

### THE SEASON.

We have had, and are having, a weary season; rain, wind and cold, more like October or November than July. Such have been the afternoon and night of yesterday.

We thought 1860 and 1861 were wet seasons, but this year it is worse, and you cannot imagine the wretched appearance of the flower-beds. Zinnias, Asters, Verbenas, &c., never seem to have grown since put out of doors. The Roses are dashed to pieces ere their beauties have been half developed.

I never saw a greater show of Apple and Plum bloom, but there is very little fruit. Half the Apples have dropped off grub-eaten.

Snails are as plentiful as locusts in the east. Caterpillars are innumerable, and I have only been able to save the Gooseberries by having the trees "hand-picked;" this is the way to make sure of the vermin. I tried soot, suds, and tobacco water in vain. The ashes of burnt bark have been strongly recommended, and are, I believe, a good help; but the only cure is "catching and killing."

Many fruit trees are blighted; my Black Currants are only half-size, as they have been left without sufficient leaves.

This is a great Potato district, and, so far, the earlies are a good crop and free from disease.

You may judge of the sort of haytime here when I inform you there have only been four days without rain since June 7, and until within a week the temperature has been very low.

With all this rain my bees have done well. From two common straw hives I have had four good swarms, and a fifth has either "gone" or the exceeding wet of the last few weeks has stopped them.

These few lines are simply to afford a little information about this wet and out-of-the-way county.—CHESHIRE.

P.S.—I do not allow any birds to be shot on my grounds.

### WINTERING PLANTS IN A FRAME.

Will you oblige a cottager with your opinion as regards wintering common plants in a cold frame? By "common plants" I mean such as are generally termed bedding plants. I used to succeed pretty well in the county of Oxford; but I am now in Lancashire, and I fear I shall not succeed so well. I intend placing my frame on the south side of my cottage, and am obliged to have the back of it close to the building, else it would be in the way. It is only a two-light frame, so that I think the disadvantage of getting to the back of it will not be great. I am thinking of making a floor of bricks, as they will make a drier bottom than anything else I know. Where I intend placing my frame is an iron air-grating, the size of a brick, which admits air under the floor of my cottage, and another on the west side, measuring, I suppose, under the floor, 4 yards or 5 yards. I should like to know if it would be an advantage in helping to remove the damp stagnant air when the frame is closed so long in frosty weather if I cut a piece out of the back of the frame so as to admit air into the frame where it fits against the iron grating? I also think it would be an advantage to make another opening through the frame near the top, and also another opening through the wall with another grating put in the wall opposite the piece cut out from near the top of the frame. The top opening through the wall would be inside my cottage just above the floor. I am thinking of mixing some soot, lime, and ashes together to cover the earth before I lay the bricks.—A LOVER OF NATURE.

P.S.—You might say a small greenhouse would be far the best; but a greenhouse, however small, would be far more expensive than cottagers generally could afford. I know many cottagers that have their little cot full of plants, and would have

a pretty show about their cottage in summer could they secure more plants through the winter.

[We do not think you will find much difference in the management of your frame in Lancashire, from what you practised at Oxford. Your idea of the air-gratings is a good one, only you must be sure that the air that thus comes below your floor is heated enough to be free of frost in severe weather. This you can remedy by partially or wholly shutting at times the external air-brick. The having an additional one entering the cottage from the frame is also a good idea; and if the position of the frame would admit of it, if that air-opening was a foot or 15 inches higher up, it would be all the better. Then we would improve on the lower grating a little. Even then your two openings would be at the back, and in dull weather there would not be much circulation at the front; but carry a drain from the lower grating to the front, and raise an upright pipe there, and the circulation would be complete.

In cold, frosty weather there would be little harm in shutting the external air-opening, for if the air in the frame gets down to 35°, or so, there will be little danger from damp, especially with the gratings inside open. With plenty of covering, frost may be easily kept out. Be sure that any opening between the frame and the wall is thoroughly packed with sawdust, or some other non-conducting medium, as dry moss, &c. Damp, as you seem to be aware, will be your great enemy; avoid having moist litter against the sides of the frame in winter. The cheapest protection in the end would be a double frame, with 3 inches between, and that packed with sawdust dry, and a board on the top to keep out damp—that is, covering the space securely between both boxes. That will keep out more cold than a 14-inch brick wall, solid. The next best would be to use straw 3 inches thick, tied neatly to the sides and front of the frame. So far for the outside. Your proposed flooring of brick will be neat and cleanly, but it will not prevent damp rising, and, withal, will be rather expensive. If you do it now, a more secure bottom would be formed of the ashes you speak of and gss tar some 3 inches thick. No damp would rise through this, and none will go through it. For this purpose the site of your frame should be raised—say 9 inches or a foot above the surrounding ground, the site being larger in length and width than the frame by 18 inches, and the ground to slope down to the level beyond that. On this put a stiff mixture of the ashes and the gas tar, and press it smooth, and if you then like lay your bricks on the top of it; but we would prefer some road-drift sand when the mixture was getting a little tough. This will be all sweet enough before you want to use it in the autumn, and you would be sure of dryness. In summer a few holes should be left to allow the water to run out that escapes from pot-watering. In winter no pot should be watered except on a fine day, and then it should be watered outside, allowed to drain, and then be replaced in the frame. If you could lay your bricks thus elevated on dry chalk, and cement them together, it would be pretty well; but whenever the bottom side of the bricks gets damp, you will soon have the upper side damp likewise. Much, however, may be done by dusting the bottom with dry sand, as you move and shift the plants in a fine day. In such a frame we would hardly water a plant from October to March, but when a plant got dry we would take it out, water it, allow it to drain thoroughly, and then replace it.

We have been thus particular as to minutiae to oblige many like our correspondent who desire to make their cottage gardens brilliant with bedding plants in the season. If they have no frame, however, they need not despair of doing this, as a few windows rightly used, and the plants moved to the centre of the room on cold nights, will enable them to have as many plants as they could well keep in a two-light box. The box may, however, be used for so many purposes that we should be anxious to see one in every cottager's garden; and a handy man might soon put a rough one together for himself.]

### SOME OF OUR RARE WILD FLOWERS.

Of the rare *Lobelia urens*, which grows only on Helmington Common, near Axminster, and of the Cheddar Pink (*Dianthus cæsius*), which is confined to the Cheddar rocks, I can obtain specimens; and I now enclose a drawing and also a dried specimen of the equally rare little *Trichonema bulbocodium*, which has only one habitat in the kingdom—namely, the Dawlish Warren, which is in this immediate neighbourhood. It is a most

interesting little plant, abundant in Guernsey, whence it is supposed to have been brought to this country in ballast, and thrown out on the Warren, where it has become naturalised. It was, I believe, first observed there about the year 1833, and recorded by botanists in several subsequent seasons, but after a time it disappeared, and was supposed to be lost. We, however, were fortunate enough to rediscover it some ten years ago, whilst in company with the late Dr. Landsborough, and since that time I have observed it nearly every season; but it is exceedingly shy of blooming, and very difficult to detect by those who are not well acquainted with its habitat, as the flower is minute, and grows in the turf close to the ground.

In cold, wet springs it rarely opens its blossoms; but in the warm sunshiny days of a genial April it is seen in great profusion, its delicate flowers of blue lilac covering the sward in large patches like exquisite little gems.

To show how difficult it is of detection, I may mention that a gentleman, a friend of mine, to whom I had described its locality on the Warren, told me he had marked out a large patch of ground on which he thought he was certain to find it, and being determined to succeed, he subdivided the space thus marked out into small squares, and went over the whole patch most carefully, but failed in his object. You may, therefore, imagine his delight when I accompanied him to the Warren, and showed him the plant, which was then in full beauty.

The *Tussilago fragrans* grows quite wild in our lanes, and about Torquay there are many rarities.—A. C. G.

### THE GRAPE VINE.

*A Practical Treatise on the Cultivation of the Grape Vine.* By W. THOMSON, Gardener to the Duke of Buccleugh, Dalkeith Park. W. Blackwood & Sons, Edinburgh and London.

MR. THOMSON has long been known as one of the most successful cultivators of the Vine. He is also well known as one who can clearly and well express his thoughts, and narrate facts either in conversation or by the aid of his pen. A book upon Vine culture from him, therefore, must be expected to be excellent, and that before us will not disappoint that expectation.

Mr. Thomson omits the out-door culture of the Grape altogether, because, as he states, "in these days of cheap glass it is a most unsatisfactory investment of both time and skill to attempt its culture except under glass."

Our author then details the construction of a vinery, gives directions for heating the atmosphere and soil, dwells upon ventilation, drainage, covering the surface of the borders, preparing the soil, planting, choice of plants; proceeds to detail the treatment of the Vines during their first, second, and fruiting year; describes the pruning and propagating of Vines; shows a new mode of growing Vines in pots for table decoration; descants on the diseases of Vines and their cure; concluding with notes on packing Grapes, keeping them after they are ripe, an amateur's vinery calendar, and some experiments with Vines. In all these sections the practical directions are clear, simple, and excellent, and may be consulted advantageously by the amateur and tyro Grape-grower. We will extract as an example the section on

#### KEEPING GRAPES AFTER THEY ARE RIPE.

"This is a matter where care and attention can do much. I have this season kept Lady Downe's Seedling Grapes hanging on the Vine till May, in a house where we began cutting Black Hamburgs in August. This house is 110 feet long, 11 feet high, and 11 feet wide, and has been referred to already as having been planted in 1858. It is a common lean-to house, built to serve the double purpose of growing Figs on the back wall, a Vine up each rafter, and one half-way up the centre of each sash, the sashes being 5 feet wide. The ventilation is by an opening sash to the north on the top of the wall, and the front sashes open outwards in the usual way by lever and rod. The cost of this house, including boiler and two rows of four-inch pipe along the front, was under £200, and at Christmas last we had four hundred bunches of Lady Downe's and West's St. Peter's Grapes hanging in it, representing a commercial value little short of its original cost.

"In order that Grapes may keep well, it is necessary that they should be well ripened by the end of September, and not grown in a wet berry; nor should the internal atmosphere of the house be kept loaded with moisture. What is required in Grapes to keep well is a firm fleshy berry, not one full of water. The bunches should have the berries well thinned out, more so than in the case of Grapes that are to be used shortly after they are ripe. Long tapering bunches keep better than broad-shouldered ones, as the berries in the centres of the latter are apt to damp off and destroy the bunch before it is observed. As soon as the Grapes are thoroughly ripe, the night temperature should at once be lowered to 50°, till the leaves fall off or ripen, when they should be removed carefully by hand from the Vines. After this date the fire heat should never exceed 45°, nor fall below 35° at night; and in damp foggy weather, I keep the house carefully shut up for nights and days at a time. To give air during a damp foggy day is to fill the house with the very evil you wish to avoid—damp air. The surface of the internal border is

allowed to get perfectly dry, and to remain so all winter, care being taken that as little sweeping or raking take place as possible, for by this means dust is raised which settles on the bunches. Half the roots are in the outside border, and had no covering at all.

"Towards the close of February I cut about fifty bunches of Lady Downe's, detaching the branch on which the bunch grew as when pruning the Vine. I then sharpened the ends of the branches, and run some four or five of them with a bunch on each into the side of a Mangold Wurtzel laid on the shelf of the fruit-room, allowing the bunches to hang over the side of the shelf. In this way the Grapes kept perfectly fresh till April. I left some fifteen bunches on one Vine for experimenting upon, two of which are still hanging at this date, May 2. About the 15th of April the sap began to rise in the Vines, and some of the berries that were a little shrivelled suddenly got plump, while others that had shown no signs of shrivelling burst their skins, and the sap of the Vine that had forced itself into them began to drip from them. It was tinged with colouring matter out of the berry, and had the taste of the berry. To stop this bursting of the berries, I made an incision in the lateral on which the bunch hung, betwixt it and the parent stem of the Vine, in two places, half through, at opposite sides of the lateral. This drew off the sap, and no more berries burst. The Vines have now young growths on them 9 inches long, and are appropriating all the sap, and the bleeding has ceased from the incisions. In February I had all the eyes picked out of the laterals, except the one at the base of each. These are showing fruit like others that were pruned in the usual way, except the three I bled: they are much weaker than the others. From this experiment it may be reasonably inferred that it is not judicious to keep Grapes hanging on the Vines after the sap begins to rise. It, however, proves that it is possible to cut old Grapes in May, and, considering that new can be cut in January, gives an overlap of four months in the supply of Grapes."

### CROSS-BREEDING CAMELLIAS.

BEING myself a great admirer of the Camellia, you may imagine with what joy I discovered last April that I had succeeded in impregnating seven blossoms on one of my trees. I have lost two, but I have five very healthy pods, and the seeds are bursting through the crown, which is now as large as a good-sized Walnut. Having a profusion of semidouble blossoms on my "Old Red" plant, and perceiving the stigma protruding through the opening flower of a very double Carnation-like bloom on another plant, I introduced the anthers of the former to the pistil of the latter without much hope of success, but the result has been as before mentioned. As this is a feat which those professionals who have not seen my plant are unwilling to believe can have been produced from a very double flower, several of Messrs. A. Henderson & Co.'s men being amongst the number, I have troubled you with this communication, which may equally surprise some others of your numerous readers. The Hon. and Rev. W. Herbert considered it necessary to keep the Camellia in great heat, and not to allow a breath of air to blow upon it, to produce fruitfulness. Mine had no additional heat but the sun, and it stood close to a window which was open all day. No! the virtue, in my humble opinion, all rested with the beautiful golden farina upon the anthers of the Old Red; and any one possessing a plant of the same may soon have a young crop of Camellias not two alike. I am sorry I have lost the name of the mother plant. It was a noble bloom, Poppy-like, very double, and rather light colour. Next year, if I live, I will send a blossom of it to your office. The plant came from Belgium.—DAVIS.

[Those who have doubted the result of your highly interesting experiments with these Camellias are not less learned in the ways of crossing than all of us had been at one time or another. The next greatest pleasure after such enjoyments as you experienced is that of learning others, such as some of Messrs. Henderson's men, how to come to a knowledge of the truth; and you have taken the best means for that end. You have mistaken Dr. Herbert's meaning, however. It was not to "produce fruitfulness" that he confined the mother of his Camellia seedlings, but in order, as he then erroneously supposed, that the particular treatment "of the mother plant while in flower and seeding" should produce "an unusual result"—that is to say, to produce double flowers instead of single ones. He did not mean "to induce fertility." The person who first reviewed that work was a practical crosser himself, and that was the only thing about crossing of all that Dr. Herbert advanced on the subject with which he would not assent. That led to an interview between the author and his reviewer, and ultimately to a close intimacy on a fellow-feeling pursuit: it also resulted in the conversion of Dr. Herbert after many experiments, every one of which went against the doctrine of the possibility of influencing crossed seedlings, as far as the flowers are concerned, by any mode of treating the parent plant while it is in seed, or after fertilisation is once effected.

The influence of any mode of cultivation during the interesting period affects the growth and health of the seedlings only, not

the colour, or size, or substance of their flowers, or their singleness or doubleness. That is the only thing about crossing of which we are quite certain, and in four years after Dr. Herbert published his theory of the question he was convinced of its untenable foundation; and a few years later, in his *résumé* of the whole subject of crossing in two long and elaborate articles in the "Journal of the Horticultural Society," this question is not once mooted. Still, the idea of one being able to bear a hand in this, one of the greatest mysteries in nature, is prevalent at the present day; and what is more strange is now before us—men engaged in a first-class London nursery not being aware of the fact that if you detect one anther only in a thousand double flowers, the pollen in it is as effectual as the pollen from a single flower. But that there may not be room for doubt or uncertainty, even in so large a place as London, we give the matter in Dr. Herbert's own words (the work appeared in 1837). He said, "I have had greater success than any other person in raising from seed double Camellias of various tints and appearance; and some of the best have been produced either from single flowers, or plants raised from single ones, impregnated by the pollen of double flowers preferring, where it could be got, *the pollen that is borne on a petal.*" The italics are our own. Pollen is occasionally found on the edges of ragged petals in the centre of many double flowers, as those here referred to, and more often in the family of *Dianthus*. So that with the stamen converted into its element, the petal, it may yet bear the anther and the pollen; and if so, and you fall in with it, no other arrangement of the parts is more sure for turning out double flowers.]

### THE WEATHER AT ASHTON-UNDER-LYNE— THE LANCASHIRE COTTON-SPINNERS.

THIS part of Lancashire seems not only to have dark, dark days, owing to the want of cotton, but owing to the want of good weather too.

On the north side of Ashton there are some hundreds of cottage gardens, owned mostly by operatives. These gardens extend for more than a mile and a half, and are mostly on the edge of "Ashton Moss." Many fine vegetables are grown in them in good seasons; but this year seems as if it would not only prevent them from earning an honest respectable living in the mills, but also would stop them from enjoying a few choice flowers and vegetables of their own growing.

My worthy employer has laid out considerable sums of money in purchasing choice things to cultivate for a floral and horticultural show, which they intend to have the first Saturday in September; but the weather damps their spirits, though they have had but little of the cotton famine.

For my own part I never had such a season for outside plants, for what with the weather and the hotts (the grub of the daddy longlegs), it has been an up-hill fight all the season. I have caught as many as three pints of botts in a day, and on one occasion I swept up on a walk in front of the house nearly four quarts of the dirty-looking vermin. I began to think they were as numerous as London reports them to have been once in Ireland. Some wags who had noticed the large quantity we had on the carriage-road, changed the name of our place from "Grobby Lodge," to "Grubby Lodge."

Of Kidney Beans I scarcely entertain a hope of having any outside. Peas are rather better than in the year 1860. Celery is very late, and other things also. Gooseberries and Currants have been plentiful. I have plenty of Wallflowers and other things in bloom that should have been over long since. I bedded out four hundred Geraniums, but I do not see that one of them has made a new leaf, and other bedding stuff looks miserable, save some beds of German Stocks and Saponarias, which are a little sheltered.

There has been a cold west or north-west wind blowing nearly all the summer, and it has been so cold that I have had to use fire heat all through June and July to keep a late house of Black Hamburgh Grapes swelling.

Some of the poor operatives who were accustomed to spend five or six shillings on Verbenas and other bedding stuff, were rather down in the "dumps," as we call it in Lancashire, this spring; but I and other gentlemen's gardeners gave some that we knew a few plants, for which they were very grateful, and I fear many of the poor fellows will be too poor to buy seeds for next year; but if all be well with me I intend to beg from the

gardeners of the country both seeds and plants for them. But let us hope things will be better, for they are bad enough here at present.

To give your readers an idea of how matters are here, I may state that I have had men offering to work for me for their food alone, men who have been accustomed to get from £1 to 36s. per week—so anxious are large numbers to be rid of the task of having nothing to do.

My worthy employer has not only kept most of his work-people in full employ, but he has given them a prize of £5 value for their horticultural show mentioned above.

In conclusion, I hope your readers will not be frightened at my threat to "hand the hat round" next spring, for I can assure them it will be the last extreme for a Lancashire man to do such a thing, for we are thoroughly versed in every man "doing his own" here.—J. II.

[We ask of our readers to bear these statements upon their minds, and we tender our aid to our correspondent in carrying out his good purpose. We know the Lancashire operatives well, and bear an unreserved testimony to their clear heads, large hearts, and ready hands. It is no degradation to receive aid under present circumstances, any more than it is for a patriot in a tyrant's prison to receive aid from his friends who are at liberty. He is cut off from his own private resources without any fault of his own, and only requires aid until he is once more permitted to provide for himself. So is it with the cotton-spinners.—EDS. J. OF H.]

### REPORT ON THE BROCCOLIS

GROWN IN THE GARDEN AT CHISWICK IN THE AUTUMN OF 1861 AND THE SPRING OF 1862. By ROBERT HOGG, LL.D., F.L.S., Secretary to the Fruit Committee.

THIS is the second season during which an attempt has been made to try the different varieties of Broccoli. The first was made in the previous season of 1860-61, but the frost of that winter was so severe as to result in the total destruction of the crop. Neither has this second attempt been so successful as could have been desired. The seed was sown early in March, and the plants made satisfactory progress till the period when they were planted out, after which many of them made so rapid and luxuriant a growth in the autumn that they had not sufficient vigour left to develop good-sized heads during winter and in the spring; added to which, it is the opinion of all practical gardeners that the soil of Chiswick Garden is not adapted for the successful cultivation of Broccoli.

Under these circumstances it was not possible to make a complete report of all the 103 varieties that were planted; but of such as did come to maturity and withstood the winter, the following observations have been made.

It is quite evident that the varieties of Broccoli as now grown are in a state of great confusion, the old varieties, such as Grange's and the Old Early White, having entirely disappeared or lost their original character; for instead of coming into use from Michaelmas till Christmas, as they were wont to do, the former did not, in one instance, come in till February 7, and in another till March 7, while what is called Early White was not fit for use till April 18. The distinctive names of Early White and Late White seem now to be possessed of no value, as in some cases the one is used for the other, and *vice versa*.

As there are distinct races among Broccoli, it would be very desirable if some definite nomenclature were adopted, which would at once convey some idea of the character of the varieties. These races may be distinguished as follows:—

#### I. WHITE BROCCOLI.

- |                  |                        |
|------------------|------------------------|
| A. Autumn White. | C. Early Spring White. |
| B. Winter White. | D. Late Spring White.  |

#### II. PURPLE BROCCOLI.

- |                   |                   |
|-------------------|-------------------|
| A. Autumn Purple. | B. Winter Purple. |
| C. Spring Purple. |                   |

#### I. WHITE BROCCOLI.

##### A. Autumn White Broccoli.

The earliest of the autumnal varieties are the Dwarf Erfurt, Le Normand, and Walcheren. Properly speaking, these are not Broccoli, but Cauliflowers, and ought not to form any part of this report; but as they have now for some years been known among seedsmen and gardeners as Broccoli, and as they were received as such in the collection, they are introduced as the earliest of the autumn sorts.

DWARF ERFURT . . . . . BENARY.

The plant is dwarf, not above a foot high, and produces a large, clove, and compact head, 6 inches to 9 inches across, which is of a creamy colour. The leaves are short, winged, tapering abruptly to the base, spreading and exposing the head. In use August 1st.

LE NORMAND . . . . . VILMORIN & Co.

Plant about 15 inches high, with winged leaves, which are broad, and taper abruptly towards the base; they are toothed and waved on the margin, exposing a head which is about 9 inches in diameter, and of a creamy colour. This is earlier than Walchereo, and is readily distinguished from it by the waved and toothed margin of the foliage. In use August 8th.

WALCHEREN . . . . . VEITCH & SON.

- Covent Garden White . . . CHARLWOOD & CUMMINS.
- Selected Early Erfurt . . . SCOTT.
- Stadtholder . . . . . NUTTING & SON.
- Hammond's White . . . . . TURNER.
- Late White Cape . . . . . TURNER.

The plant is from 18 inches to 2 feet high; leaves winged, tapering abruptly towards the base; the inner ones turning with a spiral twist over the flower-heads, and protecting them from the sun, enable them to preserve a clearer whiteness than either of the former, which, from the spreading habit of the leaves exposing the heads to the direct influence of the sun, are always of a cream colour.

The true Autumn White Broccolis ought to be Grange's and Early White; but in the whole collection there was not an approach to either of these, and out of the whole 103 varieties there were not any to supply the long gap between the flush of Walcheren in the end of August and the time when Snow's Superb came in on the 8th of December.

B. Winter White Broccoli.

SNOW'S SUPERB . . . . . VEITCH & SON.

- Gill's Yarmouth White . . . FLANAGAN & SON.

This variety came into use on December 8th, and was a large and handsome head, perfectly white. It continued in use during the winter, and by the end of January was entirely over. This is the only one in the whole collection that could be called a Winter White Broccoli.

C. Early Spring White Broccoli.

Of these there are a vast number, all differing very slightly from each other in their general characteristics, and distinguished more by the care that has been bestowed on the selection of the stock than upon any permanent features they possess.

SNOW'S SPRING WHITE . . . HURST & McMULLEN.

- Snow's Winter . . . . . NUTTING & SONS.
- Imperial Early White . . . BUTLER & McCULLOCH.
- Grange's Cauliflower . . . VEITCH & SON.
- Early White . . . . . CHARLWOOD & CUMMINS.
- Adams' Early White . . . BUTLER & McCULLOCH.
- Covent Garden Market . . . BUTLER & McCULLOCH.

The plant grows about 2 feet high, and is very hardy. It produces large white flower-heads, which are well protected by the incurved leaves. It comes into use about the 7th of February, and continues during the whole of that month.

NEW EARLY INVISIBLE . . . NUTTING & SON.

- Incomparable or } . . . . . TURNER
- Melville's Large White }

This comes into use about the 7th of March, and is rather open-headed. It was found to be so very tender that good specimens could not be obtained from which to form a judgment of its merits.

(To be continued.)

CULTURE OF A FEW HARDY ORNAMENTAL PLANTS.

WE print the following to meet the requirements of *Virgil, Derby*, and another correspondent:—

**WATSONIA FULGIDA.**—Grow it in sandy loam and leaf mould. When started, give a top-dressing of old cowdung. When showing for bloom give weak manure-waterings; give less water after the flower-stems decay, and withhold it altogether after the leaves get yellow in the autumn. The tubers may be kept in the pot or in sand. They are as hardy as the general run of *Gladiolus*. With protection they might be left in the ground

all the winter. We know, however, of some fine beds of *Gladiolus, Watsonia, &c.*, that stood well for years, but they all rotted in 1860 and 1861. If taken up they would have been safe, and flowered just as well if planted early. The *Watsonia* named generally blooms early in summer, and should be potted or planted as soon as growth appears.

**TRITONIA AUREA.**—These, like the *Watsonia*, are hardy enough to stand out, with protection from frost and wet in winter. According to kinds they will bloom from early spring to autumn, and should be treated accordingly. It will be best, in the first place, to keep them in pots until you obtain a stock. Early kinds will now be going to rest, and should have no water, but may remain in the pots until they show signs of growth in the autumn. Those flowering and growing now should be watered until the leaves begin to get yellow, when it should be discontinued. The roots may then be kept dry in the pots, or, better still, be taken out, and placed in a saucer covered over with dry sand. As they begin to move when kept in a dry, cool place, pot them—say four or five roots in a five-inch pot, placing them so as to be slightly covered. The pots should be well drained; and the best soil is sandy loam one part and heath soil two parts, and the smallest roots should have a little sand about them, if silver sand all the better. Do not water much until the roots are taking hold of the soil; but the soil should be moist—not wet nor dry. Setting in a cold frame and keeping the floor damp will give moisture enough until the roots are progressing freely, when more water will be required. After they are several inches in height, an airy window or the front shelf of a greenhouse will be the place for them.

**DEUTZIA GRACILIS.**—This is a beautiful little shrub, and, we believe, quite as hardy as *scabra*, which stands out as a shrub or against a wall north of London, and it seemed to suffer little by the frost of 1860-61. It is easily grown in sandy loam and a little leaf mould. It looks best when it has a great many little twigs—say a foot or 18 inches long, covered with its small snow-coloured flowers. Whether, therefore, grown for ornamenting the greenhouse, or to be forced in winter, the treatment it requires is much the same. As soon as it has done flowering, prune off the flowering shoots, and encourage it by active growth to make fresh wood, and then get these young shoots full in the sun in the summer and autumn months that the wood may be ripened before winter. If in pots, the plants may be plunged in a sunny place during the summer.

**DATURA WRIGHTII.**—We are not sure by the leaf whether you have got the right variety or not, as the leaf was too withered to detect its woolliness or scent. You should also have told us whether your plant was a seedling or a last-year's plant. To get it vigorous it requires a warm place in the conservatory or greenhouse at first to encourage active growth. When growing it likes a rich soil, such as sandy loam and rotten dung, lightened with silver sand, and plenty of water, with good drainage. The large, rather sweet, double flowers are worthy the little extra trouble. Towards autumn water should be curtailed, and if the plant is merely kept from frost in winter the leaves may be allowed to drop. This will insure the ripening of the wood, and the fresh shoots next season will generally be well stored with flowers. Damp and a low temperature in winter will be sure to make an annual of it. In the summer of 1861 it bloomed pretty well with us out of doors; but we were too long in looking after it, and the frost settled it.—R. F.

WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 295.)

CRUSTACEA (continued).

**THE MASKED CRAB (*Corystes cassivelaunus*).**—The reason of this singular species having been thus named by Professor Bell may be given in his own words. "The carapace in this species is longer than it is broad, in the proportion of three to two; convex, with the regions somewhat distinctly marked, having a groove surrounding the cardiac and genital regions, and another short transverse depression over the intestinal region, forming altogether in many specimens a remarkable similitude to the features of the human face, from which circumstance I have given it the English name of "the Masked Crab."

The formation differs according to the sex of the animal. For instance, in the male the fore legs are twice as long as the body, whereas in the female they are only of the same length

There are also other distinctions; but this one is so marked and so easily recognised that it would be impossible to mistake the male for the female. The remaining legs in both sexes are slightly flattened and fringed with hair on both margins.

The colour is a palish-red fading into a yellowish-white, the legs being of a much deeper red. The colour of the male is much brighter than that of the female. "It is generally," says Professor Bell, "rather a deep-sea species, and is occasionally thrown on shore after storms or gales of wind that have been tending towards shore." He also mentions having taken it at Sandgate and Hastings, and proceeds to give an extract from Mr. Couch's "Cornish Fauna," which is interesting enough to warrant my doing so likewise. Mr. Couch says of the Masked Crab, "It is scarcely common, which may be accounted for from its habit of burrowing in the sand, leaving the extremities of its antennæ alone projecting above the surface. These organs are of some use beyond their common office of feelers. Perhaps, as in some other Crustaceans, they assist in the process of excavation; and when soiled by labour, I have seen the Crab effect their cleaning by alternately bending the joints of their stalks, which stand conveniently angular for this purpose. Each of the long antennæ is thus drawn along the brush that fringes the internal face of the other, until both are cleared of every particle that adhered to them."

The Masked Crab is rare in Scotland, but is frequently met with off the coast of Ireland.

**THE NORTHERN STONE CRAB (*Lithodes Maia*).**—This strange species is by no means common to our shores; but it will be worth while to devote a small space to a description of it in case any of my readers should chance to fall in with a specimen. The shell is heart-shaped, covered with tubercles and spines. The entire margin also of the shell is furnished with long powerful spines. The fore pair of legs are unequal, sometimes one, sometimes the other being the larger. The other legs are much longer and equally armed with spines with the exception of the fifth pair, which are very diminutive and destitute of spines.

The colour is a yellowish-red, the under surface being paler, and the spines much darker. With regard to the localities where it has been obtained, we may borrow the words of Professor Bell. "It is," says he, "strictly speaking, a northern species, not having yet been found farther south than the Isle of Man, with the exception of a specimen in the Museum of Trinity College, Dublin, recorded to have been taken on the coast of the county Wexford. I possess, through the kindness of my friend, Mr. McAndrew, several specimens of various sizes, taken by him in dredging in Loch Fyne. They have also been dredged between the Isle of Man and the Mull of Galloway. The Frith of Forth (Goodwin), the coast of Ayrshire (Thompson), of Aberdeen, and of Yorkshire (Leach), are localities where this Crab has at different times been obtained, and I have a specimen which was taken from the stomach of a Cod on the coast of Orkney."

**THE COMMON HERMIT CRAB (*Pagurus Bernardus*).**—This very singular animal belongs to a family of the Decapods, called Anomura, from two Greek words (*anomos*, unlawful; and *ayra*, a tail), and so called from the unusual conformation of that appendage. Instead of being encased in a hard coat of mail as in the Macroura, the hinder part of the body is soft and coriaceous, possessing only a few detached calcareous plates—analogueous, it is true, to those found in the Lobster, but strangely altered in structure. This animal is called the Hermit Crab, or the Soldier Crab, indifferently. The anterior feet are very unequal, that on the right side being ordinarily the larger; both, however, are thick and strong, and covered with spinous tubercles. The second and third pairs of feet are armed on the upper side with spines. The last joint is very long, flattened, and slightly curved. The two hind pairs of legs are simply rudimentary, and terminate in a short compressed pincer. These two latter pairs are fringed with hair. The usual colour is red, fading into yellow, the abdomen being brown, and it measures when full grown about 5 inches. The Hermit Crab is an extremely common species, abounding on all parts of our coasts, and is highly interesting from its habit of fixing its residence in some empty shell or other, to which refuge it is driven in consequence of the unprotected condition of its hinder parts. Nature has provided no defence for it. It is compelled, therefore, to have recourse to art, and to secure a protection without which it would in its helpless state fall a prey to the many voracious members of its own fraternity. The Hermit is frequently found in a shell which is apparently too large for it. He has his reason for choosing it however, as it admits of an increase in his growth. When the

lodging becomes too confined for the tenant he quits it and casts about for a fresh one. I shall take advantage of the interesting remarks with which Professor Bell concludes his notice of this singular creature:—"It is a question of some interest whether the Hermit Crab always chooses for its habitation a shell already empty, or whether it actually kills and devours the inhabitant of one that suits its size, and then takes possession of its violated home. The latter I believe to be true, in many if not in most cases; certainly, however, not in all, as we often find the Hermit occupying an old and long-abandoned shell. But so much more generally is it found in fresh shells that it can scarcely be doubted, even on this ground alone, that it often obtains its habitation by violence. The fishermen on the coast are fully persuaded of this, and an intelligent person of this class at Bognor assured me that the fact had often been observed by himself and others. He stated that the aggressor seizes its victim, the Whelk for instance, immediately behind the head, and thus kills or disables it, then eats it, and finally creeps into and appropriates its vacant shell. It holds on with great force and tenacity by means of the terminal appendages, and if taken hold of when running about, which it does with great rapidity with its usurped shell attached, it draws itself in with a sudden snap, and then resists every attempt to pull it out, closing the aperture with its stout strong legs and pincers, and thus also protecting the soft membranous abdomen. The Hermit Crabs are much employed by the fishermen (who call them 'wigs,' or possibly 'whigs'), as bait for Cod, for which purpose they answer very well for immediate use, although the original possessors and builders of the house, the Whelks, are much preferred for night lines, as remaining more firmly on the hook. They are taken in great numbers in Prawn-pots for this purpose. The species is very widely distributed, and exists in every part of our coasts in great numbers, being continually taken in the dredge, the keel-drag, and the Prawn and Lobster-pots."—W.

(To be continued.)

## LIGHT IN PLANTS.

THIS light may be classified into two kinds—first, continuous, mostly phosphorescent; second, in the form of lightning.

Decaying wood belongs to the first. A fungus (*Byssus phosphoreus*, L.) has till lately had the credit for it; but Retzius, Von Humboldt, and Bishop Agardh (another Swede) agree in ascribing to the wood itself the faculty of shining.

Any kind of wood, if we believe Dessaignes, can get phosphorescent under certain conditions—viz., a proper degree of decay, thermometer 46° to 53°; sufficient dampness and atmospheric air. We find it, however, mostly with Alder, Beech, White Pine, and Willow wood. They shine before actual decay, but moisture rules the intensity of the light—the less moisture the less light; no moisture no light. Where the shining has ceased, it can be restored by a little cold water thrown on the wood, and by enveloping it with paper or canvass.

Temperature, we believe, is of no account, so the thermometer does not exceed either the boiling or the freezing point, as in either case the water would disappear.

But not decaying wood alone has this phosphorescence; other parts of plants have it when decaying. Thus Meyer tells us that, wandering by night through a forest, he found decaying Mushrooms in a phosphorescent state, and that he took up the shining matter with his stick and rubbed against trunks of trees.

Tulasne has given us a very interesting treatise about the shining of dead Oak leaves. Moisture is in every instance a necessary condition. Of all things, however, it is the Diptam which is best known for its remarkable and beautiful light circling round the whole upper part of the plant, when, after warm and calm days, a match is brought near it. It is the ætherial oil evaporated by the plant which burns, and makes it appear as if the atmosphere round the plant was in a mild blaze. The beauty of this phenomenon is worth trying it, and enduring the failures which an unfit condition of the atmosphere will often bring.

Less strong than the Diptam, but stronger than decaying wood, shines the milky sap of *Euphorbia phosphorea*. Martius, during his travels in Brazil, found it to shine mostly when a storm was coming on. He also relates that he was told by the natives of a *Euphorbia* growing in impenetrable thickets of several thousand square feet, which often spontaneously ignite, emit a column of smoke for a while, and ultimately blaze in a clear flame.

But not dead matter alone has this phosphorescent quality. We find it in living plants—for instance, *Rhizomorpha subterranea*, a fungus found on decaying trunks or on timber used in moist mines, emitting light from the tops of its branches so strong that, according to De Candolle, you can read by it; or, *Agaricus olearius*, a fungus growing on the Olive tree, which shines best when vegetation goes most forward, and which fact Tulasne therefore calls “une manifestation de l'activité de sa végétation.”

The cause or causes of the phosphorescence of these plants have not been found. A very long range of experiments under all temperatures and at the various stages of vegetation would be required. This explains also why the statements of botanists differ so much—why one has never found that such and such plant emitted light; why the other asserts that only the lamellæ of different fungi had it, &c. We must, however, here mention a no less interesting phenomenon than either of those already stated. It is offered to us by *Schistostegia osmundacea*, a moss growing in caverns and grottoes, which in daytime is in a state of lucidity similar to the *Smaragd*. In this instance, the structure of the plant, as the rays of the sun refracted on it, seems to be the cause, though we would not like to vouch for it.

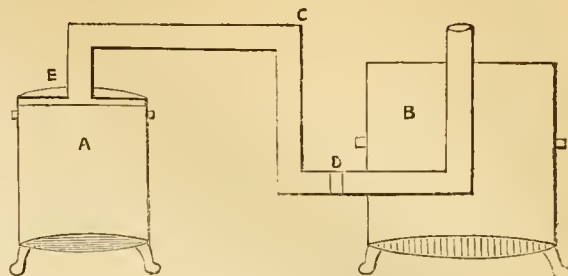
We would rather speak now of the second class of light in plants—namely, where that light appears in the shape of lightning. And the first observation it appears has been made by Linnæus's own daughter, Elizabeth Christine, who found that one evening in the year 1762, the orange flowers of *Tropæolum majus* produced a kind of lightning—that is, the flowers seemed by fits and starts to dash light. She ran to her father, not believing her own eyes; but the phenomenon had disappeared when the father came, and what he had never seen nor heard of he would not believe in till he had seen it himself. On subsequent evenings, however, he himself witnessed the fact, whereupon he asked his daughter to make a report of it to the Royal Academy of Sciences. This report has been accepted, and exists on the record. We are sorry that we have to add that neither the great Linnæus, nor his daughter, nor Linnæus's son, nor any one of a great many chemists and botanists who undertook to study the matter, could to this day succeed in telling us anything better than suppositions, which were hardly uttered before upset by themselves, and amounted to nothing. If the stirring-up of observations, the reiteration of facts, the discussion of probabilities, not to say possibilities, can ultimately lead the investigating mind to the true cause, then there is hope for our enlightenment. But as we doubt that, and will not weary our readers, we will, before we conclude this article, tell them that electricity seems not to have anything to do with these phenomena; that orange colour of high intensity and fire seem to have a good deal to do with it; that weak eyesight does not cause it, as Linnæus naively says, and that besides Linnæus's daughter, Lector Haggren (also a Swede), noticed it in the year 1788 on *Calendula officinalis*, *Lilium bulbiferum*, and *Tagetes patula* and erecta, also, but very slightly, on the orange variety of the Sunflower, *Helianthus annuus*. Lastly comes Mr. Fries, and tells us that he was induced to write his essay on Light in plants, by one night walking about in the botanical garden (in Upsala) and seeing lightning shooting up from an isolated growing plant of *Papaver orientale*, strangely enough after having passed a large group of them without seeing anything; that he then led other persons past who did not know of it, and they were equally struck by the sight; and that he then began to study the light in plants. May he be able to enrich science with the knowledge of its true causes.—(*American Gardener's Monthly*.)

### NEW TOBACCO FUMIGATOR.

It must be truly gratifying to the lovers of the science of gardening to witness the long list of practical gardeners who have taken up the pen to contribute to your excellent Journal, and who had never written before in any publication. The great utility of your work and the improvement it is effecting among those for whom it is intended is obvious to us all. It calls forth latent abilities, and promotes a generous emulation amongst gardeners. A spirit of improvement, passion for experiments, and a liberal curiosity prompt them to quit the old beaten paths to explore untried ways, and to seek to acquire wisdom by experience.

I have been a subscriber to your Journal for a length of time,

and in return for the many useful hints which I have received from it I am desirous of contributing one.



STEPHENS' TOBACCO FUMIGATOR.

- A. The fumigator, 7 inches by 6 inches.  
 B. A pan for cold water, 9 inches by 9 inches.  
 C. Pipe, 2 inches diameter, that conducts the smoke through the cold water.  
 D. A joint to separate the one from the other.  
 E. The lid of the fumigator.

In your Journal (March 18th, 1862, page 504), there is something said about injury from tobacco fumigation. Mr. James Stephens, the gardener at the Oaks, has kindly permitted me to send you the sketch of his fumigator, which he invented several years ago. It has been found infinitely superior to all fumigators in common use, and its advantages are much prized, as all injury from hot smoke is prevented, because it has to pass through a vessel of cold water. Mr. Stephens gives to the public his fumigator unfettered by patent.—JAMES BARR, Foreman, The Oaks Gardens, Barlowmoor, Didsbury.

### BEDDING-OUT AT CLIVEDEN.

(WITH A COLOURED PLATE.)

THE piece of flower garden shown in the coloured engraving contains 3 acres 2 roods 10 poles. The beds have each a low, dwarf hedge round, 1 foot broad and 9 inches high, of common Spruce and evergreen Privet. The centre beds are Ghent Azalea and Rhododendron, of the better sorts, alternately, having space between for Gladiol, Foxgloves, and Hollyhocks in summer. The grass in the beds is raised, which gives more effect to the flowers. The circles are cut in the grass: the outside being all Roses, dwarf and half standard; the inside for flowers in spring, *Honesty* in the centres, then circles of Stocks, Wallflowers, blue *Myosotis*, and *Cerastium*.

With this general outline we will take the beds from the top as they come, and give the plants they were filled with this spring.

1st. Top inside beds. Mixed Anemone and Jonquil; the centre chsin, *Silene pendula* and yellow Tulips.

2nd. Top beds outside. Blue *Myosotis*; chsin, white *Myosotis* and Arabis.

3rd. Outside beds. White *Silene*; chsin, pink *Silene* and Tournesol Tulip.

4th. Inside bed. All blue *Myosotis* and white *Is Candeur* Tulip.

5th. Inside bed. All pink *Silene* and *Rex Rubrorum* Tulip.

6th. Outside bed. *Limnanthes Douglasii*; chsin, blue and white *Myosotis* and mixed Tulip.

7th. Outside. Mixed Anemone; chsin, pink *Silene*.

8th. Inside. Blue *Myosotis* and yellow Rose Tulips; chsin, white *Myosotis*.

It will be seen from the above, the variety of plants is very limited, but great effect can only be got by having such as will come in simultaneously, and being common are easily got in plenty, except the Tulips, which I should not recommend.

The beds are planted in the autumn as the summer bedding is taken out and labour will permit, and all through the winter months, taking care to plant those first that experience has proved requires it. Each bed takes 2000 plants and 800 Tulips. If the spring is favourable we have two months' good bloom, and are little behind the usual time for summer bedding.

I add our summer practice for the benefit of any party interested.

In May we sow the Anemone in pans, and prick them out

when ready; also outside, Stocks, Wallflowers, Honeysuckle, Foxgloves, and Sweet Williams. In the last week of June or first of July we sow *Myosotis* (white and blue), put in cuttings of Pansies ("Cliveden blue," yellow, and dark), for ribbonwork, on a north border, under hand-lights, or any temporary old lights; also, yellow *Alysaum*, white *Candytuft*, *Cheiranthus Marshalli*, &c. This goes on as other labour will permit. In the last week of August we make a first sowing of *Silene* (white and pink), *Limnanthes Douglasii*, *Pansy*, and *Saponaria*. In lifting such plants when done blooming as *Daisies*, double *Cardamine*, *Saxifraga granulata*, and other things similar in the small beds, we lay them in on a north border, dividing and planting out as we can, and according to the quantity required for another season.—J. FLEMING, *Cliveden*.

#### HOW GARDEN-POTS ARE TO BE MEASURED.

WHICH is the proper way of measuring a garden-pot? Should the measure be taken across the top, or should an allowance be made of say half an inch or an inch down the pot, and then the measure be taken inside? My *Geraniums* have been disqualified in consequence of one of the six pots in which they were exhibited measuring  $8\frac{1}{2}$  inches across the top, whereas the limit was 8 inches. Do you consider the judgment just?—P. S. H.

[The measurement of the diameter of a pot is usually taken just within the top. If, as you state, only one out of six of the pots was in excess of the measurement, when so taken, and that excess was only half an inch, then, we are of opinion that you were treated with undue severity. It is a good maxim that the extreme application of a rule renders it unjust.—EDS. J. or H.]

#### ORNAMENTAL PLANTS.

##### PENTARHAPHIA CUBENSIS (*Cuban Pentarhaphia*.)

*Nat. Ord.*, Gesneraceæ. *Linn.*, *Didymia Angiospermia*. A neat and pretty, dwarf, shrubby plant, of compact habit, with obovate, dark-coloured evergreen leaves, crenated near the point. The flowers grow in the axils of the leaves, and are attached by



slender stalks an inch long; corolla about an inch long, tubular, curved, and of a rich scarlet; calyx of five, straight, narrow lobes, "not unlike five brown needles." It requires a cool stove, and remains a considerable time in bloom. From Cuba; introduced in 1848 by Messrs. Henderson, Pine Apple Place, Edgeware Road. Flowers in summer.

##### OPHELIA CORYMBOSA (*Corymbose Ophelia*.)

*Nat. Ord.*, Gentianaceæ. *Linn.*, *Pentandria Digynia*. *Syn.*, *Swertia corymbosa*. A greenhouse or half-hardy annual, growing a foot high, with four-angled stems, corymbosely branched in



the upper part. The leaves are opposite, obovate-spathulate. The flowers in terminal corymbs, pale purple, with a white eye; the corolla rotate, deeply cut into four spreading, obovate-veined segments. From the Neilgherry Mountains. Introduced in 1848, by Dr. Schmidt. Flowers in summer.

##### ANTHURIUM SCHERZERIANUM.

THIS plant was mentioned in your report of the Royal Horticultural Society's Exhibition a short time back by Mr. Beaton, since which no one seems to have taken any notice of it. It was exhibited by Mr. Wendland, gardener to the King of Hanover, and was brought by him from Costa Rica, where he says it was one of the loveliest things he saw. And as I, like all the world, have been up to London this summer to see the sights and scamper through the gardens round it, I stumbled upon it among many and many a grand thing when going round the Botanic Gardens at Kew, where I had a better opportunity of looking at and examining it than I had at Kensington; a brief description, therefore, may not be uninteresting.

It belongs to the natural order of Arads, a class of plants which have given us some of our finest ornamental foliage, but the flowers of which, as a rule, are the most insignificant; but this plant will, I think, become a favourite with every one, and be welcomed by every one that has a stove, be its dimensions ever so small; for, being naturally a diminutive grower, it is not likely to get too large for any. The leaves rise upon a slender petiole, are lanceolate in shape, of a sombre green colour and leathery texture, with a light-coloured midrib, above which stand the flowers, composed of spathe and spadix of a most brilliant scarlet colour. The spathe is about  $1\frac{1}{2}$  inch long, of an oval form; the spadix stands straight up above it, and is about 2 inches long, and of the same beautiful colour.

Mr. Wendland says it is a very free bloomer, and continues in flower some four or five months. I shall be among the first to add it to my collection so soon as it is to be purchased.—JUVENIS.

## THE INTERNATIONAL EXHIBITION.

(Continued from page 320.)

## NEW SOUTH WALES.

THE boundaries of this colony having within the last ten years been greatly changed by the separation of Victoria and Queensland, it will be useful to state what its limits now are. On the west New South Wales is divided from South Australia by 141° E. long.; on the east it is bounded by the sea, the coast line extending upwards of 700 miles from 28° 8' S., to 38° 31'; and on the north by a chain of hills, and by rivers till 29° S. is reached, which parallel then becomes the boundary line till it meets that of South Australia. From Victoria on the south it is divided principally by the Murray river.

Within the above limits is included an area of 207,000,000 acres, or three times that of Great Britain, and of this extent only 260,798 acres are under cultivation. The climate over such a wide tract of country must of course present great diversities; and from observations it appears that the mean annual temperature varies in different parts of the colony from 40° to 75°—the maximum summer heat being in some inland districts 120°, while on the high table lands severe frost occurs for several weeks in succession. Round Sydney the mean annual temperature is from 63° to 65°, or somewhat higher than that of Naples, and the winter months are 4° to 5° warmer than in that beautiful climate; but sudden changes in temperature to the extent of 20° or 30° are of common occurrence.

The fall of rain also varies greatly. In 1860 the least amount was 18 inches in the interior, and the greatest, 82 inches at Sydney—the mean, for the whole colony, being 43 inches.

We learn from the catalogue published by the colony on account of the International Exhibition, and which may be regarded as entirely reliable, that in 1861, of the land under cultivation, not quite one-half was under Wheat, about one-fifth under Maize, another fifth was sown with Barley, Oats, and artificial Grasses, and the remainder was occupied by Potatoes, orchards, and vineyards.

The average production of Wheat is only fifteen bushels per acre; but that this low rate of production is due to imperfect agriculture rather than to the soil and climate is tolerably evident from the samples exhibited. Thus, Messrs. J. & W. Macarthur, Camden Park, show some weighing 64 lbs., 66 lbs., and 68 lbs. per bushel, and there are several other samples of excellent quality, but the weight of which is not stated.

The average produce of Maize, for which the climate is peculiarly well adapted, is stated to be about thirty bushels, and on rich land seventy bushels have frequently been grown. All the cobs exhibited are particularly fine. In the collection of six varieties, from Messrs. J. & W. Macarthur, the large yellow sort weighed 65 lbs. to the bushel, the smaller yellow 66 lbs., and the large white is stated to have yielded, over an extent of 23 acres, at the rate of eighty-eight bushels of 57 lbs. each per acre. Another kind, from Mr. Oaks, is said to yield as much as a hundred bushels to the acre; and the yellow sort, from Mr. Peck, Hunter River, produced seventy bushels per acre, and arrived at perfection within a hundred days from planting.

Remarkable, however, as these cereal productions are, of far more importance both to this country and to New South Wales is the question of cotton-supply—a subject of such absorbing interest in our manufacturing districts at present. But the International Exhibition has demonstrated that cotton of the finest quality can be grown in several of our colonies, equal to any the Southern States could produce; and that if our manufacturers will give the necessary impetus to its cultivation in quantity, and the colonists will promptly bestir themselves, we need no longer be dependant on North America for our supply.

The New South Wales cotton in particular is, in some instances, not surpassed by the finest Sea Island. The beautiful sample from Mr. Nowlan, of Hunter Hills, near Maitland, is valued at *four shillings* a pound, and there are exhibitions of great excellence from Mr. Hickey, Osterley, Hunter River; Mr. Ireland, Williams River, and some others. Rich as the gold-fields of Victoria have proved, if the extensive cultivation of cotton be carried out in New South Wales, a still richer and more constant source of wealth will be opened up which will bring her into closer communication with European nations, and give a more rapid development to her otherwise great natural resources, not the least of which are coal and iron.

Of vegetable fibres several kinds are shown, the principal

being Nettle-tree bark, Brown Kurrajong bark, Tea-tree bark, and Wattle bark.

The Large-leaved Nettle tree attains a height of 60 feet, with a diameter of as much as 5 feet or 6 feet at the base, and the wood is soft and worthless, even for firewood. The bark varies from a quarter of an inch to an inch in thickness, and consists of a large proportion of fibre, which, when freed from the abundant watery juice filling up the intervals, is used by the natives for making nets and limes. It might be obtained at from 3d. to 4d. per lb., and would apparently answer for making ropes, and coarse paper for wrapping, &c.

The brown Kurrajong has a hard bark filled with a quantity of mucilaginous matter which can only be removed by severe crushing; and the fibre, though strong when moist, becomes more brittle when dry, so that it is doubtful whether it will prove of sufficient commercial value to become an article of import.

The Tea-tree bark is apparently the same as that shown in the Western Australian department, as belonging to some species of *Melaleuca*, and as being likely to be useful for paper-making. Several kinds of gum, including that of the Grass tree, are also exhibited.

The subject of wines has also attracted the attention of the colonists of New South Wales, and there are now 1583 acres under Vines, the produce of which was last year 99,791 gallons of wine, and 709 of brandy. Bottles of red and white wine, and what are called Burgundy, Claret, Shiraz, Verdelho, Riesling, Tokay, &c., are exhibited by Messrs. Macarthur, Sargar, Aspinall, Capt. Smith, Sir D. Cooper, and others, and it will be interesting to know, when the reports of the juries are completed, what standing these and other colonial wines take as compared with those of European manufacture.

Of other vegetable products two excellent samples of tobacco are sent by Mr. Church and Mr. Cormack, of West Maitland; Carob Beans by Messrs. Macarthur; and some fine Walnuts by Mrs. J. Macarthur. Lastly, we have the following note accompanying a Sugar Cane from Mr. Scott, Brisbane Water. "This is the sixteenth ratoon crop—*i.e.*, the sixteenth crop from the one planting of twelve months' growth, and it has not yet attained to that perfection which a longer growth would give it. I have frequently made sugar from the same plot, equal in quality to the finest samples of West India, and of a greater return per acre than we obtain there; the molasses from which were totally unlike any I had ever before seen, being like clarified syrup. To me, as a West India planter, these results were astounding; but they are readily explained and clearly accounted for by the following—*viz.*, in the tropics our canes attain to perfection in twelve months; they then cast an arrow, cease to grow, and afterwards they deteriorate in quality and yield; here they do not cast that arrow, but continue to grow for more than two years, during which time the saccharine matter most materially improves in richness to the extent of from 8 to 10 or more per cent. above the tropical juice. Two other great advantages in the culture of cane in this colony are—that here the lands will give from six to eight or more crops from one planting; in the West Indies barely two, and in New Orleans (subject to heavy frosts) only two. Here, crops could be taken off all the year round; in the tropics during four months only; and at New Orleans sometimes only five weeks, as the frosts at that time visit and often destroy the cane."

It thus appears that in the northern and warmer parts of the country the cultivation of sugar can be prosecuted with great success; and if, as we presume, the samples of refined sugar from the Australian Sugar Company are the growth of the colony, the quality leaves nothing to be desired; but whether they are so or not is not stated.

Among animal products we remarked some excellent silk accompanied by the worms, moths, and eggs, from Mr. J. Kellick, Mr. Whiting, Woolloomooloo, and Mr. Lee, of Paramatta; but the great staple of New South Wales is wool, and of this her contributions are remarkable for their fine quality, and the number of awards with which they have been distinguished.

The credit of having established this branch of production is due to Capt. John Macarthur, of Camden, who in 1797, obtained from the Cape of Good Hope, three rams and five ewes of pure Spanish merino blood with which he crossed all his coarse-woolled sheep; and the result has been, that while in 1807 the total export of wool was 245 lbs., in 1861 the quantity exported from all the Australian colonies and New Zealand was 68,313,903 lbs.

In 1796 the whole live stock of the colony, exclusive of pigs and goats, consisted of 57 horses, 227 cattle, and 1531 sheep; and in 1860, from this stock had sprung the numbers beneath.—

Colony.	Sheep.	Cattle.	Horses.
New South Wales .....	6,119,163	2,108,586	251,497
Victoria .....	3,794,127	683,534	69,288
Queensland .....	3,449,350	432,890	23,564
South Australia .....	2,824,811	278,265	49,899
Tasmania .....	1,790,950	83,366	21,034
Total.....	19,888,381	3,886,641	414,722

The introduction of the alpaca into this colony by Mr. Ledger is another step that cannot fail to be attended with great results. It is found that these animals, the long clean fleece of which is so valuable to the manufacturer, accommodate themselves perfectly to the climate and natural herbage of the country, and, according to Mr. Ledger, come to maturity earlier than in South America, are larger, and have a finer and heavier fleece. By crossing with the llama he hopes to obtain a larger, heavier, and more hardy animal, with a finer and more glossy fleece than in the case of the pure alpaca, and in confirmation of these views a case of seven stuffed animals, together with samples of the fleece, are exhibited to show the advance which has been already made in this direction.

The flock of alpacas now numbers 358, and it is computed that in fifty years they will have increased to more than 9,000,000.

Besides the above features which render the New South Wales department peculiarly interesting, there is a magnificent collection of the various woods found in the northern and southern districts, though brought together in spite of great difficulties, and shipped before many of the specimens had time to get seasoned.

The following are some of the woods that appear the most useful:—

Of species of *Eucalyptus*:—

The White or pale Iron Bark of Illawarra.—This is regarded as the most valuable of the Iron Barks from the hardness and toughness of the wood. The tree grows 80 feet to 120 feet high, and 3 feet to 4 feet in diameter.

Iron Bark from Illawarra.—Very hard and tough, and reported to be strong and very durable. Tree from 80 feet to 130 feet high, and 3 feet to 5 feet in diameter.

Broad-leaved Rough Iron Bark, said to be one of the strongest and most durable of timbers; takes a good polish. Tree 80 feet to 120 feet high, and 2 feet to 4 feet in diameter.

Red Iron Bark from Camden.—Of a reddish colour, softer, and apparently not so liable to crack as the others. Said to be highly valued for timber. Tree 50 feet to 90 feet high, and 2 feet to 4 feet in diameter.

Box of Illawarra.—Very hard, tough, and durable, somewhat cracked at the heart; very strong, and said to be exceedingly durable. Tree 120 feet to 180 feet high, and 4 feet to 6 feet in diameter.

Flooded Gum.—Wood reddish, very solid, and without cracks; said to be excellent for ship-building.

Blue Gum of coast.—A red and rather close wood, but somewhat cracked; said to be excellent for ship-building. Tree 100 feet to 160 feet high, and 3 feet to 6 feet in diameter.

Blue Gum of Camden or Yarrab.—A beautiful close-grained hard wood, the only drawback to which are some perforations by grubs; extremely durable, and useful for maves and feloes of wheels, and for work underground. Tree 70 feet to 100 feet high, and 3 feet to 4 feet in diameter.

Blue Gum of Appin.—Likewise a timber of good quality. Tree 80 feet to 100 feet high, and 3 feet to 4 feet in diameter.

Grey Gum.—This appears to be a good timber. Tree 60 feet to 100 feet high, and 2 feet to 4 feet in diameter.

Woolly Butt of Illawarra.—A fine wood, said to be much prized by wheelwrights on account of its strength and toughness. Tree 100 feet to 150 feet high, and 3 feet to 6 feet in diameter.

Black Butt Gum.—An excellent, very strong timber; said to be very durable. Tree 100 feet to 130 feet high, and 3 feet to 6 feet in diameter; but one has been measured which was 41 feet in circumference, and presented no symptoms of decay.

Swamp Mahogany.—Of this there is a beautiful slab, the outer portion of which seems best. It appears soft, and is stated to be neither strong nor very durable, but is found extremely useful for inside work. Tree 60 feet to 100 feet high, and 3 feet to 5 feet in diameter.

Mahogany.—Quite as pretty when polished as its namesake, and said to be very strong and durable. Tree 60 feet to 130 feet high, and 3 feet to 5 feet in diameter.

Stringy Bark of coast.—Hard and solid, considered excellent for horsework. Tree 80 feet to 120 feet high, 3 feet to 5 feet in diameter.

Stringy Bark of Camden.—Not so hard as the preceding, but looks well and takes a good polish. It would do well for inside work in buildings. Tree 50 feet to 100 feet high, and 2 feet to 4½ feet in diameter.

*Banksia serrata*.—Handsome for cabinetwork. Tree 20 feet to 40 feet high, and 1 foot to 3 feet in diameter.

*Acacia*.—Of this there are several species with very handsome close-grained wood which takes a high polish, and which might be turned to account.

*Cryptocarya* sp.? Flindosa.—A soft light-coloured wood, used for decking small vessels.

*Cargilea* sp., Grey Plum.—Wood yellow, strong and tough, and apparently not apt to crack. Tree 30 feet to 40 feet high, and 1 foot to 2 feet in diameter.

*Pittosporum undulatum*.—Wood white, hard, and very close-grained; excellent for turning. Likely to be a useful substitute for Box in many kinds of engraving. To show its adaptation to this purpose, blocks prepared by Professor De la Motte, of King's College, are exhibited, and have received a medal. Sound sections of more than 10 inches to 16 inches, it is stated, would be rare. Tree 50 feet to 80 feet high, and 1½ feet to 2½ feet in diameter.

Of the northern woods, one of the most valuable is that of *Araucaria Cunninghamii*, or Moreton Bay Pine, which grows from 100 feet to 150 feet high, with a clear stem of 80 feet or more in length, and 4 feet or 5 feet in diameter, some trees yielding as much as 10,000 cubic feet of useful timber. It is stated of this that spars for ships may be obtained in any quantity and from 80 feet to 100 feet in length.

*Catanospermum australe*, or Moreton Bay Chestnut.—This is a pretty dark wood, the heart being somewhat like Walnut. Tree sometimes 130 feet high and 5 feet or 6 feet in diameter.

Black Myrtle.—Wood rather soft, but takes a good polish; very tough. Tree 100 feet high, and 2 feet or 3 feet in diameter.

Rosewood.—The heartwood red, rather soft, said to be useful for cabinetwork and ship-building. Tree 70 feet to 100 feet high, and 4 feet to 5 feet in diameter.

Bastard Myall.—A pretty dark wood, suitable for cabinet-work.

The above are only a few of the kinds that struck us as likely to be most useful out of the great collection of woods brought together through the exertions of Sir W. Macarthur and Mr. Moore, of the Sydney Botanic Gardens; and it is to be regretted that the whole of the woods collected could not, owing to want of space, be shown, whilst others had to be crammed into an inaccessible corner.

In closing our account of the exceedingly useful and interesting exhibition which New South Wales has furnished, we must acknowledge our obligations to the Catalogue published by the Commissioners for the colony—a work which is replete with reliable information on the resources and products of the country—as well as to the courtesy of their Secretary, Sedgwick S. Cowper, Esq., who kindly undertook to point out the most remarkable features in this department.

(To be continued.)

### THE CAUSES OF THE DECAY OF TIMBER.

In addition to the causes of decay arising from the effects of the vital disorganisation of the trees by the wounds superinduced by the disruption of branches, blows, sun-strokes, frost, lightning, or from the attacks of the countless insect plagues to which trees are exposed during their period of growth, timber is exposed, after having been felled, to another class of destructive actions arising from the decomposition of its elements, under the ordinary laws of organic chemistry, and occasionally to the attacks of other insects than those above mentioned, when used in certain positions. The marine boring worms are the most dangerous of these insects, and they will be more especially noticed in the following remarks.

The first description of decay, arising from organic decomposition in wood, is produced by the changes which take place in the sap retained in the wood at the period of felling; for the albuminous portions of that sap commence a putrefactive process directly they meet with the conditions of warmth and heat necessary for its development. All timber must, then, whether

it be the sapwood or the heartwood, be placed in situations which would allow the sap to exude, or to evaporate, and this process is the one technically known by the term "seasoning." Evidently, the period of the year when the tree is felled must have an important influence on the mode of seasoning; for, in the winter the circulation is torpid, and there is then far less sap in the pores than there is when the vital functions of the tree are in full play. Nevertheless, timber felled in winter requires a certain amount of seasoning; and equally with wood more highly charged with sap, it will decay if that fluid should not be allowed to escape. The sad tale of the decay of the gun-boats may be referred to as an illustration of the danger of shutting up unseasoned timber; and unquestionably the dockyard authorities who neglected to provide means of establishing a current of air through the framework of the vessels, awkwardly built of unseasoned timber, should be held partially responsible for their decay. Wood, such as Lord C. Paget stated these vessels to have been built of, must of necessity have decayed by what is called wet rot, under the circumstances these boats were placed in. It may be as well to state that the term "wet rot" is applied to the decomposition which takes place in timber containing sap and exposed to moisture. If the sapwood or the alburnum be cut off from a tree, and the heartwood be exposed to an energetic dry current of air, there will be no danger of its perishing by this particular process; and it therefore follows, that if the sap or the sapwood cannot be effectually removed, it is necessary to prevent the destructive decomposition of the sap by treating it with some fluids which should be able to form at once with it indestructible compounds.

It frequently happens, however, that during the growth of trees the druxy knots before alluded to have established the germs of a putrefactive process in the wood, which cannot be stopped by any method of seasoning; and I myself suspect they can only be arrested by the injection of creosote. There are occasionally, no doubt, difficulties attached to this mode of preserving timber, on account of the impermeability of the wood, and there are practical objections to its application for building purposes. But whenever knots of the description referred to may be suspected to exist in timber, especial precautions should be taken to prevent its being used in situations where it is likely to be covered, or where its decay might compromise the stability of the structure into which it enters; and as the mere lapse of time required for seasoning would allow the decomposition of very bad druxy knots to display itself, there seems to be the more reason for attaching importance to the use of seasoned timber in the framework of ships.

But seasoned or unseasoned timber alike is exposed to the cause of decay specifically known by the name of the dry rot, which is considered to arise from the development of several species of fungoid growth in the wood; or, according to Dr. Birkbeck, of the *Boletus*, *Agaricus*, *Lycoperdon*, *Mucor*, &c. It would seem as though some of the organic tissues of the wood—not the sap, observe—decomposed under certain conditions of the surrounding atmosphere (as in close, damp, confined air), and that they thus furnished, as it were, a soil for the growth of the fungi, which, in their turn, disintegrated the remaining portions of the tissues by their mere mechanical expansion in growing. The wood becomes, in fact, reduced to a mere powder, and may then be rubbed away by the finger, sometimes with a rapidity which is quite alarming. There is also this particular danger about the dry rot—viz., that the germs of the fungi producing it are carried easily, and in all directions, in a building wherein it once displays itself, without necessity for actual contact between the affected and the sound wood; whereas the communication of the disease resulting from the putrefactive fermentation, or the wet rot, only takes place by actual contact. It may possibly be the case that woods grown in certain soils are more exposed to dry rot than others are, and that the germs of the fungoids are taken up by the spongioles of the roots; for timber grown in situations where large fungi abound are said to be more exposed to this disease (the dry rot), than those which are grown on dry, well-drained soils. At any rate, wood kept for any length of time in situations where it is exposed to become covered with fungi is very likely "to take on" the dry rot at an early period; and I feel it, therefore, to be my duty to state publicly that much of the timber arriving from the north of Europe leaves the ship in a state which seems to me to contain the germs of decay; and that the method of stacking the timber and deals in some of our docks is often very dangerous. From whatsoever source the fungoid growth producing dry rot may

proceed, if once it should be recognised to exist in a building, the affected parts, and all the woodwork around them, should at once be removed; if the various processes for preserving timber should not then be applicable, great precautions should be observed to cut off the access of moisture, and to insure a free circulation of air around the newly-fixed wood.

The insects which prey upon growing timber very rarely attack the qualities of wood used for constructive purposes, because in almost all cases the soft alburnum of the trees used for such purposes is cut away, and the bark and bast are entirely removed, so that the few larvæ which may have been left in the rest of the tree perish for want of nourishment, as a general rule. There are, however, as was before observed, some insects which prey on what may be called dead timber, such as the *Lymexylon navalis*, the *Sirex gigas*, the *Callodium bajulum*, and the various tribes of ants. At times their ravages are very serious, especially in the case of Oak timber stacked in large quantities, which in the north of Europe is exposed to the attacks of the *Lymexylon*, and of all descriptions of wood in warmer climates which are exposed to the attacks of the destructive termites, or the white ants. In sea water there are two species of insects which commit great ravages—viz., the *Teredo navalis* and the *Limnoria terebrans*; and they devour instinctively the alburnum or the heartwood with such rapidity that in a very few years large sticks of timber—whole piers, in fact, are destroyed by them. It is said that the *Teredo* was imported into the seas of northern Europe by the Dutch, from their colonial possessions, about the middle of the 17th century; but I suspect that there is little reason for this opinion, and that the *Teredo* has been a constant inhabitant of our coasts at least from the time of the deposit of the London clay. About 1660, however, the safety of Holland was seriously compromised by these animals, and since that period the attention of engineers and naturalists has been earnestly and anxiously directed to the study of the best method of combating this apparently insignificant enemy. The habits of the *Teredo* have thus been carefully studied; but those of the *Limnoria* are not so well known.

Of these causes of decay it is singular that the most general and the most fatal—viz., the wet rot, has attracted less attention than the more startling but less common evils—the dry rot, or the destruction by insects. The methods of prevention and cure for either of the rots are, however, fortunately nearly the same, and they may be described by saying that if some of the more recently discovered processes for the preservation of timber cannot, for economical reasons, be resorted to, no unsound timber, nor timber containing sap or sapwood, should be employed in positions where it would be covered in such a manner as to prevent its examination and repair. Great precaution should be taken to insure a perfect circulation of air and a freedom from moisture to all unprepared timber, let it be ever so sound, free from sap, druxy knots, star, cup, or ground shakes. If for constructive purposes it be necessary, however, to use timber in the above dangerous positions, some one or other of the processes for resisting the chemical changes in the tissues of the wood must be resorted to.

These processes are all founded on the principle that it is essential to inject some material which should at once precipitate the coagulable portion of the albumen retained in the tissues of the wood in a permanent insoluble form, which should not hereafter be susceptible of putrefactive decomposition. For this purpose many substances, many solutions, have been employed with variable success, of which the most important and the best known are—1. Kyan's patent, or the injection of a solution of the chloride of mercury. 2. Margary's process, or the injection of a solution of the sulphate of copper. 3. Sir William Burnett's process, or the injection of the chloride of zinc. 4. Payne's process, or the production of a double decomposition in the pores of the wood, by firstly injecting a metallic solution, such as the sulphate of iron, and then injecting a second solution, such as the carbonate of soda, which would form an oxide of iron in the cellular tissues. 5. Bethell's process of creosoting, or the injecting of the heavy oil of tar; and Boucherie's process, which is perhaps rather a modification of the manner of injecting the sulphate of copper than the application of a new solution, although he occasionally uses the chloride of calcium and the pyrolignite of iron. The experience furnished by the railway system, and the various hydraulic works of our own and foreign countries, appears to me to have shown that the efficacy of those various processes may be described as follows:—The creosoting one is the most generally successful; the application of the

sulphate of copper is successful in many cases; the other processes, although no doubt of occasional value, have practically been abandoned. It will, therefore, only be necessary to revert to the creosoting process, and the use of the sulphate of copper.

Now, the application of any of the aqueous solutions of mineral salts, as a preservative process, seems to me to be of limited benefit in cases where the wood is exposed to the action of frequently-renewed water; for it has been proved, practically, that the combination between the salt and the albumen is not sufficiently permanent to resist the long-continued solvent action of such water. For piers, bridge foundations, or dock work, or even for railway sleepers, I myself should hesitate to use any of the mineral salts; but for house-building purposes, I think that there cannot be any reasonable doubt of the beneficial effects of the application of the sulphate of copper for the prevention of rot in its various forms, and I should decidedly recommend its use for the timber of ships not immediately exposed to the action of the water, whether the timber be or be not seasoned. It is also to be observed that the solution of the sulphate of copper does not communicate any disagreeable smell to the wood, an objection which applies forcibly to creosote; and the former process may, under such circumstances, be adopted for domestic purposes. The proportion of the sulphate of copper in the solution should be 1 lb. of the salt to 4 gallons of water.

In addition to the objection to the sulphate of copper and the other metallic salts, on the score of their solubility in running water, there is this peculiar objection to them in the case of timber used in sea water—viz., that the action of the albumen in the wood renders them perfectly innocuous to animal life, however poisonous they might originally be. Woods thus treated are not, then, in any way protected against the timber-destroying insects, whereas it is certain that the injection of creosote is a most effectual protection against some of those creatures; for you may observe that, in the section of a pile exhibited, the Terebo has gone out of his path to avoid the portions of the wood impregnated with that substance. In India it seems also that the white ants have a dislike to creosote, and they avoid wood which has been prepared by its injection; so that inasmuch as the experience of nearly twenty years has shown that the ordinary causes of decay are arrested by this process, and that it affords an effectual protection against many timber-destroying insects, it seems to me that wherever the peculiar odour of the creosote does not constitute an objection to its use, it should be applied. I beg, however, distinctly to call attention to the fact that I do not assert that creosote will protect wood against all descriptions of boring worms, for samples of wood said to have been creosoted have been occasionally shown which exhibit traces of the ravages of the *Limnoria* terebrans. I think that much reason for doubt exists on this matter, because in far too many cases the creosote used has been of inferior quality, and in many others the pyrolignite of iron has been substituted for it. I have not been able yet to analyse the samples of the prepared and attacked woods I have seen; but I am very strongly inclined to question whether any authenticated cases of the failure of creosote really exist. The asserted fact of the attacks of the *Limnoria* is, however, a very remarkable phenomenon under any circumstances, and it merits very serious inquiry by our scientific and technical bodies. If the pieces of wood in question were really creosoted, it would seem to prove that the material which is distasteful to one animal may be attractive to others, and, therefore, that the green heart-timber, which is said on very doubtful authority to be protected from the Terebo by the essential oil it contains, may be exposed to destruction from the *Limnoria*, or from the land insects I have myself noticed in it. If the piece of wood just referred to were prepared by the injection of pyrolignite of iron, it would equally seem that that ingredient is no more able to protect wood against insects than it is admitted to be able to protect wood against rot or decay. There are several very obscure points connected with the habits of the marine-boring worms which I am at present studying, and I hope, on some future occasion, to be able to dwell more at length on the subject. My present impressions are, that these dreadful pests have peculiar habits—that is to say, that they respectively select the localities for their residence on account of some peculiarities in the chemical composition of the materials of the seashore, and that they have peculiar and distinct tastes, so that the immunity from the attacks of one of these classes of insects does not necessarily imply immunity from the attacks of others. But as the Terebo is the most destructive

of the marine, and the white ant the most destructive of the land-devouring insects, it seems to me that the process of creosoting (which is now generally admitted to be an effectual protection against both of these enemies) should be adopted in all cases where wood is likely to be exposed to their attacks. That creosote is able to protect wood against ordinary decay is proved by the state of the sleepers of some of our railways, laid down as far back as 1811; but, of course, this process, like all practical chemical ones, requires to be applied skilfully and conscientiously.

Much prejudice against the use of creosote seems, for instance, to have been created by the decay of timber treated by the pyrolignite of iron, and still more by the shameful manner in which the creosote itself has been used; for in the section of the pile on the table no more of that oil is to be found in the wood than the latter would be able to take up by a very temporary immersion. In the best creosoting works, such as those of Mr. Bethell, or the still more extensive ones of Messrs. Burt & Co., the oil is injected at a temperature of 120°, and under a pressure of 150 lbs. on the square inch, so that ordinary Fir timber absorbs on the average from 8 lbs. to 10 lbs. weight of the creosote to the cubic foot. For all building or hydraulic engineering purposes, Fir timber thus treated is far more durable than the best Oak, Teak, or other hard woods; and as the cost of the operation is very small, it certainly should be resorted to on all occasions where the smell of the creosote is not likely to be objectionable. When this is the case, I certainly think that some modification of Margary's process should be adopted, and that house or ship timbers exposed to damp, warm, and confined air should be treated with the sulphate of copper.—G. R. BURNELL, ESQ., in *Journal of Society of Arts*.

#### NOTES ON ENGLAND BY A FRENCHMAN A CENTURY AGO.

PRICES IN 1772.—To enable the reader to form a judgment of the dearness at London, I shall here give a list of their prices during the time of my residence in that city:—bread was 2½d. or 3d. a-pound; coarse meat 4½d.; roasting beef 8d.—9d.; bacon 10d.; butter 11d.; candles 7½d.; the price of a milch cow was 12 or 14 guineas: an acre of land, in the neighbourhood of London, was let for four or five pounds; and a cartful of dung, taken at London, was valued at twelve shillings.

BREAD.—The English bread is very good, and very fine, though it has a great deal of crumb. It was the English that first thought of using yeast or the flower of beer for leaven to make bread—a custom, which, with great difficulty, began to obtain at Paris about the middle of the last century. The first edition of the History of the Police of Paris presents us with extraordinary papers relative to the contests which it occasioned. The Parliament of Paris, taking cognizance of this affair consulted the most eminent citizens, together with the gentlemen of the faculty, and were almost for consulting the Sorbonne; their contradictory opinions increasing the difficulty, instead of diminishing it, the little loaves continued in possession of the yeast or flower of beer. The case will, no doubt, be the same with regard to inoculation, for which likewise all Europe is indebted to England. Those who are interested on either side of the question, cannot read the pieces relative to this affair, collected by the commissioner la Marre, without the highest satisfaction, especially the opinion of the famous bookseller Vitré: that piece could not discover more humour if Moliere himself had drawn it up.

The butter and tea, which the Londoners live upon from morning till three or four o'clock in the afternoon, occasion the chief consumption of bread, which is cut in slices, and so thin, that it does as much honour to the address of the person that cuts it as to the sharpness of the knife. Two or three of these slices furnish out a breakfast. They are no less sparing in their other meals: what would be scarce enough for a Frenchman of an ordinary appetite, would suffice three hungry Englishmen. They seem to eat bread merely through fear of being thought to eat none at their meals: as this is the national taste, their physicians look upon bread as the heaviest of all aliments, and the hardest of digestion.

VEGETABLES.—The price of garden-stuff is in London proportionably dear with other commodities,\* and they are not much better than the rest. All that grow in the country about

\* A Leek was sold for one penny.

London, Cabbage, Radishes, and Spinach, being impregnated with the smoke of sea-coal, which fills the atmosphere of that town, have a very disagreeable taste, which they communicate to the meat wherewith they have been boiled. I ate nothing good of this sort in London, but some Asparagus, which doubtless grew at a good distance from that capital. It is to be further remarked, that the constant mildness of the climate of England supercedes most of those precautions which the French gardeners are obliged to observe. They sow almost everything in unprepared ground, more or less covered with rich mould. I saw no hotbeds, except at the country-seats of gentlemen, whose gardens are kept in the most elegant manner.

**CLEANLINESS.**—The humid and dark air which enwraps London, requires the greatest cleanliness imaginable; and in this respect, the inhabitants of that city seem to vie with the Hollanders. The plate, hearth-stones, moveables, apartments, doors, stairs, the very street-doors, their locks, and the large brass knockers, are every day washed, scoured, or rubbed. Even in lodgings-houses, the middle of the stairs is often covered with carpeting, to prevent them from being soiled. All the apartments in the house have mats or carpets; and the use of them has been adopted some years since by the French.

But what is an article of necessity in England, is mere extravagance in France. The houses in London are all wainscoted with deal; the stairs and the floors are composed of the same materials, and cannot bear the continual rubbing of feet without being cracked and worn. This renders carpets or coverings necessary. Add to this, that these floors, which are of excellent deal, and are washed and rubbed almost daily, have a whitish appearance, and an air of freshness and cleanliness, which the finest inlaid floor has not always.

**PUBLIC WALKS.**—Besides St. James's Park, the Green Park, and Hyde Park, the two last of which are continuations of the first, and which, like the Tuilleries at Paris, lie at the extremity of the metropolis, London has several public walks, which are so much the more agreeable to the English, as they are less frequented and more solitary than the Park. Such are the gardens contained within the compass of the Temple, of Gray's Inn, and Lincoln's Inn. They consist of grass plats, which are kept in excellent order, and planted with trees, either cut regularly, or with high stocks: some of them have a part laid out for culinary uses. The grass plats of the gardens at Lincoln's Inn are adorned with statues, which, taken all together, form a scene very pleasing to the eye.

St. James's Park and its appurtenances are not kept in such good order as these gardens which belong to particular buildings. In that part nearest to Westminster, nature appears in all its rustic simplicity; it is a meadow, regularly intersected and watered by canals, and with Willows and Poplars, without any regard to order. On this side, as well as on that towards St. James's Palace, the grass plats are covered with cows and deer, where they graze, or chew the cud, some standing, others lying down upon the grass: this gives the walks a lively air, which banishes solitude from them when there is but little company: when they are full they unite in one prospect, the crowd, the grandeur, and the magnificence of a city, as wealthy as populous, in the most striking contrast with rural simplicity.

Agreeably to this rural simplicity, most of these cows are driven about noon and evening to the gate, which leads from the Park to the quarter of Whitehall. Tied in a file to posts at the extremity of the grass plat, they swallow passengers with their milk, which, being drawn from their udders upon the spot, is served, with all the cleanliness peculiar to the English, in little mugs, at the rate of a penny a-mug.—(*Grossley's Tour in London.*)

**VEGETABLE PEARLS.**—A correspondent says, "It may not be known to many readers of the 'Monthly' that pearls are also found in the vegetable kingdom. Three kinds of fruit have been found, though in extremely rare instances, to contain pearls. They are Ficus Benjamina, Datura alba, and the Cocoa-nut. The natives of Macassar, when they find such a cocoa-nut pearl, cherish it highly, wear it in the form of an amulet, and ascribe wonderful powers to it. Two hundred years ago the German botanist, Rumph, presented the Grand Duke of Tuscany with a ring of cocoa-nut pearls, so he says in his 'Herbarium,' without, however, mentioning the dual return, if ever any were made. These pearls are sometimes round, sometimes conical, sometimes

spheroidal." [We have often seen these hard pearly processes in acorns, but not in any other fruit that we remember.—*Ed. of American Gardener's Monthly.*]

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

GAVE manure-waterings to some of the best Marrowfat Peas to prolong the yielding process. Such kinds as Jeyes' Conqueror, Knight's Tall Marrow, Mammoth Dwarf, &c., if close-quick and well manured, will hardly ever stop bearing if the roots are in good deep soil. Thinned Turnips and sowed succession, also Lettuces, Spinach, &c. Will get ground ready for winter Spinach ere long. Made also a sowing of Dwarf Kidney Beans, to which we can give protection late in autumn. These often come in very useful in the end of autumn, and even the beginning of winter. Broke down some of the stems of spring-planted Onions to cause them to bulb larger and sooner, otherwise they are apt, in such a season, to grow considerably to neck. Took up Shallots that were ripe. Sowed Onions thickly for salad. Weeded Asparagus-beds, some large plants of Wheat getting up among them, and scattered a little salt over the surface. Have left more eed on Sea-kale than is desirable in order to get a good lot of fresh seed for next season, as I still prefer seedlings to cut roots, and plenty of this vegetable tends to make the winter pass more cheerfully. Sowed a few Cabbage seed for early produce in spring, if they stand. What we sowed in the middle of August last year gave us a number of run heads. In a common winter not one should we have expected to run. As it was there was enough; but it is always best to have a reserve, and therefore a later sowing should also be made. Planted out Coleworts, which will give a good autumn supply of young greens, and winter, too, if mild. Planted out succession Cucumbers. Pegged-down and regulated Gherkin Cucumbers, Vegetable Marrows, &c. Watered Tomatoes, Tobacco, and kept Chillies and Capsicums growing freely, giving them plenty of the syringe after hot days, to keep fly and spider away from them. Find that our transplanted Celery has some of it a yellowish tinge, which we attribute to a soil too cold, not rich enough, and a full sun when it did shine. I allude chiefly to that in beds that had previously been used for bedding plants, and where, consequently, I could grow nothing tall on the ridges. When such trenches were dug out early in spring, and Peas sown on the bank, their shade always prevented any of this yellow appearance, even when turned out into soil not so rich as it ought to be. Celery naturally loves a damp shady place. When nearly grown in the autumn it will stand any amount of sun.

### FRUIT GARDEN.

Kept layering and watering layers of Strawberries, and dunging, trenching, and preparing ground for a fresh plantation. In the present case Strawberries will have to follow the second lot of Cauliflowers, as these again followed late Celery. We like to enrich and deep-dig such ground if we can, as we never let Strawberry plants see a spade again until they are dug down, to furnish some aliment for other crops. I begin to find that our ground constantly cropped without a chance of fallow, eries out for a little fallow, or dressing with lime, and more sweet manure. Protected small fruit from the ravages of birds—sweet songsters though they be, for they know nothing of conscience or what is their right share when once they begin. There is nothing effectual but the net. Stopped and regulated the shoots of fruit trees indoors and out, in order to swell the buds, and give more air and light to the fruit. Will soon liberally remove laterals from growing Vines—that is, taking them away at three or four different times, some days, say a week between each, in order that no check be given, and looking on a fair amount of laterals hitherto as so many root-encouragers. In future we shall want the strength of the plants to be devoted less to growth than to the ripening of the fruit and the ripening of the wood. Watered the soil beneath Melons now showing signs of ripening, leaving the surface soil dry.

### ORNAMENTAL DEPARTMENT.

Removed a good number of Pelargoniums from conservatory, as they were getting to be hardly worth picking the flowers, and so many fell from them on stage and path. Will replace with Scarlets, a few Ferns, fine-leaved Begonias, Fuchsias, Feathered Cockcombs, &c. Potted more Geraniums, &c., for succession, and put in a few cuttings of Geraniums, Carnations, Roses, &c.

Carnations and Picotees strike very well if first inserted in a mild heat, and then a brisker one, and kept shaded during sunshine, air being given at night. Phloxes, Antirrhinums, &c., may now be struck in a shady place under a hand-light; but the first Phloxes strike best in spring when the shoots are some 3 inches in length. Watered Cineraris-stools turned out for suckers into a border with nice rich loam round the plants. Sowed and pricked-off *Primula sinensis*, *P. cortusoides*, Auriculas, &c. Watered according to weather and circumstances.

Out of doors in the flower garden attended to tying, regulating, and training, and then loosened the soil of the beds by means of small 3½-inch Dutch hoes, or small forks, cutting up the small weeds at the same time; the soil with rains and hail getting almost as hard as a pathway, though the surface was stirred not long ago. The ground, too, from constant cropping and little or no manure, is apt to become harder than it otherwise would be. This hardness, however, enabled the sun in two or three nice days to exert considerable influence in heating the soil, and so telling on the Scarlet Geraniums; and alike to keep heat and moisture in, to keep the surface rough and open, and yet finished and neat to the eye, as well as to help the plants a little to a rigour which would be combined with abundance of bloom, a slight top-dressing has been given to a portion of the beds, after which, except in long-continued hot dry weather, they pretty well look after themselves. I am convinced that this top-dressing suits all these purposes better than if I gave the beds the same material at planting time, and, besides, I could not have given it to them then, because I had not got it to give. The top-dressing, then, is chiefly half-rotten leaves, used for temporary beds and Mushroom-beds, in full bearing at planting time. These, as can be got, are wheeled out into a heap, passed through a one-inch sieve, the Mushroom-dung predominating three to one, and then about a fourth of the whole is added of burnt rubbish, burnt earth, clay, &c. We give Calceolarias about 1½ inch of this; other things get less than an inch, because we cannot spare more. The ground is generally wholly covered before the loose surface is again consolidated by the rains. I need not add, that this weather has given plenty of work to scythes, mowing machines, and clipping-scissors.—R. F.

### TO CORRESPONDENTS.

“\* We request that no one will write privately to the departmental writers of the “Journal of Horticulture, Cottage Gardener, and Country Gentleman.” By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the “Journal of Horticulture, &c.”* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**VINE LEAVES SPOTTED (G. W. H.).**—There was a little appearance on the leaves as if attacked by mildew, but the leaf was too dry to enable us to say so with certainty. If so, and whether or not, a little sulphur on the heating medium, and plenty of air to counteract the heat applied, will be the best remedy. The red spots will often appear as the Vines approach maturity; but if your wood is still green, and the Vines growing vigorously, this cannot be the case. We incline, therefore, to think that if the Vines are still green, that the plants growing vigorously have had too much heat in dull weather, that the moisture in the house has been condensed on the leaves, and these have been struck by a powerful sun before the ventilation had dried the foliage. We have seen like effects produced by such causes, but we by no means say, that such was the cause in your case. The oldest leaves would soonest be affected, and we just think that something of this kind may have taken place, from the fact that the Vines in pots are not affected. They would not be so vigorous, and, perhaps, farther from the glass.

**VERBENA LORD LEIGH (P.).**—There cannot be two opinions about this seedling raised by Messrs. Perkins, of Coventry. The trusses are large, the pips bold and stout, and the colour the richest scarlet. If it stands exposure to the rain and sunshine, it will be a most desirable bedder. It has been awarded a first-class certificate by the Royal Horticultural and Botanic Societies.

**MELONS NOT SETTING (Constant Subscriber).**—We expect the soil and the air are too damp. Allow the former to get drier, and that will check the luxuriance, and more air will cause the fruit to set. In such a house the plants would have done best trained against the roof—say 16 inches from the glass. We do not think the smell of the air will influence the setting, if it does not hurt the plants. You have no reason to despair yet. You would see mode of treating Melons in “*Doings of the Week*,” lately.

**GERANIUM BLOOM FALLING QUICKLY (A Humble Learner).**—It is little use giving manure water to Geraniums when in full bloom. It is most useful when the buds appear, causing them to open strong. The extra stimulus will cause the flowers to be thrown off sooner than otherwise; but such plants will shed their blooms do what you will to prevent it. We suspect that the Fancy Geraniums have had too much water, and too little air, and that you have poured your water on close to the stem of the plant. In watering avoid this, or the tenderest will get a certainty. Everybody cannot have the very best; strive to excel, but do not get in the dumps because somebody may excel you. You will find that to be the case in something all through life. In general, it is best merely to nip the point of the shoot in budding, so as to give no great check.

**VINES BEARING ONLY AT THE TOP (A Constant Subscriber).**—Most Vines trained up the glass like yours are apt to produce the best bunches at the top of the house—that is, farthest from the roots. That they should be productive there only, must be owing to encouraging growth chiefly there. If the top part has a tendency to rob the lower so much, then there should be more pruning and pinching at the top, to encourage more growth nearer the base, and then it all the wood is ripened equally, there will be something like a general crop.

**DISEASED GRAPES (J. M.).**—The berries are very severely spotted. See what we said at page 262, relative to “Muscat Grapes Spotted,” the same remedial measures we recommend you to adopt, whatever variety of Grape yours may be. Lose no time.

**ANTS IN CUCUMBER-FRAME (E. L., Bristlington).**—They are not the cause of the young fruit dying off. That, probably, arises from the roots being out of order. To drive ants from the frame sprinkle a little guano over their haunt, and repeat the sprinkling until they have emigrated.

**ONCIDIUM INSELEATI—ODONTOGLOSSUM INSELEATI (Inquirer).**—They are distinct species, though the Oncidium was at first considered identical with Odonoglossum grande. The specific name in each is in honour of Mr. Tooleay, gardener to Mr. Barker, the well-known Orchid-grower at Manchester.

**THE FLYCATCHER.**—Permit me to thank your correspondent “ORNITHOLOGIST,” for his correction. When speaking of “the common Flycatcher,” I certainly alluded to the Grey Flycatcher, which in this neighbourhood (Birmingham) is comparatively general, when compared with the far more rare visitant *Muscicapa atricapilla*, or Pied Flycatcher.—EDWARD HEWITT.

**FORMATION OF WOOD (Ignorance).**—It is formed from the descending sap. If you will read “The Science and Practice of Gardening,” which you can have from our office free by post for forty penny postage stamps, you will find this and all the other phenomena of vegetation and cultivation explained. At page 203, it is there stated—“In order to ascertain whether the new layer of wood is formed from the former layer of wood, or of bark, M. Du Hamel made a graft *par Ceusson* (*Phys. des Arb.*, liv. iv., chap. 4); which is done by means of detaching a portion of bark from the trunk of a tree, and supplying its place exactly by means of a portion of bark detached from the trunk of another tree that shall contain a bud. In this way he grafted the Peach on a Plum tree, because the appearance of the wood which they respectively form is so very different, that it could easily be ascertained whether the new layer was produced from the stock or from the graft. Accordingly, at the end of four or five months after the time of grafting, the tree was cut down; and as the season of the flowing of the sap was past, a portion of the trunk, including the graft, was now boiled to make it part more easily with its bark; in the stripping off of which there was found to be formed under the graft a thin plate of the wood of the Peach, united to the Plum by its sides, but not by its inner surface, although it had been applied to the stock as closely as possible. Hence Du Hamel concluded that the new layer of wood is formed from the bark, and not from the wood of the preceding year. The same experiment was repeated with the same result upon the Willow and Poplar; when it was also found that if a portion of wood is left on the graft it dies, and the new wood formed by the bark is exterior to it.”

**NEVER DESPAIR (An Afflicted Gardener).**—You have indeed been visited by a series of heavy trials—failure of crops, sickness and death among those dear to you, yet we can say from experience that you will acknowledge after a time that all has been ordered wisely. Send us your address, and in the meantime, as you ask “What shall I do?” we reply, Go and see Lessing’s admirable picture exhibiting at the Egyptian Hall, Piccadilly, “The Martyrdom of John Huss,” and learn a lesson from him. We recommend all who have the opportunity, to see that picture; it is a picture never to be forgotten when once seen, and no one but feels he is the better for having seen it.

**STRAWBERRY CULTURE IN POTS (A. Z.).**—You may pot your Strawberries as soon as you like, one or two according to taste in a six-inch pot. Use stiffish, rich loam. Keep the collar of the plant well up, and thump the soil as firm as you can about the roots. This is point first. Then place the pots on a hard surface full in the sun, shade at first, water freely in dry weather, allow no runners to come, and protect from frost and wet in winter; then, if you have no fire heat in your leaf-bed, take your Strawberry-pots to the greenhouse in March, and, if you have plants to spare, place them in mild heat in your bed at the end of March. There have been full details given lately of the culture of such plants in pots, according to season. For instance, you might prick the plants in a border, and raise them in the end of March for the bed. Is it mildew you have on the Vine? If much spotted and only on one Vine, we would sacrifice the fruit rather than let it spread. If not much affected, dust with flowers of sulphur, and give more air in the house.

**MOVING KITCHEN-GARDEN STOCK IN OCTOBER (A. R. R. P.).**—The propriety of this, including trees we presume, will depend much on the winter. If trees, the shoots should be well stumped or nibbed-in previously, that the main stems may be full of sap; if sunny, you will be obliged to water, shade, and syringe. We should think that in general the work might be proceeded with after the middle of October—in fact, if syringing and shading could be given, we would begin on the 1st of the month, as there will then be much heat in the ground to encourage rooting.

**PRODUCT OF STRAWBERRIES (W. Grove).**—We have had forty or fifty berries on plants in six-inch pots, but we often had more weight when we limited the number to six or eight. It would be useless telling you what price they would then bring in April—in the London market, probably from 6d. to 1s. per ounce; but they might be hardly saleable at all, as the price depends so much on the bright or dull weather, and on the number of or the absence of parties. Our aristocracy even rarely purchase such things for

their own use, and therefore the price greatly depends on the number or the scarcity of fashionable parties.

**CULTURE OF EPIMEDIUMS** (*Victor Verdier*).—Sandy peat and the edges of Rhododendron-beds are the very best places for all the Epimediums, and once planted they should not be disturbed nor the soil about them save to keep down weeds. *Macranthum*, or *grandiflorum*, is the best of them all; *pinnatum* or *colchicum* the next best, and then *violaceum*. *Diphylum* and our own *alpinum* are the only two more of them known to us; the spikes of yellow flowers of *pinnatum* come very early in the spring, and the leaves of this species are the next best after those of *Asarum europaeum* of all that we have tried to gather for mixing with cut flowers in water-glasses indoors, and a bed of each of them in a shady, sheltered corner out of sight would be a treasure to those who use much decoration with cut flowers. These, with any favourite-scented leaves, and a few *Lycopods*, would be our dwarfia, and for "tail-feather" leaves, some kinds of narrow-leaved Iris, and some after the way of young Pampas Grass would be all our suite.

**HOUSE-SEWAGE WELL** (*Westmorlander*).—As nothing which you can devise will render its contents as fragrant as the gales from "spicy Araby," the further you have it from the house, and on that side from which the wind blows most seldom, the better. It emits no strong smell except when being pumped-up, and applied to the ground. So soon as it has soaked into the soil the smell ceases. The well represented at page 5 of our "Muck for the Many" is about 50 yards from the house, but the outlet where the smell alone is perceptible is about 100 yards away. Slate, with concrete or puddling behind, would be as effectual as bricks for lining the well. The sediment in a sewage-well we have does not require emptying more than once in two or three years. How soon the well fills depends entirely upon the inmates in the house. Of course the well requires to be pumped-up in time to prevent overflowing. Common sense is always a safe guide on these minor points.

**PEAR TREE ATTACKED BY CATERILLARS** (*M. E.*).—Those which eat into the trunk are the larvæ, probably, of the Goat Moth (*Cossus ligniperda*). We know of no better mode of destroying them than finding the holes in which they are, and thrusting in a stout wire. Look out for the parent moths; they are grey, and difficult to see. They rest during the day, with folded wings, against the trunks of trees.

**NAMES OF PLANTS** (*J. D.*).—1, *Roseda luteola*; 2, *Silene infista*; 3, *Fumaria officinalis*; 4, *Stellaria glauca*. (*H. R., Bromley*).—*Morina longifolia*. (*J. B. S.*).—*Philadelphus latifolius*. The other looks like *Trymalium odoratissimum*, but that is a greenhouse shrub.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

JULY 29. **NEWMILLERDAM**. *Secs.*, Mr. J. Turner, Walton; Mr. W. Pashley, Newmillerdam.  
 AUGUST 2nd, 4th, and 5th. **SHEFFIELD**. *Sec.*, Mr. George Westerholm, 49, Queen Street.  
 AUGUST 25th, 26th, 27th, and 28th. **CRYSTAL PALACE**. *Sec.*, W. Houghton. Entries close July 26th.  
 AUGUST 27th. **COTTINGHAM**. *Sec.*, Mr. J. Brittain. Entries close Aug. 20th.  
 SEPTEMBER 2nd. **POCKLINGTON**, Yorkshire. *Sec.*, Mr. T. Grant. Entries close August 26th.  
 SEPTEMBER 4th. **WAREFIELD AND WEST RIDING**. *Sec.*, Mr. J. Crosland, jun., Entries close August 23rd.  
 SEPTEMBER 9th. **WORSLEY AND ARMLEY** (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.  
 SEPTEMBER 9th and 10th. **CALNE**. *Secs.*, A. Heath and F. Baily. Entries close August 28th.  
 DECEMBER 1st, 2nd, 3rd, and 4th. **BIRMINGHAM**. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### NORTHAMPTONSHIRE POULTRY SHOW.

JULY 17TH.

GENERALLY this Show has its gathering in the month of September, but in this Exhibition year of 1862 it seems agreed to crowd all our enjoyments into one period, and therefore it was held in July.

This is one of the Shows that move about like the Royal Agricultural Society of England, the Bath and West of England, &c., and every year it appears at a different place till the list is exhausted. We are great advocates for this plan, as turn by turn it identifies every town with the Show. The growth of this Exhibition is continuous. It is no bringing together of a few beasts, and two or three ploughs, and a horse or two, but it is really a large exhibition. It is beyond our duty to say anything of it in detail; but we may be permitted to speak of the pleasure we feel in noting the increasing success of every meeting. They are truly county gatherings for every class. Cattle, horses, sheep, pigs, wheat, and butter, fruits and flowers, have their separate classes, while the band of the Foot Guards is an attraction for the fair sex. A Sybarite might be content listening to such music while seated in a tent presenting a mass of roses to the eye. The Show has gone on increasing till it is not always an easy task to find a convenient spot for it. This year was an exception. The Marquis of Exeter very kindly allowed it to be held in Burchley Park—a truly magnificent spot for it. When we add that the day was a fine, the attendance larger than was ever before known, and that all things went off well, we shall have nothing to do but to note the classes in their order.

*Dorkings* were first on the list, and the prize for the best pen

was a silver cup given by Lord Burchley. It was gained by Mr. John Shaw. There were fourteen pens of good adult birds shown. Those belonging to Mr. Rowland Wood deserve especial mention, also those of Messrs. Brown and Burnaby. The utility and progress of these Societies may be shown by the class of Dorking chickens entered here: twelve good pens were shown, and the competition was severe for all but the first prize. That was never in doubt, and went to the Rev. F. Thursby, of Abington Rectory. Messrs. Swinger and Hanbury showed capital birds. The classes for the silver cup and for adult birds seem to have exhausted the lists of cocks at this trying season. The class for single birds was very weak. Mr. Brown's was meritorious.

The *Spanish* class improves yearly at this Show, and it produced excellent birds. There were ten entries. The Rev. F. Thursby and Mr. Smith deservedly headed the class. We were sorry to see a trimmed pen. We hoped that practice had disappeared for ever. The only effect of it is to cause birds that would otherwise, perhaps, be at the head of the list to occupy an inferior position. A good bird does not need it, and a bad one cannot be improved by it. Spanish chickens showed the season had not been propitious for rearing. There were but three entries, and there was only one good pen. It belonged to Mr. Smith. The other two pens had no chance against it, and were so deficient, the second and third prizes were withheld. It is only kind to exhibitors in this class to tell them that faulty-combed cocks cannot take prizes.

The *Game* classes were large and excellent; every prize in all of them was taken by Mr. H. Shield, of Northampton.

Messrs. Biggar and Brown were deservedly successful with *Cochin-Chinas*.

Northamptonshire is not a *Hamburgh* county, and the show of them was weak.

The entries for "Distinct Breeds" were good, but the birds were not sent.

The next prizes were four offered by the Marchioness of Exeter and Lady Burchley for "the exhibitor of the best pen of three barndoor fowls, one cock and two hens, of any kind, to be owned by labourers, cottagers, and small farmers of not more than twenty acres of land within fifteen miles of Stamford." Will it be believed—there was one entry? We know those cottagers only who live in the neighbourhood of commons can keep poultry; we know that in many instances masters will not allow their labourers to keep fowls; but surely in the country for fifteen miles round Stamford, there are persons coming within the limits of the class who could make a fair competition for these prizes.

*Aylesbury Ducks* were very good; and the "Various Class" showed unusually good White Calls, Buenos Ayrean, and Rouens. The *Turkeys* were very good.

Mr. Baily, Mount Street, Grosvenor Square, was the Judge.

**DOAKING** (A Silver Cup, given by Lord Burchley, M.P.).—Cup, J. Shaw, Hunsbury Hill. Highly Commended, Rev. F. Thursby, Abington Rectory.

**DORKING** (by the Society).—First, R. Wood, Clapton, Thrapston. Second, W. Brown, Kingsthorpe. Third, T. Burnaby, Upper Lodge, Pipewell. Highly Commended, Marchioness of Exeter, Burchley House. *Chickens*.—First, Rev. F. Thursby, Abington Rectory. Second, T. Swinger, Langham, Oakham. Third, J. B. Hanbury, Clipston House. Commended, J. B. Hanbury, Clipston House; J. Shaw, Hunsbury Hill. *Cock*.—First, W. Brown, Kingsthorpe. Second, J. Sheffield, Geddington Grange.

**SPANISH** (by the Society).—First, Rev. F. Thursby, Abington Rectory. Second, J. W. Smith, Oundle. Third, J. Biggar, Northampton. Commended, J. W. Smith. *Chickens*.—Prize, J. W. Smith.

**GAME** (by the Society).—First, Second, and Third, H. Shield, Northampton (Duckwing, Brown-breasted Red, and Black-breasted Red). Commended, —Everard, Bardou Hill House (Black-breasted Red).

**GAME COCK** (by the Society).—First and Second, H. Shield, Northampton (Brown-breasted Red and Black-breasted Red). Highly Commended, —Everard, Bardou Hill House. Commended, S. Deacon, Herne Lodge, Oundle.

**COCHIN-CHINA** (by the Society).—First, J. Biggar, Northampton. Second, W. Brown, Kingsthorpe.

**HAMBURGH** (any variety, by the Society).—First, S. L. Mason, Essendine (Golden-spangled). Second, J. Phillips, Stamford.

ANY OTHER DISTINCT BREED.—Prize, J. Beasley, Brampton (Silky).

**BARNDOR FOWLS**.—To the exhibitor of the best pen of three Barndoor Fowls, one cock and two hens, of any kind, to be owned by labourers, cottagers, and small farmers of not more than twenty acres of land, within fifteen miles of Stamford (by the Marchioness of Exeter and Lady Burchley).—Prize, E. Speed, Exton, Rutland.

**DUCKS** (Aylesbury, by the Society).—First, J. Shaw, Hunsbury Hill. Second, —Everard, Bardou Hill House. Third, C. Watts, Kislingbury.

**DUCKS** (any other breed, by the Society).—First, Miss Boyle, Weedon (White Decoy). Second, Rev. F. Thursby, Abington Rectory (East India). Third, J. Beasley, Brampton.

**TURKEYS** (any age or colour, by the Society).—First and Second, J. Beasley, Brampton.

## LEEDS AND WEST RIDING POULTRY EXHIBITION.

[The following from our reporter reached us too late for insertion last week.]

For some years past there has been an annual horticultural show held in the town of Leeds, and this year some of the local poultry exhibitors bethought themselves that notwithstanding the fact of there being an annual exhibition of poultry in connection with the Leeds Smithfield Show, it would be a good opportunity to establish a summer show in connection with the Horticultural Society's Meeting; and upon this basis one or two of the most zealous in the cause started what promises to be a first-class annual summer exhibition, as the support the Committee met with from exhibitors both far and near was certainly most encouraging, many of our best yards being represented; and we do not think any will have cause to regret having exhibited, as the greatest care was taken of all specimens, and the arrangements in every respect well deserved the approbation they met with on all sides. The pens used were Mr. Turner's of Sheffield.

As usual, *Spanish* headed the list, and proved themselves worthy of the honour, as they were decidedly the best class in the Show. Mr. Teebay carrying off the silver medal with one of his well-known good pens. Mr. Rodbsrd having to be content with a second prize. There were several excellent pens amongst those who had to be content with high commendations.

The *Dorkings*, if we except the prize pens, were nothing particular, many of them being wretchedly out of condition.

In *Black-breasted Red Game*, Mr. Beldon was fortunate enough to stand first. We say fortunate advisedly, for we certainly could not see wherein the merits of his pen consisted, to place him before Mr. Fletcher and other well-known breeders; but if we are rightly informed there was some difference of opinion between the Judges in this class, and as they could not agree, a referee was called in, who, in spite of the fact of Mr. Beldon's being a small, loose-feathered cock bird, with two ordinary hens, placed him first, his only claim to distinction being a good head and a good colour; but as a *Game* cock requires to be a good bird in hand as well as to look at in the pen, though giving the arbitrator credit for all good intention, we can but *in toto* disagree with him—and one of the Judges ignored the award altogether, and declined having anything whatever to do with it; and being totally contrary to his opinion as to the best pen, the silver medal was awarded to a pen of *Duckwings*, and the first prize, "any variety class," going to a good pen of *Blacks*.

*Cochin-Chinas* were numerous and good, the medal going to an excellent pen of *Buffs*.

In *Hamburghs*, Golden-spangled formed decidedly the best class, the medal being awarded to a beautiful pen of Mr. Marlor's. The other varieties were also well represented.

*Polands* mustered three pens only.

In the class for "any variety not mentioned," the first prize went to a remarkably fine pen of *Brahmas* of Mr. Teebay's; second to a good pen of *Black Hamburghs*. There were also good *Malays*, and *Crève Cœurs* in this class.

*Chickens* of all varieties were shown together, and formed an excellent collection. The prizes going to *Spanish*, *Golden-pencilled Hamburghs*, and *Black Red Game*, in the order mentioned.

For the best *Game Bantam* prizes there was a hard run between Mr. Brierly and Mr. Crosland, the former gentleman eventually taking first as well as the silver medal for the best pen of *Bantams*. There were also some good *Whites*.

In *Guinea Fowls*, Messrs. H. & G. Newton stood first with a pretty pen of *Whites* shown in beautiful condition.

*Ducks* were not well represented, there being three pens only, and those of very ordinary merit.

*Turkeys* and *Geese* numbered one pen of each, exhibited by Lady Hawke; but they well deserved the prizes awarded to them.

In *Game cocks*, Mr. Brierley obtained first prize with a good *Black Red*. In *Cochins* every bird exhibited appeared in the prize list, so this is sufficient to speak for their quality. Mr. Holdsworth was first in *Game Bantam cocks*.

*Pigeons* formed a capital show of every variety. The medal for the best pair went to Mr. Holdsworth's *Almond Tumblers*. The *Carriers* and *Powers* were also excellent, and we must not omit to mention a beautiful pair of white *Jacobins* exhibited by Mr. Crosland, which deservedly stood first in their class, and the

well-known names which obtained prizes in the other classes, will speak for themselves.

We have omitted to mention that the Show was held in the *Albion Music Hall*, admirably suited for the purpose, as two spacious rooms afforded accommodation, one for poultry and *Pigeons*, the other for horticultural productions.

The Judges for Poultry and Pigeons were Mr. G. S. Sainsbury, Devizes, and Mr. S. Bird, Shipley.

## BULLFINCHES' EGGS DISAPPEARING.

As you are friends of the small birds, I venture to ask you if there is any bird that preys upon the eggs of *Bullfinches*. In this part they are not very common, and are therefore much prized; but in four or five instances the eggs have marvellously disappeared, and it was the same last year, although every one seems desirous to preserve them. We do not think the boys are the robbers, as the place is private and none are ever seen about. We are, therefore, quite at a loss to know what becomes of them, and any suggestion that would be likely to throw light upon the subject would be thankfully received. We are five miles from a town, and there are no bird-dealers in it, and we can hardly think that they can disappear in that way. Other birds' nests are not molested, as they generally bring out their young ones, for which we are thankful, as we are sensible of the great good they do in destroying insects and caterpillars. The *Blackbird* and *Thru-h* are the only ones we think we might have too many of; the *Blackbird* especially is a great rogue, and does not care much about grubs if he can get *Cherries* or *Strawberries*.—CUMBERLAND.

## CONSEQUENCES OF LOSING A QUEEN.

I HAVE had some rather amusing incidents in connection with my swarms of this season. My first swarm came on the 24th of June, was hived in the usual way and left. In the evening I went to cover them up, but lo! they were gone! On examining the parent stock I found them crowded on the outside. Of course, the swarm had returned, but from what cause I could not ascertain. Probably the queen was either lost, or, as I have sometimes proved, incapable of flying, and, therefore, lost after leaving the landing-board. However, in two or three days I found a couple of young queens, and concluded at once there would be no more swarms; but on Sunday, July 6th, although we had heavy rain in the morning, a swarm issued and settled, and before I could collect them my other stock sent forth a very large swarm; but the rain coming on again it also returned, and was outside the parent hive during the whole of the day. I naturally supposed it would come again the following day, as I have known them do so frequently. But no such thing; a swarm did come, but not till the following Sunday, and of which I was aware, having heard the calling of the queens. Both swarms are now working hard, and, if the present seasonable weather continues, have no doubt they will do well; because, if our own neighbourhood fails to supply them with a winter store, I can remove them to the heather only a few miles distant, where they mostly find a sufficient supply.—J. C.

[There is little doubt that the original queens were lost in both cases, and that when the swarms issued for the second time they were headed by young queens.]

## MISFORTUNES OF THE SEASON.

IN No. 41, New Series, I wrote you a short article on "Ventilating Hives during Winter." Possibly you may find room for a short history of the doings of my bees since that time, though it will only add to the unfortunate list, which we are all sorry to hear is in the ascendant this season.

Shortly after writing the above article, the weather proving unusually mild, I placed my hives (six in number) on their stands, and removed the zinc from the top apertures, placing squares of glass in their places, so as to increase the temperature of the hives—my object being to promote early breeding. Of course this had the desired effect; but in a day or two after the severe frost set in, which easily penetrated the glass, and before I was aware had done its work with half my stocks by freezing them into solid masses between the combs, thereby affording me a very painful proof of what I had stated.

Being left with only three hives, and also being anxious to

place my bees in bar-and-frame hives, I adopted Mr. S. B. Fox's plan, drove them and placed the combs in frames to my own satisfaction, and all went on well. I have since made three artificial swarms—one with the bees alone, leaving the queen with her subjects; two others I made as recommended in *THE COTTAGE GARDENER*—namely, by taking out two brood-combs from the stock and placing them in another hive on the stand of the stock, removing the stock to a distance. Both these went on satisfactorily, each constructing queen's cells, though only one cell in each hive contained a royal nymph. One of these duly made her appearance, but has since been lost, probably not finding her way home after her wedding excursion. The other swarm, after duly sealing up the nymph, waited till her appearance was due, and then, as she was not forthcoming, they tore open the cell to discover that their expectations as well as mine were disappointed. The queen had died before spinning her cocoon.

But my tale of misfortune is not yet finished. On Saturday, the 12th inst., I found the queen of the swarm which was formed by the driven bees alone lying on the ground in front of the hive. On taking her up I found her abdomen perfectly empty, yet she was alive and could creep about.

To this hive I have added my second artificial swarm which had lost the artificial queen before-mentioned, expecting a queen from a neighbour who thought he was about to put two second swarms together. In this, however, I am disappointed, as the swarms have not made their appearance, so that I have now two queenless hives.

In order to make the best out of a bad job, I think this would not be a bad opportunity to place a Ligurian at the head of one of these stocks. Should there be one among your many apian readers who has a supernumerary fertile Ligurian queen I shall be most happy to hear from him.—W. JOHNSON, *Essington, Wolverhampton*.

### BEE SEASON IN MIDDLESEX—UNSUSPECTED ENEMY OF BEES.

I SEE that several of your correspondents are giving you reports of the season as it affects bee-keeping this year, and it may not be uninteresting if I add a statement as to this in so central a place as Middlesex. I fear, however, I can but add a groan to the general wailing, for at present this has proved incomparably the very worst season in my experience—very far worse than the notoriously wet summer of 1860. We are here getting neither swarms nor honey. Out of eleven stocks I do not detect sealed honey-cells in more than one, and the working of supers, which commenced vigorously in May, is almost totally abandoned.

During my temporary absence in June, a swarm of Ligurians was lost from sheer starvation; and, therefore, I would advise all bee-keepers wishing to preserve their this-year's swarms not to be chary of a bottleful of food now and then—it may save several bottles in the winter, by keeping the bees strong enough to gather what little is to be found.

In such a season as this the superior merits of the Ligurians are very manifest, my solitary stock of last year having given an artificial and two natural swarms, and is still full, almost to overflowing; while six stocks of black bees have given me one swarm amongst them. We have, however, some little hope left. There is an abundant appearance of white clover, from which I usually find they collect much honey, and up to a late period of the season. [There is also the blossom of the limes.—EDS.]

I should like to caution apianians against a not-generally-suspected enemy to their bees. I find that cats are very fond of eating them. I possess a cat that will, if permitted, sit for hours under a pedestal, snapping them up with evident gusto as they go out. I am, too, unfortunate enough to have neighbours of strong philofeline propensities, and it is not uncommon for me to find a cat above the hive pouncing upon them returning, and one below securing the exits.—G. F. B., *Colney Hatch*.

### APIARIAN NOTES.

**THE BEE SEASON.**—Up to the present time (18th of July) the season has been most unpropitious for bees; the want of sun has been felt by them very much. For several of the last days of June the bees have been chilled in great numbers near their hives; and as to honey, about the 20th of June three swarms

which were weighed a month after being hived were no heavier than on the day of swarming. A very few days of honey-gathering now remain; and as the weather improves, it may be presumed that in some good localities enough of store may be saved by our pets to keep them through the winter. Our county is an overstocked one, and there is little late white clover; being near the town, the honey season pretty nearly closes about the third week in July. We hope some of the writers will furnish an account to *THE JOURNAL OF HORTICULTURE*. The writer of this communication has been obliged to feed young swarms in June! a very rare occurrence, and accounts have arrived from Exeter to the same effect.

**SWARMING PREVENTED.**—In answer to a correspondent in *THE JOURNAL OF HORTICULTURE*, let him try the moving the old stock immediately after swarming; he will find that an infallible plan to prevent a second swarm. The new swarm should be placed in the exact spot where the old parent hive was taken from. I have never found it to fail.—H. W. N.

### THIS HONEY SEASON.

YOUR correspondent "A DISAPPOINTED BEE-KEEPER," in No. 67, 8th July, must indeed live in a land overflowing with honey, and cannot have read the bee-books with much advantage; for if he refers to "COUNTRY CURATE," he will then see he states, a person commencing bee-keeping must not be disappointed if he gets no honey after keeping bees for some years; for if the weather and country are bad for honey they cannot gather it, and this season is the third bad one, two out of the three the poor bees have hardly been able to live, and must, as many have done, if they had not been fed, have died out, and very many this season have gone; and if he will read the bee-books a little more carefully, he will observe they say when there is not much honey to gather there are more swarms, as the queen has more room for breeding.

Bees will fill glasses when there is no honey to gather if properly managed, but it is useless trying them in bad and cold seasons, as they can scarcely keep their hive warm enough for breeding, and, therefore, find a glass too cold. You may often observe in the daytime when it is warm they commence in a glass, and at night are compelled from cold to leave it; and at all times if a glass is not kept warm, bees will not work in it, and there must also be something to gather, which has not been the case this season—for, only yesterday, I took a swarm of the 7th June out of a hive, and did not observe an ounce of honey but a good deal of brood, and, therefore, put the hive on the top of another one to be hatched out.—A. W.

P.S.—I have had two or three swarms this season without drones, and they did not make their appearance in the old hive till some days after.

### OUR LETTER BOX.

**SPANISH HENS DYING SODDENLY (H').**—How can we tell the cause in the total absence of any information as to their diet, place of keep, or previous symptoms? They "drop dead from the perch," probably, from being over-fed with too-nutritious food, which induces apoplexy. But you might as well have told us that "Tom Nokes is dead," and then have added, "What caused his death?" Editors are *not* clairvoyant.

**GRAVEL IN POULTRY PENS.**—I see you have mooted the gravel question. Gravel being nearly as important to birds as food, I cannot see why its scarcity in the vicinity should ever be an excuse for its absence; a sack or two could always be had by train at a slight cost, and I know many people who refrain from entering valuable birds because of its not being supplied.—W. II. B.

**VARIOUS APIARIAN QUERIES (S. A., Braintree).**—A Woodbury frame-hive weighs about 19 lbs. when empty, and your stock must be fed up at least to 15 lbs. beyond this weight before winter. The crown-board should be removed before a super is put on, and a thin adapter substituted as represented in page 74. There would be no difficulty in driving your second Ligurian stock, and introducing it into a hive filled with brood and combs taken from condemned bees. The supers shown at the International Exhibition were filled last year.

### LONDON MARKETS.—JULY 28.

#### POULTRY.

The increased supply and the falling-off in trade indicate the close of the spring season. London will soon be out of town.

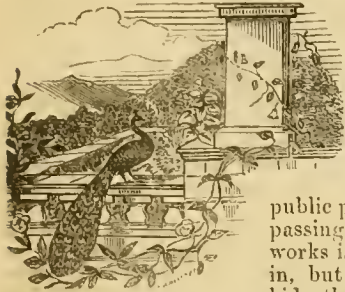
Large Fowls .....	3 0 to 3 6	Ducklings .....	2 3 to 2 6
Smaller do.....	2 3 ,, 2 6	Hares .....	0 0 ,, 0 0
Chickens.....	1 6 ,, 1 9	Rabbits .....	1 3 ,, 1 4
Geese .....	0 0 ,, 0 0	Wild do.....	0 8 ,, 0 9
Geelings .....	5 0 ,, 5 6	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	AUGUST 5-11, 1862.	WEATHER NEAR LONDON IN 1861.					Sun		Moon		Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	Rises.	Sun Sets.	Rises and Sets	Moon's Age.			
				degrees.			m. h.	m. h.	m. h.		m. a.		
5	Tu	Amphicome arguta.	29.925-29.856	80-41	S.W.	—	31 uf 4	41 af 7	morn.	10	5 45	217	
6	W	PRINCE ALFRED BORN, 1844.	30.043-29.912	78-43	W.	—	33 4	39 7	6 0	11	5 39	218	
7	Th	Anacamperos polyphylla, &c.	29.999-29.766	76-55	S.W.	.13	34 4	37 7	15 1	12	5 32	219	
8	F	Andromeda speciosa.	29.734-29.663	68-53	S.W.	.18	36 4	35 7	35 2	13	5 25	220	
9	S	Anisomcles furcata.	29.839-29.880	71-57	S.W.	.02	37 4	33 7	rises	0	5 17	221	
10	SUN	8 SUNDAY AFTER TRINITY.	30.046-29.979	81-56	S.W.	—	39 4	32 7	24 a 7	15	5 8	222	
11	M	Astelma imbricatum.	29.965-29.896	82-54	W.	—	40 4	30 7	43 7	16	4 59	223	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 74.4° and 51.1° respectively. The greatest heat, 93°, occurred on the 19th, in 1842; and the lowest cold, 36°, on the 6th, in 1833. During the period 140 days were fine, and on 105 rain fell.

DEVICES FOR DINNER-TABLE DECORATION.



If there is one thing more than another that the British public delight in possessing, it is the freedom they have in criticising the works of all who compete for public prizes. The privilege of passing an opinion on private works is often enough indulged in, but ordinary courtesy forbids that any severe censure

should be passed in cases of this kind. There is less reserve where the aspirant aims at public distinction. In the latter case the public claim as a right the privilege of giving an unfettered opinion on the merits of the competing article, whether that be political or social, a work of art or skill, or a service performed; and whatever be John Bull's failings, he is, perhaps, after all, the best of all men for acknowledging real merit. But, as he has so many things before him daily, it is not to be wondered at if his judgment now and then should take a backward turn, either from inattention, or it may be a little wayward capriciousness, which in light matters he is not unlikely to fall into. By-and-by, however, his sound common sense discovers the error he has committed, and the opinion previously given is reversed.

There is, however, one subject in which John Bull's judgment is said by foreigners to have been at all times guided by caprice, rather than by just and acknowledged laws, and that is the Fine Arts, for if we are to regard the opinion of our neighbours across the channel, we have little to congratulate ourselves upon on the score of taste. Whether this be so or not need not be argued here; suffice it to say, that the laws which govern good taste in such an article as that of dress must be of a very comprehensive kind, or surely the term "good taste" could not alike be applied to the belle of the present day, with that of her prototype thirty years back. Neither are the vagaries of the rougher sex less conflicting to reconcile to the doctrine of good taste, if that be brought to bear upon them; so that I fear I must court a more humble idea in support of my views on a matter which has attracted no small attention on the part of the floral world, and the assistant I mean to call to aid my views is plain "Utility," whose existence even is too often ignored by those who soar to the position of shaking hands with Good Taste; but with Utility, I, for one, would be the last to quarrel,

Nevertheless, I cannot see any reason why a more close union between Utility and Beauty should not often be made. The homely usefulness of the one, certainly ought not to be so much despised by the other; and though the more attractive one may, and often does, receive the first attentions, second thoughts often accord the other as distinguished, and, eventually, a more

lasting place. Let us see how a union between these two can be made so as to bear on floral table decoration.

The visitors at the South Kensington Gardens Horticultural Show in June last, cannot have forgotten the most attractive feature there, if they had the good fortune to see it, despite the throng which surrounded it. I allude to the dinner-table decorations, for which liberal prizes were given and numerously competed for. The readers of THE JOURNAL OF HORTICULTURE who had not the opportunity of seeing the prize decorations, will have read a description of them sufficiently clear to give them a tolerably good knowledge of what they really were; and as these were selected from amongst a number of others, and selected, too, by those whose judgment it is next to treason to dispute, I confess it is not without considerable diffidence that I address myself to the task of calling that decision in question, though not in a factious manner, but, perhaps, with a view to serve the interests of my presiding genus, Utility, and, in some respects to urge her claim on the consideration of those who legislate on higher matters. I am the more emboldened in this by the many revolutions I have seen in what is called taste, while the dictates of Utility remain as stationary as a rock.

It will be universally admitted that a dinner-table is a place of social enjoyment, the assembled guests being expected to derive as much pleasure in each other's company as they do in partaking of the good things provided for them by their host. Now, taking the treat to be as much a mental as a physical one, and in many respects it ought to be regarded as still more so, might we not ask, Why is there any obstruction in the way of mutual greetings or interchange of ideas or courtesies? Assuredly Good Taste with her all-but-boundless empire ought not to invade this domain; and yet she does, and that in the very dinner-table decoration to which prizes have been awarded.

Taking it for granted that a dinner party is met for social enjoyment, mental as well as bodily, I would certainly not allow any obstruction to the full enjoyment of the first of them, and however loaded the table may be with objects of luxury or beauty, I would preserve the line of vision from one person's countenance to another clear of every obstruction whatever, either of floral design, or cumbrous lights, or any other intervening object. Assuredly there is plenty of space in a dining-room for the display of either wealth or ornament without obtruding it in the way of two people engaged in conversation. To be practical, I would say, that the space of about a foot in the line of vision ought to be clear of all obstruction, and measuring from the table-cloth, if we stipulate for the space above the fourteenth inch and under the twenty-sixth, to be thus clear I do not care how much the space below and above this area is loaded with ornament; and I cannot see any reason why the advocates for display should not be satisfied with the ample scope still left for them.

Certainly they have no more excuse for sticking a

bunch of flowers or a piece of valuable metal between two people's faces, than an Eastern beauty has for wearing a thick veil in company. A tyrannical fashion, fostered by jealousy and centuries of usage, may prolong the latter custom; but I shall be much mistaken if high services of fruit and flowers receive the countenance of the thinking part of the public long, however tastefully these groups may be arranged.

I do not mean to detract from the praise awarded the prize design at the Show in question, but I certainly should have liked it better if it had conformed to the rules above laid down; for whether we regard a dinner-table as a meeting for a few private friends, or as a public gathering for some especial purpose connected with business, I cannot but think the first of all duties on the part of those who prepare it, is to enable the assembled guests to see each other without the unpleasant necessity of peeping round, or under, some floral device perhaps not much smaller than a handbox. However thinly the spikes of flowers may rise upwards, or however wide they may be in a pendent position, they all but entirely conceal everything beyond them.

Much stress has been laid by some on the propriety of having the stem and bowl of such stands made of transparent glass, but it will be found that at the distance of a yard they can be no more seen through than if they were of metal; and if any one be dubious of this matter, and think that a slightly dressed-up stand obstructs but little of the light, let them take one so prepared into a dark room, and placing a single light in the line of vision, they may trace on the opposite side the amount of shade caused thereby. I shall be much mistaken if it does not amount to full two-thirds or three-fourths of the whole space. Assuming such a stand to occupy the centre of a table when twenty guests are seated, the one near the bottom will be unable to see three or four that are at the top on the opposite side to him; and if the table be a long one, and there are several such stands, they would effectually screen one-half of the company from the other half.

While condemning such objects for the dinner-table, I by no means exclude them from the dining-room, but would suggest their being placed on the sideboard, in which case care must be taken in dressing them so as to form a suitable contrast with the background, whether that be of furniture or the walls of the room.

A supper-table when the company stand to partake of it is also a suitable place for such stands, and I am not aware of any objection to their being introduced into the drawing-room.—  
J. ROBSON.

## CROSSING FLOWERS—CYCLAMENS AND VARIEGATED GERANIUMS.

THE weather in the months of June and July this season was so unsuitable for crossing, that the more experienced hands at it, as far as I can hear, have done very little indeed. But now we seem to be in for six weeks of the finest weather for the purpose. But before doing more than opening the subject, I wish to make a proposition about some Cyclamens for crossing.

I have now, through the kindness of a good Cyclamen authority, two more bulbs of the true Cyclamen vernum and another kind of some "hybrid origin," and, probably, in near relationship to vernum itself, and if my vernum from my Sardinian correspondent be the true one, I shall be pretty well up in vernums. Now comes the question, What is vernum, and where is it a native of? or has any one ever found it growing wild? I cannot answer that, and I know of no one of whom to ask: therefore, I ask all whom it may concern.

I said long since that I suspected vernum to be a cross between eoum and some late-flowering autumnal kind, and it seems as if Fortune would favour the bold in assertion, as well as the brave in deeds of arms.

My original vernum now has been six or seven years in my hands. At first it bloomed with me at the beginning of March, and was considerably lighter in tint and longer in petal than eoum; but the blooms were from a spur down the middle of the bulb, the top of the bulb being crested and blind of eyes, and it is so to this day. After planting it in a corner of a cold pit it took to flowering at the end of October and all through November to near Christmas. Then the tint of the flower was altogether different—very pale indeed, and it was from the change in the time of blooming, and in this circumstance about the change of colour, that I have been led to believe the plant to be

a cross from a pale autumnal kind; and the time of blooming being a compromise between the September-blooming parent on the one side, and the February-blooming parent on the other side, and if you balance these considerations, you will I am sure allow that I had some fair foundation for supposing the vernum to be a cross-bred plant.

Now, however, I have a new leaf to turn over for your special consideration. My ancient vernum has taken a right good hold of this cocoa-nut refuse, which is, of all materials ever tried, the best for growing all the kinds of Cyclamens in; and from the impulse of the "pulp," as poor old Mr. Barsham used to call the refuse, the old root has put out another spur on the other side of the bulb, and lower down. Both the spurs are just within the cocoa-nut fibre refuse, but the crown of the bulb is up above it, and always has been with me. The second spur put up the first leaf early in June last, and by the first week in July, a fine handsome flower came up from the same part. This is the twenty-ninth day that flower has been open, and there are only some signs yet of its fading. The colour of the flower is now more intense than in eoum, but not of the same tint at all, being a dark purple, while that of eoum is between carmine and magenta colour, and seldom varies. When the flower was eighteen days old it would pass for the very blooms from which the original drawing was made for Sweet's plate of vernum; after that it became much deeper in colour, but is now beginning to be lighter—a sign of fading. The second flower opened last week, and I can count five or six more blooms coming, so that I shall, probably, have it in one or two blooms till October.

Now, my proposition is this: I know the pollen of my plant is good, for I have had one pod of seed ripened by it this season, and if the pollen is able to fertilise another kind of Cyclamen, any such Cyclamen in any part or corner of Europe could be fertilised by my plant just as readily as if it were in Surbiton and in my own garden. But there may be sixty of our readers who would like to try that experiment, and as there are no more than six flowers in expectation, what am I to do? Shall I raffle for the pollen of a plant, as they do for the crumbs in the Royal Horticultural Society, or what? They call it balloting, but what is the difference? I think the best that I can do will be to offer one flower to each of six persons only—that is my proposition, and the next question is, Who are the most likely six among our readers to have the knack of crossing Cyclamens? A man may be a good general crosser, and yet be not an adept at particular instances of it. After a close consultation, on the subject of crossing Cyclamens, between your humble servant and the best practical crosser near him, Mr. Holland, from Twickenham, who possesses the perpetual bloomer of europeum, we decided that all Cyclamen flowers ought to be turned upside down while they were being dusted with pollen. Cyclamens have the pistil as fine and as sharp-pointed as a cambric needle, and, therefore, are very liable to miss the dust if these sharp points be left in their natural position. I heard since that Mr. Holland has succeeded in fertilising his perpetual europeum Cyclamen, but whether by its own dust or that of some other kind I am not sure. However, he would be likely to do the vernum with some autumnal kind—Neapolitanum, for instance, and I offer him a bloom when his plants are ready to cross. The other correspondents who took a part in the Cyclamens, may each also have one, as far as they go, for none of my own autumnals are likely to bloom this season, so that I am not likely to be able to test the crossing myself; but the opportunity is certainly too good to be lost, and it may not happen again in our lifetime.

It always struck me as desirable to pass the late-spring Cyclamens into the summer, and get them to cross with the earliest of the autumnal kinds. Also, if the latest of the autumnals could be made to flower later, and so bring them on to the time of the very early winter ones, which, like the Camellia, though they are strictly spring bloomers, could be so managed as to bloom as early as November. That once accomplished we should not only possess Hybrid Perpetuals, but a more hardy race.

If it were a matter that would well pay for the care and trouble, it could be done in another way more easily, and this brings me to a question in crossing for which I had been expecting all this summer to be called over the coals. I repeated an old saying of mine last spring, about the possibility of gathering Rhododendron pollen on the Alps of Thibet, if they be there, or so far north in that part of the world, and taking it home to cross with

here the following season, and some one said that it could not be done; at least, I have been told so. Well, perhaps it cannot be done, but who knows it cannot? It is on record that dry pollen from an herbarium had been put to the test of moisture after fifty years from the time the specimen was dried, and that the pollen grains or particles had first swollen, and then burst, the discharge looking in nowise different from that of the pollen of a recently-gathered flower. Absolute exemption from the access of moisture seems to be the essential to the preservation of pollen. At all events, I am certain that the pollen of a *Cactus* twelve months old, in my own keeping, fertilised a flower upwards of a quarter of a century back, and since then I have often used dried pollen some months old; but unless there was a natural secretion of moisture on the stigma, I do not remember that I ever induced dried pollen to act on an artificially-moistened stigma, as some have said. There are thousands of plants the stigmas of which appear always quite dry to the naked eye. The *Cyclamen* is one of them. I have tried pollen after a shower, when the stigmas were damp from the rain, and never could succeed in forcing any of them to seed; and it seems to me that any moisture, save the secretion of the plant, is fatal to the power of the pollen in every instance.

To ascertain the best way to transmit pollen from place to place would be a very great point gained. When I cut the anthers a day or two before they would open naturally, taking some length of stamen with each, and then place them apart in a fold or two of silver paper, and lay them in a tin-box, that pollen is safe enough for three months, but it must be applied with something like the old notion of camel-hair brush; shake the dust or pollen about in the silver paper, get it in a corner, and then it will stick to the point of a pen, or pin, or needle, or any sharp-pointed thing, but not a real brush, for that would be the height of extravagance on the one hand, and the extreme of folly on the other. The smallest brush would take up very much more pollen than would be necessary, and that brush would be of no more use for other pollen till after it had been wetted or washed and dried, for fear of not otherwise getting rid of the first kind of pollen before trying another.

There is but very little risk in sending pollen by post from any part of the three kingdoms to any other part, and if I had an ivory white strain of *Lady Elcho's* style of *Picotée*, I would as soon go to Japan for *Mistletoe*, as send blooms of that strain by post to a rival cross-breeder at Inverness, or any other Inver round the coast, for he would be sure to look out for the anthers, and to make use of that pollen in order to get hold of my superior strain without paying the piper.

It was only the other day that a bunch of the tops of a new seedling *Lobelia* came up from "A. O.;" the flowers were all withered, but I arranged the shoots as for long-legged cuttings, trimmed them, and put them in water and moss in a glazed saucer, and I would take in hand now to be in the market with seedlings of that *Lobelia*, which I shall thus ripen almost as soon as "A. O.;" but "A. O." took the temptation out of the way by sending three little plants of this seedling which are now in my keeping, and which must bloom before we can know anything of the *Lobelia* in question, for it does not seem likely that any of the shoots will make another flower.

They say it is a temptation and a danger to send money through the post, and I say it is equally so to send some flowers to some quarters, by the same or any other conveyance, and I wish particularly to impress this upon youngsters, and I shall wind up to-day by giving out a fair idea for a fortune. I suppose you have got the *Golden Fleece* and the *Cloth of Gold Geraniums* by this time, and also that you have not forgotten how Mr. Smith, of York, got *Mangles'* to seed last year by using the back pollen of the *Golden Chain*. Well, then, you get all the yellow, or golden-leaved sorts of *Geraniums*, and use the pollen in the two bottom anthers on the points of the *Fleece*, and of the *Cloth of Gold*; and if there is luck anywhere this season, you will soon find it in the seedlings; and if not, there is nothing lost, and you need not follow the seedlings beyond the third or fourth leaf, for, then, if they also are not gilded with this kind of gold you can destroy them. D. BEATON.

THE BOTANICAL GARDEN AT ADELAIDE.—It contains about forty acres of undulating ground, very prettily laid out for purposes both of ornament and classification. It is at the north-east corner of the town, and commands a fine view of the hills. It was commenced in 1855—the previous botanical

garden having been a very small place on the banks of the *Torrens*. The new gardens are laid out in various departments for a scientific arrangement of plants, pleasure grounds, an arboretum, &c. There are a good house for the Director, three propagating and green houses, and a handsome domed conservatory. Since water has been brought into the town, the beauty of the place has been greatly increased by the introduction of fountains and ponds, now well stocked with various kinds of water-fowl. There are also several aviaries and cages, and enclosures for animals—the gardens being zoological as well as botanical, at present. The collection, except of native animals, is as yet small, but receives occasional accessions. There are more than three thousand species of plants represented in the Botanical Garden, and this number is continually increasing. The garden is already rich in succulents, Ferns, florists' flowers, and bulbs. The garden is supported by an annual grant, and the public are admitted every day during daylight, except on Saturdays and Sundays, when the hours are more restricted.

### ALLOWING GARDENERS TO EXHIBIT PLANTS.

Is it justice or injustice not to allow a gardener to exhibit? My gardener is very much put out because I refuse to allow him to exhibit at the different flower shows held in this neighbourhood (Corentry). I take very little interest in the shows myself, and I think it takes the gardener's thoughts too much off from other work; though I admit that my gardener has no other holiday except on those show days, and he works many hours, even more than "R. W." thinks a gardener ought to work. He says he considers it not only a privilege but the duty of a master to allow it.—RIFLEMAN.

[We do not think that your inquiries involve anything at all of the principles of "justice or injustice." But the question is one among many others which has been pressed upon our attention relating to the position of gardeners, their rights and responsibilities, the practices and usages which generally exist, some of which may be too easily considered in the light of a law of use and wont, and therefore sometimes leading to the most unpleasant circumstances; because an employer, very likely from not being consulted, may choose to say that he never gave his consent, but, on the other hand, wholly disapproved of such proceedings. Such matters will lose little by being held somewhat in abeyance for a short time, because just as in the matter of hours and holidays, neither the professional writers in this Journal nor the Conductors could hope to establish a general rule of action in these cases; nor would it be altogether desirable if they could, as then the pleasant reciprocal obligations between employer and employed would lose much of their force and binding character.

Write as we have done or may, advocate certain principles of action as we may, tending, as we believe, to the general advantage of all parties concerned, the stubborn fact must remain, and it is well it should be so—that all such matters must be settled by a clear understanding between the master and the servant. The former has a perfect right to decide how he will be served, what he prefers to have grown, and what shall be done with every part and particle of the produce; the gardener has just as perfect a right to decide whether he will cheerfully give his services on these conditions.

There is seldom a real grievance or hardship in such cases. True, we have known instances and heard of others in which employers, ignoring such conditions, have wantonly committed reckless injustice; but, if even beyond the reach of legal redress, they were made to feel that they were not beyond the still more scathing condemnation of public opinion; and much as the gardening market is overstocked, there is still a growing demand for men who combine intelligence in their profession with strict moral rectitude, and nothing will prevent such men from ultimately succeeding. Still, it is always best to serve an employer in his own way, and when that is disagreeable or contrary to our cherished wishes, to terminate such a service in an honourable manner.

I am more particular on this point, because I believe that urging exhibiting on an employer as a privilege and a duty, is just much of a piece with representing the not exhibiting as an act of injustice. If "RIFLEMAN" gives an accurate version of the story as between him and his gardener, then, it is evident that the gardener has indulged in the too general but

perilous course, not only of deciding what would be best and most pleasing to himself, but also of deciding what should be the duty of an employer, and telling him what that duty and privilege is. Much would depend on the way in which that was done; yet, under any circumstances, the pointing out to an employer, by a servant, what his "duty" dictates in certain circumstances, is rather reversing the social order of things. Employers may be led, but few will bear to be driven. Had we been in the gardener's place, we would have urged exhibiting, if we wished to do so, on the grounds of its being a pleasure and a privilege to a gardener, and sound policy as respects the community; as most of the improvements of the day, from which employers and the public are receiving the benefit, may be traced to the stimulus and excitements of exhibitions. These might inculpate a sense of duty and privilege, which is very different from telling an employer what was his "duty," and what he must do to escape a charge of injustice.

The whole question, in fact, resolves itself into one of agreeable policy, and not one of justice or injustice. There is an old proverb, that "Every man would be a Pope if he could." Some men are more exposed to this egotism than others, and I fear we must class gardeners in retired places high up in this love for dictating. We all dearly like to have our own way. An exhibition often has the influence of shaking the conceit and egotism out of us, and comparing notes and opinions lets us often see our deficiencies. Even the best things, however, may be perverted; and there is no doubt that exhibitions have sometimes spoiled the best of gardeners, just because exhibitions became the all-in-all with them. "RIFLEMAN," therefore, has not only the right to decide whether his gardener shall exhibit or not; he might, from examples, adduce evidence that it would not be to his particular advantage that his gardener should exhibit. This should make exhibitors very careful that the general supply should suffer no diminution from their exhibiting. We have known many cases in which gentlemen have forbidden exhibiting because their tables were not supplied as they used to be.

On the other hand, we have known the most successful exhibiting associated with the strictest attention to general details; so much so, indeed, that the exhibitions were fully entered into by the employers as well as the gardeners.

Leaving, then, "RIFLEMAN" to come to the conclusions that may be prompted by his own feelings of publicity or retiredness, or merely from having an eye to his own private advantage, and waiving all about privilege and duty, there are two arguments that common policy will throw in his way. The first is, if such exhibitions improve the gardening of the neighbourhood, would he not like to have some hand in effecting that improvement; or will he take some other means to show his sense of these improvements in which, directly or indirectly, he must have a personal advantage?

Secondly, according to the account given of the gardener, if he is a little blunt, and not thoroughly conversant with social economy, he seems a thoroughly honest and more than ordinarily industrious man, working very long hours cheerfully, and seeking no holidays except going to an exhibition. Now, granting that his favourite hobby reaches the verge of enthusiasm—that the bee in his bonnet, if you will, is a very wild, loud, humming bee, would it not be sound policy, even consulting your own individual advantage, to give him a little of his own way, and let him exhibit as he wishes?

We know how men will toil in order that they may make a creditable appearance at an exhibition-table, and have the pleasure of dining and comparing notes with their brother competitors afterwards. We know, also, that when such stimuli are withdrawn there is less of an inducement to labour; and a man comes to feel that he has a right to stand out for something like regular hours. Even these hours insensibly may not be worked with the same spirit and earnestness. As stated previously, long hours can only be continued when there is a suitable stimulus presented: hence we have known cases when gentlemen interdicted their gardeners from competing, there was not in their conduct a thing they could pick out as a fault; but insensibly, and by degrees, the superfine productions melted away, and the employers came to the conclusion they had gained little by the change.

In conclusion, then, believing that "RIFLEMAN" may have good reasons for not exhibiting, for causes which he alleges or otherwise; yet we are so sure that a gardener will not continue the industry and the long hours of which he speaks without

some encouragement, that we would earnestly present the above advice, and if that is not suitable, then send him up to the International Exhibition, paying all expenses; and allow by other modes, if you disapprove of exhibitions, that you can thoroughly appreciate industry, activity, and attention to your interests.

One word more as to justice and injustice about exhibitions. First, let there be no mistake about the matter, but have everything clearly understood. I knew a case of one of the richest men in England encouraging his gardener to exhibit at a horticultural show; and in this, by downright hard work and industry, he managed to receive a good number of prizes. When settling-day came, he was asked to see his employer in his study, who read-off all the tickets of prizes, and then coolly pocketed the money without as much as "I thank you" to the gardener, who won them by extra toil and labour! Need I say the rich man pocketed no more money from that source?

A greater injustice than even this is perpetrated when an employer becomes a member of a country society, and tells his gardener to prepare things for exhibition, and yet gives no other encouragement; and would, after all, object to having the best plants removed, because they would disarrange the appearance at home for a day or two. In such a case, justice requires there should be no exhibiting.

Again, there are employers that are fond enough of taking prizes, but will do nothing to assist in getting prizes; nay, grumble because their gardener does not stand in the front rank, when they have given no help to enable him to do so—gave him nothing at all to work upon, except a grumbled mere labour power. I once heard a great lady rate her gardener in an exhibition-room because he did not hold the first place, telling him that they spent enough and as much as anybody, and ought to be first. If, instead of a prudent man who there pocketed the affront, the lady might there and then have been told that, whilst the successful competitors had spent hundreds and hundreds of pounds on new and desirable things, she had taken care not to spend ten pounds for such a purpose in the ten years he had been in her service. In one sense, such a statement would have been supererogatory, as few of any note there did not know that the maxim with this lady was to get all she could, and spend as little as possible. Now, in all such cases, the gardener is only unjust to himself if he takes his plants to exhibitions. Without being encouraged by the purchase of the best new things, common prudence would say, Let exhibiting mostly alone. Few exhibitors can continue to exhibit satisfactorily unless their employers not only permit it, but give it unmistakably their active encouragement, or enter into such arrangements as will present a purpose in and a stimulus to exhibiting.—R. FISH.]

## PARIS, JULY, 1862.

MONS. MARGOTTIN, BOURG-LA-REINE.

I HAD partly prepared a few remarks in connection with the great Rose shows of the past season and the novelties that have been brought before us; but the time for paying a projected visit to Paris arrived, and in the bustle and hurry of preparing to depart and of leaving all one's parochial matters in their due train, the paper was thrown aside, I consoling myself with the idea that I might perhaps finish it during my short sojourn there. But, alas! Sight-seeing in the month of July, even although it was not so warm as Paris is generally during this month, was by no means conducive to mental application, however slight; and as disappointed people always look for that "fool's paradise" to-morrow, I had e'en to think that day by day I should be able to do something. When all hope of this vanished I had got a best bower-anchor left, and to that I must certainly trust—viz., that I was obtaining newer information on the subject of Roses especially, and that in this respect I should be beforehand any of my fellow mariners in England. It was with no ordinary pleasure that I revisited my former acquaintances in the horticultural world; and the intelligence and kindness of all with whom I came in contact naturally enhanced the pleasure of my visit: and while all were ever ready to impart any information, I cannot but say that the impression that was made on my mind last October was fully confirmed now—that of all Rose-growers in France Mons. Margottin, of Bourg-la-Reine (or, as we should call it, Queensborough), is the most thoroughly practical. His son, too, is a most intelligent young

man; and the whole establishment evidences the thorough manner in which the Rose has been cultivated. An expression which dropped from him when we were strolling round his garden clearly showed the man. We were speaking of some curious points in common with his *spécialité*, when he exclaimed, "Ah! Monsieur, c'est une étude!" A man who has devoted a lifetime to its cultivation, with the feeling on his mind that it is a veritable study, is as likely to know as much about it as the celebrated Bonnet did of that caterpillar (*Cossus ligniperda*), to whose anatomy he devoted twenty years of scientific research. He is not a man who talks largely of what he has done, or who makes use of the brains of other men as if they were his own (a by-no-means-uncommon thing), but one who watches over his pets as a judicious parent over his children—studying their idiosyncracies, humouring their prejudices, and applying to each the peculiar treatment they require. The immense demand for Roses in England during the past season and the failure of the seed of 1860 (that fearfully wet year), have combined to make a material difference in the appearance of his garden—and Oats now occupy the place devoted last year in some parts of his garden to Roses. The first bloom, too, was nearly over. A few flowers were, however, still left—smaller, of course, than the earlier ones, but just sufficient to show the character of the flowers.

In speaking of the exhibitions here this year, I happened to mention the blooms of Comtesse Cécile de Chabillant shown by Mr. Cant, which were so beautifully mottled. He said, "Come and I will show you something of the same kind." And truly there was a bloom very similar to, although not, perhaps, so beautifully and regularly marked as the one I allude to. "And now," he added, "I will show you a curious thing." It appears last year he had a somewhat similar bloom, and that, believing it could be perpetuated, he budded it. In one sense his conjecture came true—the *panachée* character of it remained, each bloom being regularly mottled, but in other respects the Rose had lost its character; the exquisite shape and the delicate turn of the petals were gone, and the flower was a loose and open one with about half the number of petals. His idea is that it is disease—a disease which (as all Frenchmen delight in philosophising), he ascribes to sudden changes of temperature, comparing it to the affections in the human body which oftentimes ensue when a cold air or water is supplemented on a highly heated state of body. The poverty of the flower when propagated would seem to bear out this idea, and may perhaps add an atom to the controversy now carried on as to the cause of variegation in general. There were other items of this subject which were new to me. He says that every "panachée" Rose has been a sport—that is, one has never been raised from seed. This rather confirms the notion which one entertained—that *Triomphe d'Amiens* was a sport from *Général Jacqueminot*. This he stated positively was the case; and hence when some complain that it is no other than *Jacqueminot* they may be speaking of some which have reverted to the original type.

Mr. Cranston complained of Mr. Andrews' figure in the *Floral Magazine* of this flower that it was too highly coloured, and that he had a hundred blooms of it, but none like the figure. Another fact which Margottin mentioned throws some light on this. He confirmed what we have always thought—that *Madame Campbell d'Isly* is merely a sport from *La Reine*; but while showing me a whole row in which every bloom was beautifully mottled, he said at Paris it never came otherwise than as *La Reine*. What the climate of Paris, then, does for it hereford may for *Triomphe d'Amiens*. When these caprices are shown in the Rose it only shows how careful we must be in generalising upon individual facts or places, and how important to gather as many data as we can from various localities.

Again, I learned for the first time that *Panachée d'Orleans* and *Madame Desiré Gerand* were both sports from *Baronne Prevost* and came in the same year, the one at Orleans, the other at Valenciennes, and that in each case a change had taken place in the constitution of the plant—that *Panachée d'Orleans* was entirely without thorns and *Madame Gerand* was largely covered with very minute ones of quite a different character to those of *Baronne Prevost*. I do not know whether Mr. Cant has attempted to propagate from the branch of *Cécile de Chabillant* from which his blooms were cut; but if he has, I should be curious to know the result.

I saw a large number of blooms of *Souvenir de Comte Cavour*, and am quite persuaded this Rose has not been seen to advantage in England yet, nor were the blooms that I saw of it at

M. Margottin's at all fair one to judge by; but I feel certain that it will be, from its brilliancy of colour and regularity of petal, a great favourite. The same thing is said in France as we find here—viz., that plants are so hacked and hewn about that it is impossible to tell for the first season what they will be. *Alexandro Dumas*, too, was much brighter and richer than I had before seen it; the dark appearance indicating more age. "The only Rose which seems," says Margottin, "to grow brighter as it grows older is 'Lord Palmerston.'" Curious, I thought; is not this the character of the man himself, whose brilliant career certainly seems to acquire greater brilliancy as he has reached that term of life when most other men consider that life's business and cares are not for them, but who is "as ready to give as good as he gets" as any youngster of twenty-five? And what shall I say of *Boule d'Or*? Why, that I saw one blossom of it, beside which *Cloth of Gold* (or *Chromatella*, as it is called in France) was even dull; but although this was cut from the open air, I fear that, in our less favoured climate, we must consider it as a greenhouse plant.

Of *New Roses*, *Mons. Margottin* has but two to send out this autumn; one of these, *Louise Margottin*, will be a decided acquisition. It is a seedling of *Louise Odier*, of the same shape and character, the colour a very light blush pink, and the habit vigorous—in fact, I should, perhaps, well give an idea of it when I say that it is a *Modèle de Perfection* in the Hybrid *Perpetuals*, fuller and more vigorous in growth than that pretty *Bourbon*. I very much mistake if this will not be a very favourite flower. It is a somewhat curious thing, that although *Louise Odier* was raised by *Mons. Margottin* fifteen years ago, and has always seeded freely; and although he has had *Roses* from it of all shades of colour, from pure white up to dark crimson, that they have all proved worthless in their habit, and have departed in the first or second year of their brief existence, here, at last, he has obtained one vigorous in habit, and good in other respects. The other Rose, also a Hybrid *Perpetual*, was not in bloom, and is not yet named; I conclude, therefore, that *Louise Margottin* is the better of the two.

We had much more interesting talk on the *Roses* of the past season. *M. Margottin*, who is no bad judge, considers *François Lacharme*, *Duc de Rohan*, and *Chrétien Pulteny* as excellent *Roses*; while, as with us, two of his favourites are *Senateur Vaisse* and *Cécile de Chabillant*. He deprecates the flooding of the market with new *Roses*—a matter which must find its level; and he was delighted with the figure I showed him of "John Hopper"—a Rose, I believe, not likely to be surpassed by any arrivals from the Continent this season.

I have again to record the extreme kindness with which I was received; and, after a pleasant and profitable forenoon, found my way back to Paris, of which more another time.—*D. Deal.*

## SOWING AND PLANTING THE CABBAGE.

DURING the hot and sultry month of August it is not always an easy matter to induce seeds to grow, of which the natural period of vegetating is at another season, but it is not always hot and dry, and when it is so some artificial means must be taken to insure the conditions necessary for success; and however simple these may be, it is of the greatest importance to the crop now under consideration that attention be paid them; and though August may possibly be a dull and showery month like the two last that preceded it, yet, assuming it to be dry, bright, and sunny, with only an occasional thunder-shower, some little care will be wanted to secure a good breadth of young plants for next year's supply. As there are few other crops in which an omission in the sowing and rearing of a batch of plants is attended with such bad consequences, it cannot be too strongly impressed on the kitchen-gardener to endeavour by all the means he can command to secure a good brood of healthy young Cabbage plants fit for planting out at the proper time, and also be sure that the variety he has is one not likely to run to seed in early spring, and is in other respects a suitable one for the purpose wanted.

I believe it will be generally admitted that the Cabbage, taken as a useful early vegetable, has improved as much in the last twenty years as most products of a like kind. The liability to run to seed in March has to a certain extent been got over, and plants of a larger size and greater age are made to stand the winter and form nice useful heads in early spring than was the case in years gone by.

It is well known that the parent plant of the cultivated Cabbage flowers in spring, ripening its seed and shedding it on ground as hard as the beaten path of a public highway. On this it vegetates in due time and propagates its species; but in the cultivated varieties something else is required than merely the reproduction of plants, and a few hints on the conditions necessary to insure success in the several operations of sowing, planting, selecting varieties, &c., will, perhaps, be the best way of elucidating this.

*Time of Sowing and the Mode of Doing It.*—By the time this Number reaches the readers of THE JOURNAL OF HORTICULTURE, it will be quite time to sow the principal batch; in fact it would have been as well if a few for early use had been sown late in July, as it is important that a few for very early use should be tried. We have sown some as early as the 24th of July, and succeeded pretty well. Generally, however, it is not safe to trust too much to these early sowings, as they are apt to run to seed in March; but a few might be tried each year, and if sown at two or three intervals between the 22nd of July and the 15th of August, the last may in all cases be depended on if the former fails. In a general way, however, it is better to hasten on a few of those sown the first week in August, by giving them some good ground to grow in, and whatever encouragement they can have in order to encourage their growth in the autumn and mild winter months; but, as before stated, a few of the earlier ones ought also to be trusted, but by no means for the main crop. However, if a crop has been sown take the necessary care to save them, and let everything be done to insure their growing; and in sowing fresh batches of seeds, if the weather be dry and the ground has been dug some little time—say a month or so before, let it be trod evenly over and the seed sown; then rake and finally beat over with the back of a spade, afterwards cover it with a few old pea boughs, and over this a little pea haulm, and if the weather still keep very dry, water the bed pretty well in three or four days after, letting the covering still remain, and the probabilities are, that in a week or so an excellent bed of seedlings will reward the care; but attention to them must not cease when the young brood is up, for the fly is very apt to play havoc with them if not retarded. When, therefore, this appears likely, dust the plants over carefully with soot, or soot and lime, or wood ashes, or all three mixed, and if the evil still appears unchecked water gently with a weak decoction of tobacco. This last is rather an expensive item where it has to be extended over a large space; but for a small quantity which it is important to save, it may be done with advantage. It is proper to observe, that the shading mentioned above must be removed when the plants are fairly up, taking advantage of a dull damp day for the purpose, or if it still continue bright and sunny remove it by degrees.

*Varieties Suitable for Sowing Now.*—It is a difficult task to name the kinds that might be expected to do best everywhere, as local circumstances exercise so much influence on them; but I may say that some of the early kinds, of which the old Early Dwarf York was the type, will be found to answer for the earliest crop. The distinguishing features are a plain rather deep green leaf, and dwarf and somewhat small habit, for this reason they may be planted closer. Shilling's Queen and Matchless are somewhat in this way; while the larger sorts, more truly "Sugar Loaf," and with leaves more or less glaucous and wrinkled, are represented in the Imperial, East Ham, Enfield Market, and many others. This class is, however, hardly so hardy as the former, but they are equally good in resisting the temptation to run to seed. It is, however, better not to depend on one kind only, and it not unfrequently happens that a local variety unhonoured by any name possesses all the qualities wanted in a Cabbage. When such can be obtained do not let the high-sounding title of one paraded forth in print prevent you using it, and it is very likely it will do better service than the more assuming one. It is, therefore, best to sow three or four kinds, and to plant a few of each, and if they be all good so much the better, and if one fail it is better so than if they were all bad.

*Subsequent Planting-out.*—The early sorts to come into use in early spring ought to be planted on a south border which had previously been well manured. These may also be planted somewhat closer than the main crop—the rows say 2 feet apart, and the plants 18 inches in the row. The main crop may be 6 inches more each way, and may consist of the larger kinds mentioned above. This plantation may be somewhat later than the other, and in the open quarters of the kitchen garden. Besides these

two permanent plantations, it is prudent in many cases to plant out a large batch on some prepared bed, as a nursery-bed, to stand the winter, for planting-out in spring, or to fill up gaps in the main crops. The plants also by being planted-out thus do not become so elongated as when left in the seed-bed, and are, consequently, in a better condition to plant afterwards when wanted.—J. ROBSON.

#### STEMS OF MELON PLANTS SPLITTING.

THE plants died away very suddenly by splitting up the stem just above the surface of the earth; likewise several of the strong roots, near the stem, of some of the plants cracked or split up. It occurred when the fruit on the plants was nearly half-swelled, and in a few days after a heavy watering had been given them, the first watering after the setting, the border having become very dry at the time. The plants were remarkably strong, clean, and healthy.—T. T.

[Rich soil, too much bottom heat, dull weather, and too much water at once, are the chief causes of the misfortune. Melons, like men, must have changes presented to them gradually. If a man were next to famished, what would be the result of giving him as much fat beef as he could eat? We hope, however, you will make no uncharitable use of this, for you say the loss occurred to a neighbour. We prefer people stating their *own* case, and our help is given to assist if we can—never to gratify mere curiosity, or to encourage fault-finding.]

#### GLOUCESTER FLOWER SHOW.

WEDNESDAY last was a high day in the ancient city of Gloucester. On entering the town on the morning of that day the stranger was forcibly informed that some great event was being celebrated, by the profusion of banners that floated in festoons across the streets, or hung in lazy grandeur from the windows of the houses. On that day the Mayor and Corporation were to present the inhabitants with a new park, and the occasion was to be celebrated by a grand meeting of the Gloucestershire Agricultural Society, with which a great Flower Show was to be associated. The Exhibition took place in the ground which has been set apart for the new park; that devoted to flowers was held in a paddock adjoining the pump-room, where two large tents were erected for the reception of the exhibitions. The larger tent was arranged with a wide stage down the centre and one on either side. On the centre stage were some very excellent examples of fine-foliaged plants, and these formed the main attraction of this part of the Show: indeed, had it not been for the nurserymen who exhibited in this class, the whole would have presented a very meagre appearance. We regret to say, that from what we saw on this occasion we were not induced to form a very high estimate of the horticultural taste of the gentry of Gloucestershire; for with the exception of the meritorious exhibition of fine-foliaged plants from Mr. John Hunt, gardener to Lord Fitzhardinge at Berkeley Castle, there was nothing from any private grower that contributed a prominent feature to the Exhibition.

As the agricultural portion of the Show does not come within our province, the observations we have to offer will be confined to the flowers and fruits.

The prizes offered for flowers and fruits were on the most liberal scale, and it is to be regretted that in Class A, for 15 Stove and Greenhouse Plants, £28 should have been offered and called forth so poor a response. This was, perhaps, the weakest part of the Show, considering the inducement held out, and consisted of only one competition to which the first prize of £15 was awarded, the fortunate winner being Mr. James Cypher, of Cheltenham. There was nothing remarkable in any of the specimens, for they were just such as might be brought from the houses of any well-conducted nursery. They consisted of *Allamanda cathartica*, *Rondeletia speciosa*, *Erica inflata alba*, *Kalosanthes phœnix*, *Achimenes Ambrose Verschaellé*, *Statice Holfordi*, *Erica vestita rosea* (scarcely in bloom), *Ixorajavanica*, *Russelia juncea*, *Allamanda Schottii* (badly flowered), *Erica tricolor elegans*, *Achimenes Sir Treherne Thomas*, and *Erica Jacksoni*. We think it was rather an oversight on the part of the Committee to offer £15 for Stove Plants at this season of the year when they are past their best, and to restrict the Class of Fine-foliaged Plants, which, in fact, contributed the best part of the Exhibition, to £5.

In Class B, for 10 Stove and Greenhouse Plants, there were only two competitors, and their exhibitions were such as to induce the Judges to withhold the first prize. The second prize was awarded to Mr. Pilgrim; and the third to Mr. Hooper, both of Cheltenham.

In Class C, 6 Stove and Greenhouse Plants, the first prize was awarded to Mr. Hamlett, of Cheltenham. This exhibition contained a good specimen of *Hoya carnea* variegata, and a pretty good specimen of *Statice Hoffordii*, but with these exceptions there was nothing worthy of special mention. The second prize was awarded to Mr. Dingle, gardener to T. B. L. Baker, Esq., of Hardwicke Court; and the third to J. J. Marling, Esq., Stanley Park.

In Class D, 6 Ornamental-foliaged Plants, the first prize was awarded to Mr. John Nelson, nurseryman, St. Michael's Hill, Bristol. These were handsome, well-grown specimens, and consisted of *Latania borbonica* (Palm), *Thamnopteris australasica* (Fern), *Maranta zebra*, *Cyanophyllum magnificum*, *Sphaerostemma marmorata* (a very excellent specimen), and *Alocasia metallica*. An equal first prize was given to Mr. Heath, nurseryman, of Cheltenham, for *Pandanus utilis*, *Cyanophyllum magnificum*, *Pandanus javanicus* variegatus, *Alocasia metallica*, and *Croton pictum*. The second prize was awarded to Mr. John Hunt, gardener to Lord Fitzhardinge, for *Cyanophyllum magnificum*, *Caladium Chautini*, *Maranta Warzewiczii*, *Croton elegans*, *Dracæna variabilis*, and *Colens Verschaffelti*. All honour to Mr. Hunt, who was the only gardener in the county who came forward and so nobly upheld the credit of his craft.

In Class E, Collection of not more than 30 Plants grouped for effect, the first prize was awarded to Mr. Heath, of Cheltenham. This was altogether a very creditable exhibition as regards the plants themselves, but we should like to have seen more taste displayed in the grouping. With such materials much more could have been made of them. On one side of the stage a magnificent specimen of *Asplenium nidus* occupied the centre, the longest fronds of which measured  $\frac{1}{2}$  feet long. To the left of this, as you look at it, the group was perfect, and consisted of very fine plants of *Coleus Verschaffelti*, *Pandanus javanicus* variegatus, *Dicksonia antarctica*, and *Yucca aloifolia* variegata. Between the *Asplenium* and the *Coleus*, and standing a little forward, was a nice plant of the true *Cordyline indivisa*. To the right of the centre plant the grouping was decidedly weak in effect, and came far short of the other side, both in regard of colour, form, and harmony. On the right of the *Asplenium* was a small specimen of *Maranta truncata*, contrasting, but certainly not matching, with the *Cordyline* on the left. Then followed a tall leggy *Croton pictum*, which harmonised ill with the fine round bushy *Coleus* on the other side, *Pandanus utilis*, *Aspidistra variegata*, and *Cycas revoluta*. The ridge of the collection consisted of *Cordyline smaragdina*, *Phoenix dactylifera*, *Aralia leptophylla*, *A. pulehra* (an elegant plant), *A. reticulata*, *Caladium atro-purpureum*, *Angiopteris longifolia*, and *Grevillea robusta*. The other side of the group did not seem to have a centre, and was composed of *Platycerium stemmaria*, *Croton longifolium*, *Cyperus alternifolius* albo-*vittatus*, *Alsophila australis*, *Latania rubra*, *Pyrostrea polymorpha*, *Rhopala Skinneri*, *Caladium pictum*, *Calathea zebra*, and *Dracæna ferrea*. The second prize was awarded to Mr. Nelson, St. Michael's Hill, Bristol, who exhibited a very nice collection of well-grown, young, healthy, and vigorous plants; they were not so large nor so tall as those of Mr. Heath. It contained some very good specimens, particularly one of *Cyanophyllum magnificum*, the leaves of which were 27 inches long. Among the most noteworthy we observed *Curcuma Roscoeana*, *Curcuma rubricaulis*, *Pteris argyræa*, *Philodendron pertusum*, *Pandanus javanicus* variegatus, *Pteris cretica* albo-*lineata*, *Costus elegans*, a fine specimen of *Gymnogramma chryseophylla*, *Campylobotrys repulgens*, &c.

In Class F, for Ornamental Baskets of Flowers, there was a very meritorious exhibition by Mr. C. E. Brydges, of Cheltenham, which obtained the first prize. It consisted of a rustic stand with three circular tiers; the outsides of the tiers were covered with green moss, and the interiors were filled with *Hydrangeas*, *Scarlet Geraniums*, *Fuchsias*, *Petunias*, *Phloxes*, *yellow Calceolarias*, &c., relieved with fronds of *Lastrea dilatata* and *silix-mas*, the whole adorned with a neat plant of *Dracæna variabilis*. Here and there was introduced the graceful pendent foliage of *Gynerium argenteum*. The base of the stand was also covered with green moss and planted with small plants of *Coleus Verschaffelti*, relieved with pieces of *Hydrangea varie-*

*gata*, and short fronds of *Lastrea dilatata*. The other two exhibitions in this class were stiff and formal, partaking too much of the village-festival style of decoration to be either artistic or pleasing.

In Class G, Mr. C. E. Brydges, of Cheltenham, exhibited, and received the first prize for 12 well-bloomed *Fuchsias*.

In Class H, Mr. A. Maisey, of Cheltenham, exhibited 6 very handsome and well-bloomed plants of *Fuchsias*, which obtained the first prize; the second was awarded to Mr. C. E. Brydges.

In Class I, Mr. Hooper, of Cheltenham, took a first prize for 6 *Roses* in pots, in praise of which we cannot say a great deal.

In Class J, for Cut *Roses*, Mr. Morse, nurseryman, Dursley, was first; and Mr. Walters, gardener to James Akers, Esq., Prinknash Park, was second. Neither exhibition was anything to boast of. But why did the Committee offer £1 10s. for twelve cut blooms, and only £1 for six plants in pots? Surely they do not suppose there is more merit in cutting twelve good blooms from out of doers than there is in blooming six good plants in pots, apart altogether from the expense of production and transmission.

Among Miscellaneous Plants, Mr. Hodges, nurseryman, Cheltenham, exhibited a nice stand of *Carnations* and *Picotees*; and Mr. Dingle received an extra prize for a collection of plants which contained some good specimens of *Begonias*; among which were *Regina*, *Rex*, *Rollisoni*, and *Marshalli*.

The show of Fruit was not remarkable nor so good as we had expected from a district so rich as is that of Gloucester and the adjoining counties.

In Class O, the only exhibitor of *Pines* was Mr. Hunt, of Berkeley Castle, who took a first prize with two small *Queens*.

In Class P, for two dishes of Black and two of White Grapes, Mr. John Hunt, of Berkeley Castle, was first for both Black and White. The former were Black Prince and Frankenthal (shown as Black Hamburg), and the latter Golden Hamburg and Bowood Muscat. William Metcalfe, Esq., of Clifton Gate, was second for Black, with Frankenthal (shown as Black Hamburg), and *Barbarossa*; and Mr. Cramb, gardener to the Earl Ducie, Tortworth Park, was second for White, with Muscat of Alexandria and Golden Hamburg. This exhibition was good, but the Muscats looked green and not quite ripe. The Golden Hamburg was very good for that variety which requires so much management in its cultivation.

The first prize for Melons was awarded to Mr. A. V. Temple, gardener at Colesbourne, and the second to Mr. Cramb, of Tortworth Park.

In Peaches, J. W. Halliwell, Esq., of Stroud, was first with four large *Bellegardes*; and G. S. Wintle, Esq., of Gloucester, was second with a capital dish of Barrington's. Mr. Halliwell, was also first in Nectarines with Pitnaston Orange.

In Class T, for Collections of six dishes of Fruit, Mr. Cramb took the first prize. This collection was tastefully arranged and altogether meritorious, it consisted of Hybrid Green-flesh Melon, Frankenthal, and White Muscat Grapes, Bigarreau d'Esperen Cherry, very fine; Florence Cherry, also very fine; and Brown Turkey Fig. Mr. Halliwell was second. This collection consisted of a dish of Nectarines, two indifferent *Pines*, two bunches of Frankenthal Grapes, six indifferent over-ripe Peaches, Muscat Grapes, and a dish of Plums. In the Collection of four dishes of Fruit, Mr. Hunt was first with a Queen Pine, a Bromham Park Melon, Muscat of Alexandria, and Frankenthal Grapes. S. Marling, Esq., of Stanley Park, was second with Frankenthal Grapes, White Dutch Currants, Late Duke Cherries, and a Melon.

In Class V, for Vines in Pots, Mr. Hunt, of Berkeley Castle, had two first-rate plants of Black Hamburg laden with fine large bunches of fruit, but which were so awfully rubbed, that they shone like glass balls, some of the spectators remarking, "Oh! they are only tied on." Mr. Holder, of Cheltenham, was a bad second.

As is proper after such an occasion the time-honoured ceremony of a dinner was celebrated in a large marquee, and at which Edward Holland, Esq., M.P., of Dumbleton, acted as Chairman. The finest feature on this occasion was the presence of ladies, who seemed to enjoy the effect of these social meetings equally as much as the sterner portion of the community. The substantial portion of the entertainment was well served; but of the wines—what shall we say? Hock in Gloucester signifies something resembling the risings of a cask of very bad cider. Where were the stewards?

## AN ACT FOR THE PROTECTION OF CERTAIN GARDEN OR ORNAMENTAL GROUNDS

IN CITIES AND BOROUGHS.

THE following are the chief clauses in a Bill now before Parliament, and which, if passed, will bear the above title :—

"Whereas it is expedient to make provision for the better protection and charge of enclosed garden or ornamental grounds which have been set apart for the use of the inhabitants of any square, crescent, circus, street, or place surrounding or adjoining such gardens or grounds in any city or borough: Be it enacted—

"1. Where in any city or borough any enclosed garden or ornamental ground has been set apart in any square, crescent, circus, street, or place, for the use or enjoyment of the inhabitants thereof, and where the trustees, commissioners, or other body appointed for the care of the same have neglected to keep it in proper order, or where such garden or ground has not been vested in or placed under the management of any trustees, commissioners, or other body for the care of the same, and from the want of such care, or from any other cause, has been neglected, the Metropolis Board of Works, where the same is in any place under their jurisdiction, except the City of London (where the provisions of this act shall be carried into effect by the Corporation of the same City), and the Corporate Authorities in any other city or borough, shall take charge of the same, putting up a notice or notices to that effect in such garden or ornamental ground, and if after due inquiry the person entitled to any estate of freehold in the same cannot be found, or if it shall be vested in any person by whom it is held, subject to any condition or reservation for keeping the same as and for a garden or pleasure ground, or that the same shall not be built upon, but not otherwise, shall cause any buildings or other encroachment made therein within the period of twenty years before the passing of this Act to be removed, and (if requested by a majority of two-thirds of the owners and of the occupiers of the houses surrounding the same) shall vest such garden or ornamental ground in a committee consisting of not more than nine nor fewer than three of the rated inhabitants of such houses to be chosen annually by such inhabitants; and the Vestry or Board of any and every parish or district within which the same or any part thereof is situate shall from time to time cause to be raised the sums required by such Committee for defraying the expenses of the maintenance and management of such enclosed garden or ornamental ground, or of such part thereof as is situate within their parish or district, by an addition to the general rate to be assessed on the occupiers of such houses; or if the said owners and occupiers shall not agree as aforesaid to undertake the charge of such garden or ornamental ground, the Metropolis Board of Works or Corporate Authority aforesaid shall, within six months after the notice hereinbefore mentioned shall have been put up within the same, or within such further time as the said Board or authority may think it expedient to allow for such agreement to be come to, vest the same in such Vestries or Boards, who shall thenceforth take charge of and maintain the same as an open place or street in such manner as shall appear to them most advantageous to the public, subject to the approval of the Metropolis Board of Works or Corporate Authority, as the case may require; saving and always reserving to every person or persons, his and their heirs, executors, administrators, and assigns, all such estate, right, title, and interest as he, she, or they would or ought to have had and enjoyed of, in, to, from, or out of the gardens and grounds aforesaid in case this Act had not passed.

"2. And whereas the public are greatly interested in the maintenance of such gardens and grounds as open spaces, and it is expedient that the same should be carefully protected from undue encroachment, where any right to require that any garden or ornamental ground as aforesaid be kept and maintained as such, or that the same shall not be built upon, shall belong to any person in right of any house or other property, and he shall by notice in writing signed by him addressed to the Metropolis Board of Works where the same is in any place under their jurisdiction, except the City of London, where the same shall be addressed to the Corporation of the said City, or in any other city or borough to the Corporate Authorities thereof, requesting the said Metropolitan Board of Works or Corporate Authority to protect the right before-mentioned, the said Metropolis Board of Works or Corporate Authority, after due inquiry, may, if they shall think fit, accede to such request, and then and thereupon the right of such person to require that such garden or ornamental ground to be maintained as such, or that the same shall not be built upon, shall thenceforth be vested in such Metropolis Board of Works or Corporate Authority, who shall be fully empowered, for and in their own name, to exercise all the rights, powers, and privileges in relation thereto, and take such legal proceedings for asserting, defending, and protecting the same as the said person might have exercised or taken.

"Any charge incurred by the Metropolitan Board of Works in the execution of this Act shall be deemed to be expenses of the said Board for payment whereof provision is made by the Act for the better local management of the metropolis; and the expenses incurred by any Corporate Authority shall be deemed to be expenses necessarily incurred by them in carrying into execution within and for their city or borough the Act intitled 'An Act to provide for the Regulation of Municipal Corporations in England and Wales,' and any other Act amending the same.

"3. Where any such garden or ground is managed by any committee of the inhabitants of any square, crescent, circus, street, or place, such committee may make, and from time to time revoke and alter, byelaws for the management of the same, and for the preservation of the trees, shrubs, plants, flowers, rails, fences, seats, summer-houses, and other things therein, which byelaws shall be entered in a book kept for that purpose by the committee, signed by the chairman of the meeting at which the same shall be passed, and which book shall and may be produced and read, and taken as evidence of such byelaws, in all courts whatever, and any inhabitant, or servant, or other person admitted to such garden by any inhabitant, offending against the same, after they shall have been duly allowed, as hereinafter provided, upon proof thereof before a Magistrate acting for the district in which such garden is situate, shall be liable for each offence to a penalty not exceeding five pounds: Provided always, that such byelaws shall not come into operation until the same shall have been allowed by some Judge of one of the Superior Courts, or by the Justices in Quarter Sessions; and it shall be incumbent on such Judge or Justices, on the request of such committee, to inquire into any byelaws tendered to them for that purpose, and to allow or disallow the same as they think meet.

"4. Any police constable who shall see any person throwing any rubbish

into any such garden, or trespassing therein, or getting over the railings or fence, or stealing or damaging the flowers or plants, or committing any nuisance therein, may apprehend such person, under the authority hereby given to him; and any person convicted before any Magistrate acting for the district shall be liable for each and every offence aforesaid to a penalty not exceeding forty shillings, or to imprisonment for any period not exceeding fourteen days."

## THE ROSES AT REED HALL, COLCHESTER.

IN No. 68 of THE JOURNAL OF HORTICULTURE, Mr. Beaton makes the following statement—"That a hundred to one if Mr. Hedge does not give sprats, starfish, &c., to his Roses, and that is how he gets off with all the prizes." Fearing this assertion might mislead the Rose-growing portion of the public, and excite the ire of another class—the cod-loving portion, by anticipating a dearth amongst that (to them) interesting body of marine residents, these considerations have induced me to offer a few facts, to such of your readers, of what I saw and heard at Reed Hall. My intention is to be brief, as I have no time for perambulating the fields of Walker or Webster; so I will begin at the beginning and take you to the end of my ditty, as soon as the subject will permit.

One portion of the grounds is laid out in geometrical beds and filled with standards, each bed being planted with one *recherché* kind. Another portion is laid out in beds of about 6 feet wide, running the length of the quarter, with walks between, filled in a miscellaneous manner. Mr. Hedge is also an enthusiastic cultivator of other florists' flowers. From the appearance of his Dahlia-ground, I think he intends contesting the championship in this "fancy." I may also state that our hero is a systematic man, which is even carried out in his tool-house, which I fancy would satisfy Mr. Fish; not only the tools, but every label lies in due order. On show days there is no bustling about writing labels—here they are all ready for use, placed in separate compartments, with the initials outside. He is no six-o'clock man, but expects things to be done when circumstances require it, and his kindness insures their due performance. And now for his system of culture—it is very simple. The natural formation of the soil appears very favourable for the growth of the Rose, being a good, moderately-adhesive loam, resting upon a stratum of gravel, which insures good drainage. But, in order to assist Nature and insure success, he practises deep trenching, careful planting, sharp-pruning root and branch, biennial or triennial removal according to kinds, great care in cleanliness of plants and flowers. He has all stems well washed with a hard brush every winter, in a similar manner to fruit trees; the buds he keeps clear from aphid by drawing each tender branch between two soft brushes, which effectually clears them from this pest; and last, but not least, he makes a particular selection of blooms as to colour and age, so as to arrive at perfection on the exhibition-table.

Now about the "little fishes." On our expressing surprise at the luxuriance of his plants, he assured us that he had done nothing to his Rose trees this season in the shape of manure or disbudbing, except what they had when planted, which was a liberal supply of good farmyard manure (this gentleman has a home farm, which I daresay contributes in no small degree to his success). Notwithstanding his great success this season, he claims no merit to himself, but says that a moist season has done it, and that Nature frequently beats art. One other very significant assertion, and it was this—"When a prize is gained and the gardener forgotten, he seldom strives for more."

The following are the "gems" above referred to, which the champion says may always be relied upon for exhibition :—

HYBRID PERPETUALS.—Anna de Diesbach, Auguste Mîé, Baronne Prevost, Caroline de Sansal, Comtesse de Chabillant, Eugène Appert, Général Jacqueminot, General Simpson, Gloire de Vitry, Gloire de Santenay, Jean Bart, Joan d'Arc, Jules Margottin, La Ville de St. Denis, La Fontaine, Lælia, Lord Raglan, Louis XIV., Madame Boll, Madame de Cambacères, Madame Furtado, Madame Masson, Madame Vidot, Mdlle. Eugénie Verdier, M. de Martigny, Mathurin Regnier, Pauline Lauzeur, Prince Léon, Queen Victoria, Sénateur Vaise, Victor Verdier, Virginal, William Griffith, Madam Rivers, Comtesse de Kergolay.

BOURBONS.—Acidalia, Souvenir de la Malmaison, Baronne de Noirmont.

TEA-SCENTED.—Comte de Paris, Duc de Magenta, Devoniensis, Gloire de Dijon, Niphotos, Souvenir d'un Ami, Reine Victoria, Josephine Melton, Enfant de Lyon, Adam, Madame Sartot,

Rubens, Madame Damaizin, Madame Bravy, L'Enfant Trouvé Souvenir d'Elise Varden.

NOISETTE.—Triomphe de Rennes, Lamarque.

SUMMER ROSES.—Boule de Nanteuil, Coupe d'Hébé, Charles Lawson, Prince Regent, Shakespere, Bizarro Marbrée, Madam Hardy, Paul Ricaut, La Ville de Bruxelles, Ohl, Leo X., Juno.—S. AMEY, *Saling Grove Gardens*.

## PEACH CULTURE ON WALLS.

(Continued from page 311.)

**SUMMER TREATMENT.**—This season commences when the trees are coming into bloom, and ends when the leaves are fallen from the trees. The attention they require consists in, first, protecting the bloom; next, disbudding; third, thinning the fruit; fourth, watering; and lastly, destruction of insects and mildew.

**Protection.**—The shelters used for this purpose are various. Some use spruce fir branches tied to the main shoots, others use branches of beech with the dry leaves on; but these shelters are of but little use, and sometimes injurious. What is needed is a shelter from frost only; and, therefore, a contrivance whereby the trees may be covered at night, and exposed during the day, is far superior to a fixed one like the branches of trees. The best kind I ever used was made as follows:—A long board projecting from the top of the wall over the trees was fixed first, then to it a sufficient number of pulleys, through each of which a rope was threaded; one end was fastened to a pole on which was nailed a length of canvass or netting wide enough to cover the wall when let down. Another pole was fixed on posts near to the ground about 2 feet from the wall. To this pole the other edge of the canvass or netting was fixed. To keep the covering from the wall some rough larch poles were reared up at 6 feet or 8 feet apart. During the day, in mild weather this shelter was let down, resting upon the lower pole by means of a rope, and early in the afternoon it was drawn up, thus covering the trees completely. By this contrivance we sheltered the blossoms from frost by night, and exposed them to the warm sun during the day. In another place we used frames of wood, the height of the wall, made about 3 feet wide. These had thin canvass nailed to them, and when in use rested under a piece of wood nailed to the top of the wall, and on another laid on the ground. The frames were light, and easily moved. A young man in half an hour could remove them from a long wall in the morning, and lay them down in the walk on two pieces of wood to keep them from the damp, and replace them in the afternoon in the same time. This mode is rather troublesome, and, perhaps, expensive at first; but with care the frames last many years, and the protection they afforded was most effective. The late Mr. Errington always advocated the putting on of these shelters early, for the purpose of retarding the blossoms from expanding too early whenever a warm February or March occurred. Of course, when put up for that purpose, the sun is the object to be sheltered from; hence the protectors should be kept on during the day. No doubt other modes of shelter might be devised; but the object should be kept in view of not retaining them on in mild weather during the day, nor too late in the season.

**Disbudding.**—I have already incidentally mentioned this part of the summer treatment under the head "Training," I need only repeat here that disbudding can hardly be done too soon. If the superfluous shoots are left on too long they absorb that nutriment which should be given to the needful shoots, and also the scars that are made in removing them are injurious to the branches. The leading shoots must be left on to draw up the sap to feed the fruit; but they should have the end nipped off when about 8 inches to a foot in length. The shoots for bearing the fruit the following season should be retained their full length, and as soon as they are long enough should be nailed in. Give them as much space as possible, so that every leaf will have its due share of light. In this place let me warn the young grower against laying in too many summer shoots. Those growers that do so are under the erroneous idea that thereby they multiply the chances of a crop of fruit, whilst, in fact, the effect is the reverse. Crowded shoots injure each other; the leaves cannot perform their functions; the buds are all, or nearly all, wood-buds; and for want of light and air the wood in the autumn is crude and unripe;—all these fatal evils may be avoided by keeping the trees thin of wood during the summer, and also keeping the preserved shoots regularly nailed or tied close to the wall. Be careful, however, not to enclose the shoots too tight with the shreds or string.

**Thinning the Fruit.**—The Peach tree when healthy and its annual shoots properly ripened is very fruitful, and will set, as it is called, more fruit than will expand to full size and perfection; hence the advantage of thinning. The number of fruit that it may be advisable to leave on to ripen depends in some measure on the vigour of the tree. If very strong and healthy, the final thinning may leave a fruit to every square 6 inches the tree may cover of the wall; if moderately strong, extend the space for each fruit to 9 inches square; and if weak, thin them to a foot square. These distances may not be kept mathematically correct, for the fruit may be rather thicker in one part of the tree than another; but the number of fruit that is left should be such as would, if regularly and exactly placed, amount to the same quantity. At the first thinning, which should take place as soon as they are the size of a boy's marble, take away all that are of a bad form or are badly placed. At the second thinning remove such as are near the base of the bearing-shoot or near the top of it; and after the fruit has stoned thin them according to the above-mentioned distance, for then it may be considered certain that no more will drop off naturally.

**Watering.**—In dry seasons a good soaking of soft rain or river water will be necessary in order to swell off the fruit to the highest perfection. Some years gone by I visited a place in North Wales where there was a Peach-wall of considerable length. A new gardener whom I knew well had been engaged there. The owner told him that the Peaches and Nectarines were fruitful enough, but were always small and deficient in juice and flavour. His new gardener told him he could remedy that, providing the trees were left to his judgment to do what he thought proper to them. To this reasonable proposition the gentleman (who, by-the-by, was an amateur gardener himself, and perhaps had previously interfered too much), consented. The gardener then at the thinning time took away what he thought necessary; and when those that he left had stoned he opened hollows in front of each tree, and filled these hollows with water to the depth of 2 inches or 3 inches. The hollows or basins were filled up after the water had sunk into the soil. This was done three times during the time the fruit was swelling, and the effect was very remarkable—the fruit was above the ordinary size, and was well coloured and well flavoured. The water was withheld as soon as the fruit began to show signs of ripening, and was no more applied that season. The young wood was stronger, was well set with blossom-buds, and, as I was informed, the trees did equally well the following year. This example is, I think, worthy of imitation in all cases where the trees are rather weak, the border well drained, and where fine fruit is desired.

**Insects.**—The insects that prey upon the Peach during the growing period are the red spider and the green fly; woodlice and wasps also often feed upon the fruit when ripening. The red spider may be got rid of by frequent severe syringings. If very numerous, mix some sulphur among the water, which is also a remedy for mildew wherever it occurs. This remedy should be applied early in the season, but when the fruit is ripening it should be withheld, or it would disfigure the fruit; or if either the red spider or the mildew prevail after the fruit is gathered, then repeat the remedy till both are extirpated. The green fly is easily got rid of by syringing the trees once or twice with tobacco water. Woodlice harbour in old walls, and the only remedy is pointing-up the nail or other holes at the time the trees are loosened from the walls for pruning in the autumn. Considerable numbers may, however, be trapped during summer in hollow bean-stalks stuck behind the branches and emptied every day by blowing down them into a vessel containing hot water. When wasps are very abundant set traps for them. Wide-mouthed bottles half-filled with some sweet liquor are excellent traps, as are also doubled hand-glasses, the under one set on four half-bricks, one at each corner, with a hole or two made at the top, and then place the other hand-glass on the top of the first; put a plate containing sweet liquor on the ground under the hand-glasses. This will attract the wasps, and when satiated they will fly upwards, and make their way into the upper glass, where they will soon exhaust themselves, and finally perish. If the wall is a great length, and wasps prevail very much then these traps should be placed in a row in front of the wall at 20 feet or 30 feet apart. Of course the traps will catch not only the wasps that prey upon the Peaches, but also those that would otherwise attack any other kind of fruit in the garden.

T. APPLEBY.

(To be continued.)

## STYLE OF TERRACES OF DIFFERENT PERIODS.

BY H. NOEL HUMPHREYS, ESQ.

THE consideration of the style and character of the terrace, at distinct and distant epochs, is not without interest; and by the study of this—the historical part of the question—garden architects may frequently avoid absurdities and incongruities which are but too often found, and which, to the eye of the student of the subject, are at once glaringly and disagreeably apparent.

Few of our readers are unacquainted with the magnificent simplicity of the great terrace at Windsor Castle, which has been too often engraved to render its repetition here necessary; but a few remarks relative to the principles which should govern the construction of terraces of that description will not be out of place. In the first place, I hold that in imitations of any style of architecture belonging to a former period, the selection of site must be as carefully attended to as the architectural detail of the building; and, therefore, in buildings of a castellated character, an elevated position is, in most cases, absolutely necessary. Modern Gothic residences in the valley will be most successful in their effect, if the peculiarities of the monastic style are adopted; while those in elevated situations will derive a greater degree of appropriate feeling by the development of the castellated character. The two styles had many distinct lines of separation: first and most to our purpose is their respective treatment of that portion of ground prepared as a daily promenade—in the monastery, built generally in the valleys, where no extent or sublimity of prospect tempted the eye, an internal cloister was the promenade; in the castle, built on the commanded promontory, the rampart, from which the extended view of the plain below might be surveyed, became the favourite walk, which, in later periods, was widened into the rampart terrace—such is the one at Windsor. In this situation, the

terrace does not require blending into the landscape by any additional feature—the battlemented wall forms a sufficient modulation from the castellated features of the residence—and the park scenery beyond approaches, with natural and excellent effect, to the very base of the rampart wall; and this severity of treatment is absolutely necessary to terraces of this description, on which all attempts at the introduction of statuary, Roses, &c., would be utter failures, the only suitable ornament being a simple line of flower-border next the building, within a broad edge of turf. The more gardenesque features of the castle must develop themselves

in a less conspicuous situation in the rear of the building; and where wood or walls will shield them, and prevent them from weakening the severity of the main composition. It will be instructive to step back to the period of castellated strongholds, and see how their builders and indwellers managed these matters in their own day. A magnificent pictorial border, from the calendar of the Prayer-book of Anne of Brittany, one of the finest illuminated MSS. in existence, will furnish us with an example; it represents a rosery, enclosed by a battlemented wall partially screened by trees, much below the elevation of the castle. The Chatelaine is represented visiting her castle garden in one of the sunny days of April, where in some parts of France Roses are already in bloom, and she is in the act of receiving from her attendant chaplets and garlands of flowers, which are no doubt destined to decorate chalices and vases of cunning goldsmiths' work in her Gothic boudoir. This cotemporary garden picture, executed about the year 1499, contains many suggestions for garden features in similar situations, though not perhaps for too servile imitation. In the illumination, the palisades enclosing the Rose tree are gilt.

Let us now consider the castle terrace in its later form, when the severe character of the defensive stronghold had been modified by additional buildings of a later period engrafted upon them—the decorative mansion, like the change in a "dissolving view," emerging from among



GARDEN SCENE FROM THE ILLUMINATED PRAYER-BOOK OF ANNE OF BRITANNY

the towers of the defensive castle. Of this transition period, the terrace at Heidelberg, which, with the castle, forms one of the finest ruins in Europe, is a beautiful example. The embattled parapet of the ancient rampart has given place to an open balustrade; and the stone seats suggest, that, in the palmy days of this grand-ducal residence of the House of Baden, Orange trees and other plants, in ornamental vases, mingled with statuary, to give this noble terrace its finishing touch of palatial grandeur—forming a rich foreground to the magnificent view of the course of the Necker, which is the grand feature of the prospect from the terrace at Heidelberg. The introduction of any more trivial features, or of decorative features beyond the terrace, would destroy the proper character of a terrace of this description, which must still preserve a portion of the severity belonging to the castellated period.

Of decorative gardens of a strictly palatial character, where no remains of the castellated style are visible, those of Italy are the finest models, and among the finest specimens of these, taking into consideration the position, are those occupying sites among the beautiful rocky slopes of the Apennines, in the vicinity of Tivoli and Frascati, the noble and regular terraces of which, tier above tier, in contrast with the rugged yet lovely scenery which surrounds them, form the finest combination of outline imaginable.

From the days of Horace, and his description of his "Sabine farm," those beautiful hills have been the favourite retreat of the Romans; and the style of decorative gardening which surrounds the palaces of the nobles of modern Rome is, doubtless, very similar to that cultivated by the ancients. This is, in fact, proved by the representations of suburban villas in fragments of antique fresco and mosaic, while the description which Pliny gives of his garden might serve for that of one of the modern villas at Tivoli. The finest of these villas were erected during the fifteenth and sixteenth centuries, and as the feeling of Italian art spread rapidly northward during this period, the terraces, statues, and fountains of these noble residences became the

models on which the decorative gardens of the north of Europe were formed; those of Boboli and D'Este being the ideals from which Le Brun and others produced the magnificent wonders of Versailles.

The villa D'Este beneath Tivoli, [though its terraces are crumbling to ruin, and its fountains are dry, is yet one of the most wonderful of these great creations of art. It was among its mazes of marble and matted foliage that Tasso once mused away the soft and sudden twilight of the evenings of an Italian summer, and from the fairy picture with which he was surrounded painted, in immortal poetry, the fairy gardens of the palace of Armida; and, in all the freshness of their beauty, ere Time had touched "with his defacing finger" the spotless marble, or dried the sources of the countless fountains, or thinned the parquets of their exotic flowers, he might in vain have sought a more fitting model when he was composing the lines which may be thus freely translated:—

With aspect sweet, the smiling garden spreads  
Where water softly sleeps, or gush in crystal fountains;  
Flowers and sweet herbs form rich enamelled beds;  
Vales of deep shade there are and sunny mounts,  
And round the lawns a wood its freshness sheds;  
And that which yet increased each charm revealed  
Was, that the art that wrought it lay concealed.

Which is to say, that true art must not be obtrusive; the effects produced must not suggest the idea of painful and laborious operation; it is the perception of the beautiful that must be the first impression, and not that of the art by which it has been produced. This will depend much upon whether the beauty attempted to be created be of a temporary or a permanent nature—whether, as Sir Uvedale Price observes—whether it be merely adapted to the ac-

cidental prejudices prevalent in the artist's own day, or whether its principles be so founded upon the uniform constitution of the human mind as must command the approbation of any age. This great principle of all high art applies, continues Sir Uvedale Price, to nothing more strongly than decorative gardening. —(*Gardeners' Magazine of Botany*).



THE TERRACE AT HEIDELBERG.

GOLDEN HAMBURGH GRAPES SHRIVELLING.

In my earliest viney there are two Golden Hamburg Grape Vines; they were planted in the spring of 1860, and made very fine canes. This season I started them on a little early, so that the other Grapes in the same house are ripe. The sorts are the Pope Hamburg and Black Hamburg: these ripened and coloured like Sloes, but the Golden Hamburgs, just as

they commenced ripening, one-half of their berries shrivelled. They seemed to go in the fruitstalks first, while of the other Grapes there is not a bad berry in the whole house.

In the Muscat Grape-house, all Muscats of Alexandria cut back to one-third the length of the rafters, and bearing a crop of five moderate-sized bunches, are doing well; but the leaves

on the leading shoot drop down with the least sun, turn yellow, and drop off. That is on about 4 feet of the new growth, while the laterals on the same are perfectly healthy, as also the remaining part to the top of the house. I shaded the part of the house, but to no purpose.—E. W., *Cavan*.

[We are afraid that you have taken far too many bunches from your Golden Hamburg. It will scarcely stand the same amount of sun as some other kinds. A few inches further from the glass will help this Grape. We do not see through the cause of the leaves of the Muscats falling, but it is a consolation that the foliage on the laterals is all right. We have had several bunches scorched the last few days, owing to the great and sudden change in the weather.]

### RAVAGES OF THE (CURRANT) SAWFLY.

In the "Zoologist" for July, 1862, p. 8079, an interesting account is given of the Sawfly, *Nematus ventricosus* (Klug), translated from the Dutch of M. Snellen van Vollenhaven, by J. W. May, Esq. This insect will be familiarly known to your readers by the name of the "Gooseberry grub," whose ravages this year extending all over the kingdom have deprived us of many tons of fruit. By studying the natural history of this and other insects, we shall, doubtless, find a clue to the prevention of their ravages, and I wish now to lay before your readers some hints which may prove useful to that effect. After giving a description of the larvæ, &c., our author goes on to state:—"They feed both day and night, and beginning in company on a leaf they eat on until there is nothing left but the stalk and some of the thickest veins. Before quitting the bush they moult, once more assuming a pale yellowish-green colour, the first and terminal segments being orange; but they are now without the black spots and hairs which they had in their earlier state. After this they drop from the tree and construct a cocoon at the foot; this cocoon is made at no great depth in the ground, and is externally covered with little grains of earth. They assume the pupa state in the summer in the space of three weeks, in the winter only after an interval of eight months. The pupæ are yellowish-white and display all the parts of the imago. They very soon change their colour, and in eight or ten days, having moulted for the last time, the perfect insect gnaws open the cocoon and escapes." Our author then gives a description of the perfect insect, and further adds—"There was an incredible number of these larvæ in 1860. From observations made at Utrecht and at Leyden, there seems no doubt that the first brood in May attacked exclusively the leaves of the Gooseberry, some of the bushes being quite stripped, and that the second generation appearing in July, principally confined itself to the Currant, but small numbers having been seen on the Gooseberry. I observed this myself in a garden where the two plants were growing intermixed, both larvæ and imagos were decidedly of but one species." The truth of this latter observation, that the larvæ attack both Gooseberry and Currant trees (the former at an earlier period of the year), is quite borne out by my own observations this summer, and, I doubt not, by many of your readers. The second brood having now just made their appearance, I will detail a mode by which their ravages may be greatly lessened.

The eggs, white, elliptical, are laid on the under surface, along the ribs of the leaf, to the number sometimes of 120 on a single leaf; the larvæ, when hatched during the first twenty-four hours, make each one a little round hole. The leaf then presents the appearance of having been riddled by No. 7 shot. The second day the holes are larger, less regular, and soon coalescing, the larger veins only at the tip of the leaf remain undemolished. This is the critical time to destroy the brood. By gathering these leaves daily as the caterpillars are hatched (for they keep coming out during a fortnight or three weeks, according to the period at which the eggs were laid), the whole of the brood will be easily destroyed. The peculiar appearance of the leaf (specimens of which I enclose), renders the gathering of the brood remarkably easy; while the fact that at this early period they are altogether on one leaf, and that a week later they will be more scattered over the tree, as also that their destruction of the foliage is then at the minimum, peculiarly points out this period as the one most suitable to their destruction. I should say that on the 19th ult., from about ten trees in my own garden I picked off fifty to seventy leaves, each containing from five to seventy eggs and young larvæ just hatched. Since then I have

daily picked off about ten leaves similarly attacked. If each possessor of a garden would thus destroy the young brood, we should have no more sawflies next year to trouble us. Other methods are advantageously used at a later period for their destruction; such are hand-picking, shaking the stems—when the larvæ drop down and can be killed; syringing the under surface of the leaves with alum and water, or watering the larvæ when shaken down with the same mixture; but all these methods are put in force when the damage is half done, and when the larvæ are widely distributed over the trees, and are insignificant when compared with that which I now advocate for nipping the evil in the bud. Let your readers now look to their Currant trees, and next spring to their Gooseberry trees, and we shall get rid of the enemy.—ALEXANDER WALLACE, M.D., *East Hill, Colchester*.—(*Essex Gazette*.)

### THE INTERNATIONAL EXHIBITION.

(Continued from page 339.)

#### TASMANIA.

THIS island, formerly known as Van Diemen's Land, occupies a position to the south of the continent of Australia between 40° 45' and 43° 45' S. lat., and 144° 45' and 148° 30' E. long., comprising an area of about 25,000 square miles, or 16,000,000 of acres. The central portion of the island is an elevated plain, in which are several extensive lakes from which three considerable rivers take their origin, and by these, as well as the numerous streams which flow from the hilly districts, the country is well watered.

The surface is generally undulating, and several bold mountain ranges occur, rising at some points to 5000 feet above the sea level, their sides being generally densely clothed with trees, whilst in the cultivated regions the valleys are remarkable for their fertility.

The climate as regards temperature is nearly the same as that of the neighbourhood of London, the daily range, however, being much greater. The mean annual temperature at Hobart Town, as deduced from eight years' hourly observation, was 53.32°; that of Chiswick, on an average of thirty-six years, being 49.31°, or 4° less. The coldest month (July) has a mean of 45.82°, or 8.91° warmer than our January; whilst the mean of this month at Hobart Town is 63°.57, or only 0°.61 warmer than our July. The highest temperature that has been recorded in the shade is 105°, ours being 97°; but according to Dr. Hall, in the account of the "Products and Resources of Tasmania," published by the Commissioners, the thermometer has only risen forty-four times above 90° in the last twenty-one years. The sun's rays, however, are much more powerful than they usually are in England, or even on the continent of Australia, the haze which usually accompanies intense heat there being unusual in Tasmania. The greatest solar heat recorded is 143°, the next degree of intensity being 133°; but it must be remembered that 120° in the sun is not an uncommon temperature in hot summers in England.

Frost of greater severity than 2° or 3° below the freezing-point is unknown at Hobart Town, and snow is equally rare, except on the mountains.

The annual fall of rain is, on an average of twenty-one years, about 2 inches less than the neighbourhood of London, and it is distributed throughout the different months in very nearly the same manner; but whilst more than 4 inches of rain is an unusual quantity in one month near London, some exceptional instances have occurred of 7, 8, and 10 inches having fallen during a like period in Tasmania. The greatest amount of rain in any one year since the observations were commenced was 33.51 inches, a quantity about equal to the mean annual fall on the western part of England, and far below what is of frequent occurrence there.

Dr. Hall, with great justice, lays stress on the beneficial effect of the frequent moderate airs in purifying the atmosphere; he also states that ozone is very abundant in the air of the island, and to this circumstance he ascribes the comparative immunity from infectious diseases which the inhabitants enjoy.

That the climate is one of the healthiest in the world the statistics which he adduces in his essay leave no room for doubt, the rate of mortality being even less than that of the healthiest districts of England.

Having thus glanced at the climate of Tasmania, we shall next

proceed to state what are its productions. According to the useful pamphlet to which we have already referred, we find that in 1860 there were 218,315 acres of land under cultivation, of which 66,450 acres were in Wheat, 30,303 acres in Oats, 6238 acres in Barley, 7621 in Potatoes, and the remainder was variously occupied by pasturage, root crops, and garden ground.

To give an idea of the quality of the produce several fine samples of cereals are exhibited, amongst which some Wheat, weighing 6½ lbs. to the bushel from Mr. Marshall, and Oats stated to be 56 lbs. 10 ozs. to the bushel shown by Mr. L. Smith, are particularly worthy of note.

In Tasmania, as in the other Australian colonies, the growth of wool is extensively carried on, the number of sheep being 1,700,930 in 1860, or 18½ to each person, and the produce is of the finest quality, nearly every sample exhibited having been distinguished by a medal or honourable mention.

As regards horticulture, we extract the following information:—"Experienced horticulturists who come out from England are astonished to see six years gained in the maturity of Pear trees three years in Apple trees and other fruit trees; whilst the Raspberry, Strawberry, Currant, and Gooseberry flourish like indigenous plants. It is no uncommon occurrence to see young Apple trees in the Huon district the grafts of which have grown 6 feet in the year of grafting. The Apple and Pear far surpass those of Great Britain in size and colour, and are very little inferior in flavour.

"There are from 100 to 120 varieties of known Apples now in Tasmania, including most of the best sorts cultivated in England, America, France, Germany, and Italy. A few significant facts will convey to English horticulturists an idea of Tasmania's capabilities in fruit-growing. All the sorts described in English catalogues as below medium size have grown far above medium, and those described as medium here attain the catalogue designation of 'very large.'"

The Esopus Spitzenberg and the delicate Italian Apple, Mela Carla, will grow and ripen their fruit here without the protection of a wall. The Golden Pippin seems to have taken a new lease of life; the Scarlet Nonpareil is greatly improved.

"In 1860 Tasmania exported 118,810 bushels of Apples, at prices ranging from 5s. to 15s. per bushel. Some of the Golden Harvey, Pearson's Plate, and Scarlet Nonpareil have sold at Mauritius at from 2s. 6d. to 4s. per pound.

"About sixty good sorts of Pears are cultivated; and many of the tenderest kinds, such as the Beurré Bretonneau, ripen their fruit in perfection, without shelter, and have the most delicious flavour. Tasmanian Beurré Diel Pears have sold at Sydney at 2s. 6d. each.

The Pear tree grows here to a large size, one in the garden of Government Cottage, Launceston, is described as about forty years old, 120 feet in circumference, 86 feet in height, and 8 feet in girth 1½ foot from the ground. It is a handsome, shapely tree, and has produced over 50 bushels of fruit in a season. A Bon Chrétien Pear tree belonging to Mrs. Luckman, of Hobart Town, has also produced 50 bushels of fruit in a season. Of Pears 22,049 bushels were exported in 1860 at prices varying from 5s. to 15s. per bushel.

"All the choicest sorts of Plums which require shelter in England ripen freely as standards. Cherry trees grow from stones as freely as Oaks from acorns in the Weald of Kent; all such are called Kentish Cherries, and were sold last season at Franklin, Huon, at 1s. per pailful. About twelve of the best-known varieties of the Cherry are cultivated; the best Strawberries attain an enormous size; Raspberries bid fair to become wild fruit; the Fig bears well without shelter; the Mulberry is hardy and prolific; and about forty varieties of Lancashire Gooseberries are in cultivation, and produce most abundantly.

"The Walnut gains eight or ten years in bearing maturity; the Filbert grows and produces well; Peaches, Grapes, Apricots, Nectarines, Almonds, &c., although not equal to those of Australia, thrive and fruit largely, particularly on the northern side of the island. The total value of fresh fruit and preserves exported in 1860, was £56,203. The Fuchsia and Geranium become large shrubs."

To give a correct idea of the characters of the best Apples and Pears grown in Tasmania, three cases of well-executed wax models are exhibited, and which, being taken from plaster casts of the fruit, are exact representations of their size and shape. In their number are included many of the finest varieties grown in this country, and of a size to which even under the most favourable circumstances, they do not usually attain here, while the

colour is in general much higher. There are specimens of Uvedale's St. Germain Pears, weighing 2 lbs. 6 ozs., 2 lbs. 11 ozs., and one is stated to have reached the extraordinary weight of 3 lbs. 5 ozs. The heaviest which we have seen produced in this country weighed 3 lbs. 4 ozs.

The extraordinary growths made by fruit trees have been noticed above, and by way of proof shoots are exhibited which are not merely remarkable for their length but for thickness also. Thus, there is an Apple shoot 5 feet long; one of a Plum from a two-year-old sucker, 6 feet 2 inches; a Banksian Rose shoot, 10½ feet long; one of Cloth of Gold, 10 feet; and Aimée Vibert, 8½ feet, all of which are stout in proportion to their length.

(To be continued.)

## WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 335.)

**PRIDEAUX'S HERMIT CRAB (*Pagurus Prideauxii*).**—This species is found in very considerable quantities in Plymouth Sound. It is not uncommon, however, on other parts of the coast. It bears a great resemblance to the specimen last mentioned (the *Pagurus Bernardus*), differing at the same time in several marked characteristics, which plainly prove it to be a distinct species. The claws, for instance, are destitute of tubercles, being merely grained. The ambulatory legs are almost smooth, the end joint having longitudinal grooves on either side, and not being twisted. It is also a much smaller species than the *Pagurus Bernardus*, rarely measuring more than from two to two inches and a half from the front to the extremity of the abdomen. The eye-stalks are extremely thick and short, the end where the eye itself is inserted being globular. The colour is a pale reddish-brown.

Professor Bell quoting from Mr. Thomson, adduces a very remarkable fact—namely, that this creature is found "in every instance inhabiting the shell invested by the *Adamsia maculata* (*Actinia maculata*, Adams), and that among the numerous specimens in his (Mr. Thomson's) collection from all quarters of the Irish coast, and found inhabiting shells of various species, not a *Pagurus Prideauxii* occurs except in connection with the *Actinia* already named."

**THE SMOOTH HERMIT CRAB (*Pagurus lavis*).**—This is a very pretty little creature, found principally at Falmouth and off the coast of Cornwall. The shell is smooth and polished, and somewhat heart-shaped. The eye-stalks are short and thick. The front claws are very unequal, the right one being considerably larger than the left. In colour it is yellowish, a distinct red mark running the whole length of the claws.

**THE ROUGH-CLAWED HERMIT CRAB (*Pagurus Forbesii*).**—"This curious species," says Professor Bell, "differs obviously from every other inhabiting our coasts." The shell is quite smooth, the eye-stalks club-shaped and of greater length than those of the species just mentioned. The front feet are unequal, the right, as is usually the case, being the larger; both, however, are rough and strongly toothed on the inner side. The second and third pairs of legs are slightly flattened. The upper edge of the fourth joint is armed with spines, and all the legs are covered with small reddish-brown spots.

The *Rough-clawed Hermit Crab* is found most commonly off the coast of Falmouth.

**THE HAIRY PORCELAIN CRAB (*Porcellana Platycheles*).**—The shell of this curious species is of a little greater length than breadth, having a polished surface in young ones. This surface is covered with short hair, which increases in length towards the margins where it permanently grows. The fore legs are very large and furnished on the outer side with long close hair. The second, third, and fourth pairs of legs are flattened at the sides, rounded beneath, and fringed with hair on both margins. The colour is a reddish-brown, inclining underneath to a paler yellowish tint. The hairs are brown.

"The distribution of this species," says Professor Bell, "is extensive and in some localities it is also very numerous. I have received specimens from various parts of our coast, from the Orkneys to the Land's End. It is found also on several parts of the Irish coast, and it is plentiful on the coast of France, and in the Mediterranean. Some of the largest and finest that have come under my observation, were sent me by Dr. Duguid, from Kirkwall, in Orkney. It is a littoral species, being generally found under stones at low water. It bites

severely, as Dr. Duguid remarks, and if seized by its claws has the power of throwing them off instantly to facilitate its escape."

**THE MINUTE PORCELAIN CRAB** (*Porcellana longicornis*).—This is a pretty little species, and a very common one, being found beneath stones at some little distance beyond low-water mark. It is frequently, too, brought up in large numbers with the Oyster-dredge. It is very minute, the ordinary length of the shell being no more than two or three lines. The front legs are very unequal, one being as long and broad again as the other. The shell is almost round, convex, and nearly smooth. The colour of the shell varies. "It is generally," says Professor Bell, "pale red, frequently with irregular markings of dark reddish-brown; in other specimens of bright red."

**THE SCALY GALATHEA** (*Galathea squamifera*).—This is by no means an uncommon species. The carapace is of greater length than breadth, and armed at the sides with strong sharp spines. From the front projects a very powerful spine, supported on either side by four others. The front feet are broad and compressed, strongly spined on the inner edge, and having the surface covered with small scale-like tubercles. The second, third, and fourth pairs of legs are furnished with rows of spines on the anterior margin. The colour is mostly a greenish-brown, some specimens being occasionally tinged with red. The length is about three inches. "It is," remarks Professor Bell, "a common species all along the southern and western coast. I have specimens from Cornwall, Devonshire, Dorsetshire, and Sussex. The largest I have seen were procured by myself at Bognor, where they are often taken in considerable numbers in Prawn and Lobster-pots. It is recorded as the most common Irish species by Mr. Thomson, who observes that it is found on all the coasts of Ireland. It appears to be pretty much a littoral species, occurring, according to both Dr. Leach and Mr. Couch, under stones at low tide."—W.

(To be continued.)

## ENTOMOLOGICAL SOCIETY'S MEETING.

THE July meeting of the Entomological Society was well attended, several foreign entomologists, attracted by the great International Exhibition, being amongst the visitors, including Herr Fraenfeld from Vienna, and Dr. Stal from Stockholm. Amongst the donations were the publications of the Royal Societies of Sciences of Munich and Madrid, the Entomological Societies of the Netherlands, Vienna, and St. Petersburg (the latter recently established), &c.

The President, F. Smith, Esq., of the British Museum, exhibited a box containing a number of galls of different species recently received by that establishment from Germany, including specimens of the round oak gall (similar in size to the ink gall), which has during the last few years threatened to cause much injury to our Oak trees, having spread with extraordinary rapidity from Devonshire (where it was first observed), over the south of England. At the present time, however, thanks to the attacks of the Tomtits, not a single gall is to be found in places where two years ago it was very abundant; these birds having discovered that the interior of the gall contained a fat fleshy grub, have bored into the galls and eaten the inhabitants, thus affording another very convincing proof of the impolicy of the wholesale destruction of the small birds, against which the Editors of THE JOURNAL OF HORTICULTURE have so energetically raised their voice.

Mr. Walker corroborated the remarks of the President, and stated that in the neighbourhood of Highgate and Southgate where it abounded he had not been able to find a single specimen this season.

Professor Westwood exhibited a continuation of the series of illustrations of the habits and economy of various species of insects presented to the Oxford Museum by S. Stone, Esq., of Brixhampton near Witley, beautifully prepared, and including specimens of the preparatory states of several species of Dragon Flies, also of *Trichiosoma lucorum* (a large Sawfly) and its parasites, several other species of Tenthredinidæ and Sphegidiæ which bore into the pith of Brambles, various species of Gall-flies and leaf-mining insects, including a species of the Beetle-genus *Orchestes*, also the preparatory states of species of *Raphidia* and *Hemerobius*. Mr. Stone had also sent an extensive series of the leaves of different plants mined by various insects; and Professor Westwood also stated that he had received from Mr. Varsey a large collection of the leaves of different species

of garden plants which had been attacked by the Leafcutter Bee, and had portions of the leaves carried away by that insect for the manufacture of its nests. He also exhibited a drawing of *Acarus domesticus*, De G. (A. Siro, Linn.), found by Dr. Maddox, of Woolston near Southampton, in a nitrate-of-silver bath prepared for photographic purposes; and suggested that Mr. Andrew Crosse's wonderful creation of *Acari* might probably be explained on the principle that in that instance, as in this and some others to which he alluded, the insects had been attracted by some of the chemical substances employed, or the chemical action had caused the development of the insect from eggs. He also exhibited a great number of photographic representations of different species of British insects of the natural size, forwarded to him by J. C. Dale, Esq., some of which were remarkable for the marvellous manner in which the most minute species of Chalcididæ, &c., were brought out.

Mr. Stainton exhibited two species of the very remarkable genus of minute Moths *Micropteryx*, which had been reared by Mr. Wilkinson, of Scarborough, from mixed Birch and Oak leaves.

Mr. Pascoe read a note on two exotic genera of Longicorn Beetles—*Stenidea* and *Blabiotus*.

A paper was also read by Mr. F. Walker, containing descriptions of various new exotic species of Chalcididæ.

Another paper by Mr. Tremen was also read, containing descriptions of new species of Butterflies taken in British Caffraria by W. S. M. d'Urban, Esq., during 1860 and 1861. Eleven new species were described, including a new genus belonging to the family *Lycenidæ*.

On the following day the members of the Society enjoyed a delightful field-day on the range of hills between Reigate and Dorking at the invitation of one of their Vice-Presidents, W. Wilson Saunders, Esq., F.R.S., who is also Treasurer of the Linnean and Horticultural Societies. On arriving at Blechworth the party ascended the hills and commenced collecting in good earnest; and several important captures were made during the day, including a specimen of the extremely rare *Zyras Haworthii*. At the Deepdene, the grounds of which were thrown open to the Society by Mr. Hope, a picnic was held under the shade of the trees; and the party returned to dine at Reigate in the Town Hall, where they were joined by a further detachment of naturalists and by a number of the neighbouring clergy and gentry, invited by Mr. Saunders, whose kindness in again affording so pleasant an annual treat was duly acknowledged. We noticed amongst the visitors Mr. Wallace, returned from the Eastern Archipelago, Mr. Smith the President, and the other officers of the Society, General Sir J. B. Hearsey, Dr. Gray of the British Museum, Messrs. Bowerbank, Miers, Hewitson, Westwood, Walker, Stainton, Lovell Reeve, Dr. Stal, of Stockholm, &c.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE old saying, that "one year's seeding makes seven years' weeding" is generally very apparent at this season, when, after a warm shower and a few days' sunshine, weeds appear in myriads. Their destruction is then best effected by surface-stirring; but where, from want of available labour, they have stood so long as to perfect their seed, they should never be dug or trenched-in, but be taken quite away to the char-heap, or else burned on the ground. *Broccoli*, any that are now planted-out should have their roots dipped in a puddle of soot, earth, and water, and immediately after planting should be again watered. The Cape and Grange's, intended for use in the autumn, should also be watered; but the spring roots when they have got hold will not require it. *Cabbage*, there should now be no delay in getting in the main sowings: the Vanack, East Ham, and London Market are good sorts. *Carrots*, a few of the Horn may now be sown to stand the winter. *Celery*, an abundance of water to be given to that newly planted, and also to the earliest crop, which, if wanted early, should be earthed-up. Continue to plant-out, taking up the plants with as much soil about their roots as possible. *Lettuce*, make a sowing of Cos and Cabbage for late use. *Onions*, sow a few to draw young for winter use, or to stand the winter for transplanting in the spring. *Turnips*, as the ground becomes vacant another sowing may be made. If the weather continue dry, water the ground after the seed is

sown, and cover with mats. After the first shower of rain earth-up Brussels Sprouts, Savoy, Broccoli, and whatever crop requires it. Vacant ground, or that which can be cleared of early crops, may still be planted with Winter Greens, first giving it a good dressing of manure, and a trenching or good deep digging.

#### FLOWER GARDEN.

The late-planted flower-beds should now be looked over, and the plants therein pegged-down or staked, as their habits may require. Those that are planted against basket-edgings or against framework which is used to intersect beds should have their shoots neatly arranged or tied-in; and all decayed leaves and flower-stems removed; the flower-borders to be thoroughly cleaned; all plants which have done blooming to be cut down; and annuals that have ceased to be gay should be pulled up, to make room for those that are to succeed them. Proceed with the layering of Clove and other Carnations. Mule and Anna Beley Pink treated in the same manner will make strong healthy plants before winter.

#### FRUIT GARDEN.

Nailing, syringing, and paying attention to fruit as it ripens, and making new beds of Strawberries, form the principal routine here.

#### STOVE.

Orchids suspended in baskets or on blocks require a liberal supply of water at this period, and frequent but slight syringings, with sufficient fire heat to admit of a gentle circulation of air. Those *Isoras* which have done blooming to be cut down and started gently to make new growth. Attend carefully to the winter-blooming plants, and adopt the same system as advised below in the greenhouse department to mature growth that requires to be ripe in order to produce bloom.

#### GREENHOUSE AND CONSERVATORY.

The plants that have matured their season's growth should now be more sparingly supplied with water at the root, in order to promote the ripening of the wood. The twiners to be gone over frequently, that the shoots may be kept nicely regulated, cutting out where necessary to prevent their being too thick, and shortening any that hang down so loosely as to interfere with other things. Any of the plants which require more pot-room should be shifted without delay, taking care to have the balls moist, and keep them rather close and the atmosphere more moist than usual for ten days or a fortnight after potting. Cut down Pelargoniums as soon as the wood is properly ripened, and supply them very sparingly with water at the root until they start into growth, but sprinkle frequently overhead, which will cause them to break more freely. Camellias will now in general have formed their bloom-buds, and should be watered occasionally with liquid manure. It is also a suitable period for shifting them if the blossom-buds are quite perceptible. The pot Roses to have their decayed blossoms entirely removed, and those for winter blooming to be examined as to whether they want shifting. When shifting, the old balls to be loosened, and the heads to be slightly reduced. Remove the faded blooms of *Aphelxis* and *Helichrysums*, cutting the flower-stems close to the old wood and set in a cool shady place; when they begin to grow, such as require it to be repotted. When the flowers of the *Kalosanthes* are getting shabby cut them well in. Repot, stop, and strike *Chrysanthemums*. The *Cinerarias* for early blooming will now require attention; shift when necessary, for if they are to form large specimens for blooming in winter they must not be permitted to sustain any check.

#### PITS AND FRAMES.

The propagation of stock for next season to be commenced and carried on with expedition, so as to insure strong, well-established plants before winter, and without the necessity of keeping them so close and warm as to induce weak and tender growth. To be able to winter bedding stock safely with ordinary care the cuttings should be put in sufficiently early to allow of having them well established and fit to be exposed to the open air in September, previous to housing them for the winter.

W. KEANE

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

FORKED and hoed amongst general crops, alike to break the hard pan after the rains and hail, and to cut up any weeds that might be showing themselves, and they have not been few this

season. Planted a good breadth of Cauliflower after Potatoes, manuring chiefly with short grass that had been thrown into a heap for a few days, and digging such highly nitrogenised matter deep enough to prevent the roots touching it for some time, and then it will have lost its rankness, and the soil be all the better for absorbing it. The hoe and the fork have also been necessary by the sides of rows of late Peas, to prevent the ground cracking. This forking-up is often better than watering, more especially if a slight mulching is thrown over to keep the moisture in, and the extra heat out. Planted lots of Coleworts, Broccoli, &c., as room could be made for them, and will soon find more by digging-down Strawberries that have borne two or three years. Watered Celery, Lettuces, &c., and to give a start to young plants of the latter, just planted out, placed some common hurdles thinly wattled with branches over them, to screen them from the sun. Planted-out a lot, too, on the north side of banks, fences, &c., that they might stand longer and be more succulent. I plant thus because I am short of room. Where ground is plentiful, the best plan is to sow often and thin, and let the plants come to maturity where sown.

#### FRUIT GARDEN.

Have been obliged from the heat of last week to fork over the surface soil of fruit trees transplanted last season. Watered them, and placed a little half-rotten leaves over the surface to keep the ground from cracking. Proceeded with Strawberries; disbudbing and stopping fruit trees as last week. Have been obliged to net everything pretty well that was worth keeping. We heartily wish that all bird-fanciers had a share of our extra stock. I would not be extra hard upon the songsters, but I must make an effort to lessen the nests in the neighbouring covers next year. Whenever such dry, hot weather sets in, we have them in legions. On netting some Gooseberries a boy caught something about a score of thrushes and blackbirds below the net the first afternoon, and then they made such a yelling as if they had more than a right to be there. I am told that when young and fat they make a splendid pie, little, if anything, inferior to partridges. It is worth noting how a yellow-billed blackbird will cautiously go all round a net, and squeeze himself in underneath it. Were he not hurried when an enemy approached he might get out by a similar way, and escape free. Watered Melons, chiefly below the surface, unless when young, not giving too much at a time, which if it did nothing worse would be apt to crack the fruit. Watered Figs and all sorts of fruit trees in pots, giving weak manure water. The Figs since the change in the weather have been much better flavoured. Extra syringing in orchard-houses to keep them clean, and in a very bright day just dusted the glass with water outside, merely whitened so as to break the extra force of the sun's rays.

#### MUSHROOMS.

I should have had this in the kitchen garden, but say a word here in answer to "A LOVER OF MUSHROOMS." First, I can add nothing material as to the directions given some time ago for making and keeping Mushroom spawn. It may be done quite as well by other modes, but had I given a number of modes the reader would only have been perplexed. Now is a good time to set about making it. Second, An underground cellar is the best place to grow them in summer. I seldom bother with them elsewhere than in a common Mushroom-house, above the ground, they are so apt to come thin and maggoty. Third, I have had a good supply since June from shallow beds in a shed, open to the west with a thatched roof, and large Chestnut trees a little west of the beds, which shade them, and allow of a current of air through the beds. We are just earthing down our third and last piece to-day. The second piece is just beginning to show, and this third we shall expect to show in the beginning of September, and before then we shall have a piece made in the Mushroom-house. We are just now getting the last beds out and having the material sifted for top-dressing flower-beds. I am well aware that large, thick beds will bear a long time, if well managed; but then I could rarely get enough of material for such large beds, and a constant supply being desirable I prefer the continuous system of a number of small shallow beds. I do not see how "A LOVER OF MUSHROOMS" can be greatly interested in knowing whether I intend making spawn this autumn or not, unless he wants to see it done. That is a matter which will be decided on when I have an opportunity of examining the spawn-heap; for if there be more than enough to last me over this time next year, it is most likely I shall make none, for if the spawn is good, and kept dry, I like it as well three years old, as if it were fresh made. I may

also notice that the beds in the shed have a little dry hay sprinkled over them to keep the surface soil moist and more regular in its temperature, and in very dry, hot weather we prefer slightly syringing this dry hay to watering the bed much.

#### ORNAMENTAL GARDENING.

The conservatory was wholly retrenched, almost all Pelargoniums being removed, and a number of Balsams, Begonias, and other fine-leaved plants introduced. Amongst the latter few are more beautiful than *Amaranthus tricolor*, which is now seldom seen because it used to be rather common. The Pelargoniums are placed in an open yard to harden, the Fancy ones being kept by themselves, as they will not stand the same amount of drying. Potting and propagating as last week. Much of the time, however, was taken up in getting the lawn and flower-beds in full-dress order. The Calceolaria-beds in the latter still taking the lead of all others, and pretty well vying with the sweet human flowers, that with their long dresses swept every walk in such a regular manner, as no broom in the hands of a gardener could have done. My employer took a fancy to a couple of Mr. Green's 16-inch mowers, as used at the Gardens at Kensington, and having just tried them feel certain they will answer well. I do not know if I rightly understand all about them, but there is just one thing against them. They make no noise to speak of in cutting, and they work easily; but in pulling the machine back to make a fresh cut, which you must frequently do in small spaces among clumps, the clattering of the cogs is deafening. Mr. Green kindly referred to my notice last year about the inferior iron chains. Would he oblige me and others who dislike such clattering, by telling how such noise is to be obviated? There is no regulator as in the larger machines for bringing the cogs into play as desirable.—R. F.

#### TO CORRESPONDENTS.

\*\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.,"* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**CLEANING A FALLOW KITCHEN GARDEN (J. E.).**—You do not state the most important fact—the nature of the soil. If it be at all heavy pare off and burn the top 6 inches. The ashes will be the best manures for such a soil, and the burning will destroy the seeds of weeds, and all the predatory insects.

**RED SPIDER ON VINES (J. H. S.).**—When leaves are sent on which it is supposed there are small insects, as red spider, they should be shut up carefully in oil paper, and then if shaken off the leaf we may detect them inside the paper. We failed to perceive an insect of any kind on your leaf packed loosely with a piece of a nurseryman's bill round it. We think, however, that a few spiders had been nibbling at it, and, therefore, a little sulphur will be an advantage. For your small house a pound of lime, two gallons of water, and half an ounce of sulphur, would be enough at a time; but we seldom advise using this remedy, as there is such a difference in the strength of lime, and if after shaking it with water it should be hot enough to ignite, or nearly ignite the sulphur, there will be other mischief to apprehend worse even than the spider. The remedy is a good one with practised hands, but requires being used with caution. We know a case where the sulphur was added too soon, and it flared and made its presence too well known. We think it would be safer as you propose heating the house, to put a wash of lime and sulphur on the flues or pipes at night, taking care, however, that the heating medium where the sulphur is, is not above 150° or 160°. That will throw off sulphur fumes that will not hurt vegetation, much higher will make the fumes too strong.

**PRUNING PEACH TREES IN POTS (Idem).**—You will err much in cutting back your Peach shoots to three buds now. It would cause most of the buds to start. Mr. Rivers recommends for pyramids, &c., not cutting back, but stopping after three or four leaves are developed, and continuing that stopping until the end of July—a very different thing indeed. When you follow any peculiar system, you must take it as a whole, and not in detached parts. The best you can do now, is to allow the shoots to grow and ripen, or merely nip out the terminal-bud, to swell the buds behind it.

**GLOXINIAS SHOWING BLOOM-BUDS (P. H. G.).**—Allow the Gloxinias to bloom, and encourage them with a moist heat and plenty of water. Discontinue the latter when the leaves begin to fade, and give none at all when fairly browned, but keep the pots standing on soil or stone, so that a little moisture may be absorbed from the bottom of the pot.

**SOFTENING PUTTY (J. B.).**—Putty may be softened by rubbing over it an iron heated until a dull red, or by applying flannel rags dipped in caustic potash, allowing the rags to remain on during several hours.

**HEATING GREENHOUSE FROM KITCHEN RANGE (A. B.).**—At such a distance as 70 yards we do not think it would be advisable to heat a small greenhouse, unless you could otherwise use the heat of the 140 yards of piping, which would be needed merely to connect your kitchen range and the house. Would it not be better to have a small boiler or a small flue for such a detached house? There is no objection to Vines being planted inside a vinery, but quite the reverse, though if the roof be already covered they will not do much good there.

**SEASIDE PEBBLES FOR WALKS (C. T. Hall).**—They will make a very good asphalt mixed with gas tar; but we do not think they would keep the walks more damp and soft than would other pebbles. We do not know whether *Gishurst Compound* will kill fleas in dogs, nor whether it would injure the dogs, nor, if it is a flea-destroyer, how much should be put to a gallon of water. Mr. Wilson, perhaps, will furnish some relative information.

**VENTILATORS (Thorn).**—Your openings in the back wall of your greenhouse should have been 18 inches by 6 inches. Then you would do for winter, and in summer you can leave the door open.

**SOIL FOR POTTING (Idem).**—Your loam with a little leaf mould and a little sand, will grow all common greenhouse plants. If small-rooted, as Heaths, you must use heath soil and sand nearly alone. As you have so many materials, we would recommend as a general compost, to have three-parts loam, one of heath soil, one of leaf mould, or dung very rotten, and one of silver sand. Some plants may want a little more loam, others a little more heath soil or sand, and the heaps being handy these are easily added. It is of no importance whether mixed long before or not. We prefer doing it as wanted. The soil from the sides of highways, and a little sand, will grow all common plants.

**GRASS SEEDS FOR LAWN (E. W.).**—For your grass plot, the subsoil of which is *caly*, or finely-divided greenstone, liable to be parched in hot, dry weather, we recommend you to sow at the rate per acre of Crested Dogstail (*Cynosurus cristatus*), 6 lbs.; Hardish Fescue (*Festuca durincola*), 4 lbs.; Fine-leaved Fescue (*Festuca tenuifolia*), 3 lbs.; Rough-stalked Meadow Grass (*Poa trivialis*), 2 lbs.; White Clover (*Trifolium repens*), 8 lbs.; Small Yellow Clover (*Trifolium minus*), 4 lbs. You can calculate the quantities by ascertaining what fraction of an acre your plot is. You had better dig the ground and sow the grass seeds at the end of March.

**OSIER-BEDS (A. Anderson).**—"A stiff, black, peaty moss" is not so good as a mellow sand for this crop. Generally speaking, the margins of rivers (not tidal ones) where the ground is occasionally flooded after heavy rains, are the best places for this plant, or some level tract but slightly elevated above the water mark, and where the uncertainties of flooding render cropping by other things precarious, is often planted with Osiers; but there is no question but that they will do well in any moist, deep soil, and if it were trenched so much the better. But on the margins of rivers liable to flooding this is imprudent, as a considerable part of the loose soil might be washed away, and it not unfrequently happens that Willows are planted by the edges to prevent this, and no planting is better for that purpose. The small Packthread Willow is much used for fine work; but we think the more robust Bedford Willow (*Salix Rosselliana*) will suit the stiff ground you speak of best; but there are a great diversity of sorts.

**INSECTS (W. G.).**—The insects which have spoiled the ends of the young shoots of your Fuchsias, are field bugs (*Phytocoris* sp.). They must be treated just as aphides. Tobacco smoke properly applied will destroy them.—W.

**SEEDLING ROSE (Thomas Laxton, Stamford).**—We are glad to receive another proof that English Rose-lancers are determined not to allow the French to have it all to themselves. You describe your Rose as the result of hybridisation between Général Jacqueminot and a Damask; but it bears so little appearance of having Damask blood in it, that we think the bees must have been beforehand with you, and fertilised it with some other pollen. The shape, colour, and perfume are all good; it being cupped, a bright carmine, and very sweet. It has the fault of its parent in not being sufficiently double, but this may improve. By all means propagate it, and exhibit it next season.

**STRAWBERRY-FORCING (Anna).**—There has been much just to meet your case in late Numbers in "Doings of the Last Week," &c. As your layers are in thumb-pots, as soon as rooted transfer them to 54's, using loam and a little leaf mould. As soon as rooted again, transfer to 32-pots, using stiffish loam and a little rotten dung or leaf mould, keeping the bud about level with the rim of the pot, potting very firm, and leaving about half an inch for water. Set them on a hard bottom full in the sun, water until rains in autumn, protect in winter, and force when you like.

**FUCHSIAS SHEDDING THEIR FLOWER-BUDS (H. W., Mile-end).**—Over-dryness or over-moisture will cause the blooms of Fuchsias to drop. They are more liable this season than usual to drop quickly, owing to the rapid changes in the weather from cold and dull to warm and sunshine. To keep them as long as possible, flies and bees should be kept out of the house by gauze. If the plants are very full of bloom a little top-dressing of rich compost would do them good. In our "Garden Manual," price 1s. 6d., you will find full directions for cultivating Roses.

**COIX LACHRYMA (A. B. W.).**—Your plant (*Job's Tears*), belongs to the Grasses, requires rich soil and tropical heat to bring it to perfection. We would keep it indoors unless the weather was very warm. The flowers hang rather gracefully; but the seeds are the great attraction for their pearl-like appearance, from which they have been designated "*Job's Tears*."

**NOVELTIES (A Very Old Subscriber).**—We cannot foretell whether "there is anything really new and good coming out this season in flowers or vegetables." All that we can manage is to notice them after they have come out.

**SEDUM (T. C.).**—It is an English Sedum, next of kin to *acre*, but with white flowers having a faint pink line in the centre of each petal. A very pretty and scarce sort; the name is *Sedum album*. Many thanks for the Cyclamens.

**NAME OF PLANT—ROSES (E. H.).**—It is the yellow *Datura arborea* of the gardeners, but the right name is *Brugmansia sanguinea*, one of the oldest names in the Flora Peruviana. Cloth of Gold Rose is a most luxuriant climbing Rose, and will do good in a pot. Mrs. Bosanquet is a very nice dwarf light or nearly white flowering China Rose, and one of the very best of that class of Roses to grow in a pot.

**OAKS** (*A. Countryman*).—There is no such distinction as a male Oak and a female Oak. The tree is monoecious—that is, although there are male flowers and female flowers, they are borne by one and the same tree.

**NEW IOBELIA** (*A. O.*).—We have sent the plants and the specimens to Mr. Beaton, and you will see in another page that he has not yet seen the flowers.

**PINE APPLES BLACK IN THE CENTRE** (*M. A. Devon*).—We had a similar inquiry last season; and though having thought much of the matter since, are unable to assign any probable cause, except too vigorous growth, too much moisture at the roots and in the atmosphere, with perhaps scarcely enough of air. We know that such swelling-out processes will produce such a result at times, but we could not say that such were the causes in your case.

**BRUGMANSIA LEAVES YELLOW** (*A. Cheshire Subscriber*).—We perceive the marks of red spider—that is, where they had been. The yellow appearance, however, we should consider to be the result of the roots getting too dry. If the weather was sunny and the pot rather small, such a plant would need watering twice a-day. In dull weather once a-week might do. Frequent syringing would also be an advantage. Most likely a larger pot and rich soil would help you.

**NEGLECTED VINES** (*H. B.—Northampton*).—You treated them quite right, and they will bear a good crop probably next year. If they are not very luxuriant apply a little rotten stable manure to the border, and keep it mulched during the dry, hot weather. If you cannot pick off the caterpillars from Geraniums, Calceolarias, &c. (we never saw such plants attacked), dust them with fresh white hellebore powder. Please to send your address, we have received thirteen postage stamps but no direction. You must send six more stamps.

**GRAPES COLOURING** (*J. W.*).—In answer to your query, "When Grapes are colouring should the house be kept wet or dry?" We can only reply, Let the air contain rather less moisture than during the swelling period. Mr. Thomson is rather emphatic upon the point; he says in his work lately published—"The moment the first berry in the house begins to colour the supply of air should be more liberal both by night and day, and the moisture less, if high flavour be aimed at."

**WHITE DAMSON** (*T. C.*).—Yes, there is such a fruit, you will find it described in Dr. Hogg's "Fruit Manual."

**NAMES OF PLANTS** (*C. Porter*).—1, *Sparanium ramosum*; 2, *Lythrum salicaria*; 3, *Lysimachia ciliata*; 4, *Epilobium angustifolium*; 5, *Poterium sanguisorba* (*A. R.*).—*Lysimachia verticillata*. Holt the *Veronicae* are garden forms, and nameless. One of yours seems to be *arguta*. We cannot tell the *Delphiniums*. *Saxifraga corymbosa*, and, perhaps, *S. adscendens*. We cannot, however, name such imperfect specimens satisfactorily. The London Pride is *Saxifraga umbrosa*. (*Nemo ad B. L.*).—*Euphorbia exigua*, *Asperula cynanchica*, *Polygala vulgaris*, *Gentiana amarella*. (*J. S.*).—1, *Veronica longifolia*, var.; 2, *Pyrethrum parthenium* fl. pleno; 3, *Polemonium ceruleum*; 4, *Lilium martagon*. (*W. B.*).—They are both variegated *Alyssum*, No. 1 being the variegated form of *Kouiga maritima*, the common Sweet Alyssum; and No. 2 the variegated form of *Alyssum saxatile* (*A. Robertson*).—The *Caladium undeveloped*, so we cannot name it. The other plant is *Chaenostoma polyanthum*.

**POULTRY, BEE, and HOUSEHOLD CHRONICLE.**

**POULTRY SHOWS.**

- AUGUST 25th, 26th, 27th, and 28th. CRYSTAL PALACE. *Sec.*, W. Houghton. Entries close July 26th.
- AUGUST 27th. COTTINGHAM. *Sec.*, Mr. J. Brittain. Entries close Aug. 20th.
- SEPTEMBER 2d. POCKLINGTON, Yorkshire. *Sec.*, Mr. T. Grant. Entries close August 26th.
- SEPTEMBER 4th. WAKEFIELD AND WEST RIDING. *Sec.*, Mr. J. Crosland, jun., Entries close August 23rd.
- SEPTEMBER 9th. WORSLEY AND ARMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.
- SEPTEMBER 9th and 10th. CALNE. *Secs.*, A. Heath and F. Baily. Entries close August 28th.
- DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

**FATTENING YOUNG FOWLS.**

(Continued from page 282.)

THE exact time a fowl should take to fatten is not fixed, it must be ruled by the greater or less predisposition and strength of the animal. Some poulardes cannot be thoroughly fattened without constant risk of failure; the experienced feeder knows exactly when he must cease his efforts. He knows he must suffer losses: spite of all skill and attention some years are more favourable than others without any apparent reason. A man full of the experience of many years following his business at two places will succeed at one, and experience serious losses at the other from utter inability to finish fattening his poulardes.

Some are fat at the end of six weeks, others at two months. When a poularde seems disposed to continue to do well, and to thrive, the feeding is persisted in, and marvellous weights are thereby attained.

It is estimated some fowls consume 20 quarts of meal, others as much as 30 quarts.

These birds equally imprisoned in constant obscurity never have any litter of any kind, and are never cleansed during their treatment.

If the emanations in consequence, and which are abundant, are necessary to assist in fattening, they are, nevertheless, very

hurtful to the health of the feeders, who suffer in proportion to the number of fowls under treatment. Where there are eighty or a hundred fowls, feeders pass almost the whole day and part of the night attending to them in a centre of infection. When the first meal begins at four A.M., it is hardly over at twelve, and the second begun about three o'clock, is only over at eleven.

When the fattening is over the poulter has to kill and pick them, and before they are cold he places them on their backs on a slab or narrow table, and gives them the form so well known by means of shapes of wood or stone, which compel them to stiffen in the desired position. Then, on every projecting part of the body, a thin wetted cloth is spread, and this gives a fine grain to the fat.—(*Poulailler, Jaquie.*)

We must reserve the continuation of this subject, which will now go into calculation for another paper. The practice in England is so different from that quoted from Mr. Letrove, many respects, that we cannot help remarking on it.

In England the process of cramming is not continued for five or six weeks. It may be that some old-fashioned poultry Rip Van Winkle, who still adheres to the idea there must be Capons at Christmas, persists in feeding the wretched animals; but as a rule our best fowls are only crammed during a fortnight or at most three weeks. The houses in which the fowls are fed are as clean and sweet as ordinary sitting-rooms; they are generally out-houses or other farm-buildings, square and lofty. The fattening-pens are ranged around; and so far from the birds being kept in filth, they are scrupulously clean. The bottoms of the fattening-coops are made of bars only; anything, therefore, like an accumulation of dirt is impossible, all falls through to the ground, and is carefully removed every morning. In this country the theory that anything is gained by dirt, or that it favours fattening, is exploded. For the same cause those who follow this calling are perfectly healthy. There is nothing to prevent it. They also cram fowls far more expeditiously than our neighbours. Judging from what we read, if Mr. Letrove is describing the present day, we are in Surrey and Sussex far a-head of La Flèche.

**GAPES IN POULTRY.**

So frequently have we been asked for minute particulars relative to the parasitical vermin causing this disease, that we readily copy the following from that excellent work now publishing in monthly parts, "Chambers' Cyclopædia"—

"It is a disease of gallinaceous birds, owing to the presence of a trematode worm (*Fasciola trachealis*) in the windpipe. This entozoon, allied to the fluke, is, however, a creature of very

different general form, being a red, wavy, cylindrical worm, tapering at the tail, and forking near the upper extremity, the branch which is sent off terminating in a sucker for adhesion, whilst the mouth terminates the principal trunk. The whole length of the worm seldom exceeds an inch. Twenty of these worms of various sizes have been found in the windpipe of a single chicken. Pheasants, Partridges, &c., are also liable to be infected by them. They produce inflammation, and sometimes suffocation and death. A common remedy is to introduce into the bird's throat the end of a feather, well oiled, and to turn it round, so as to dislodge the worms, which are then either brought out by the feather, or coughed out by the bird. Another cure is to give a little Epsom salts mixed with the food. Urine is often used in the same way, and with similar efficacy."



A The whole worm.  
B The upper end, magnified.  
a The sucker at the end of its branch.  
b The head, with mouth.

**CRAMP IN GOSLINGS.**—A lady, writing in the *Irish Farmer's Gazette*, says that she finds that this painful disorder is cured by, for about three hours, keeping on the legs of the birds so attacked strong mustard plasters. We should think the same remedy would be as effectual for the cramp in chickens, and the spraws in ducklings.

## DRIFFIELD & EAST RIDING AGRICULTURAL SOCIETY'S POULTRY SHOW.—JULY 25TH.

**DORKINGS.**—First and Second, H. Berwick, Helmsley. *Chickens.*—Prize, H. Key, Beverley. *Cock.*—Prize, M. Kirkby, Driffield.

**SPANISH.**—First, R. Tate, Driffield. Second, T. C. Trotter, Sutton. *Chickens.*—Prize, R. Tate. *Cock.*—Prize, A. Hudson, Onsecliff.

**GAME** (Black-breasted and other Reds).—First, H. Adams, Beverley. Second, W. Boyes, Beverley. *Chickens.*—Prize, H. Adams. *Cock.*—Prize, H. Adams.

**GAME** (Duckwing and other Greys).—First and Second, H. Adams, Beverley. *Chickens.*—Prize, H. Adams. *Cock.*—Prize, H. Adams.

**GAME** (Any other Variety).—First, H. Adams, Beverley. Second, W. Charter, Driffield. *Chickens.*—Prize, M. Merkin, Driffield. *Cock.*—Prize, W. Horner, Driffield.

**COCHIN-CHINA.**—First, W. Witty, Cottingham. Second, H. & G. Newton, Leeds. *Chickens.*—Prize, W. Witty. *Cock.*—T. C. Trotter, Hull.

**POLANDS.**—First and Second, H. Beldon, Bradford. *Cock.*—Prize, H. Beldon.

**HAMBURGS** (Golden-spangled).—First, R. Tate, Driffield. Second, H. Berwick, York. *Chickens.*—Prize, R. Tate. *Cock.*—Prize, A. Hudson, York.

**HAMBURGS** (Silver-spangled).—First, H. Beldon, Bradford. Second, S. Campling, Cottingham. *Chickens.*—Prize, H. Beldon. *Cock.*—Prize, H. Beldon.

**HAMBURGS** (Golden-pencilled).—First, H. Beldon, Bradford. Second, W. Charter, Driffield. *Chickens.*—Prize, R. Voakes, Driffield. *Cock.*—Prize, Mrs. Boynton.

**HAMBURGS** (Silver-pencilled).—First and Second, H. Beldon, Bradford. *Chickens.*—Prize, H. Beldon. *Cock.*—Prize, H. Beldon.

**ANY OTHER VARIETY.**—First, H. Adams, Beverley. Second, R. Tate, Driffield. *Chickens.*—Prize, H. Beldon, Bradford. *Cock.*—Prize, W. Witty, Cottingham.

**FABYAND CROSS.**—First, — Robinson, Frodingham. Second, — Bilton, Cottingham. *Cock.*—Prize, — Loft, Woodmansey.

**BANTAMS** (Black and White).—First, H. Layburn, Beverley. Second, R. Tate, Driffield. *Cock.*—Prize, — Holdsworth, Leeds.

**BANTAMS** (Any other Variety).—First, R. Voakes, Driffield. Second, R. Tate, Driffield. *Cock.*—Prize, K. Perrin, Hull.

**GEES.**—First and Second, R. Tate, Driffield. *Goslings.*—Prize, — Robinson, Swarthorpe.

**TURKEYS.**—First, R. Tate, Driffield. Second, Mrs. Dawson, Driffield. *Poult.*—Prize, Mrs. Conyers, Emswall.

**GUINEA FOWL.**—Prize, R. Tate, Driffield.

**DUCKS** (Aylesbury).—First, R. Tate, Driffield. Second, O. A. Young, Driffield. *Ducklings.*—Prize, G. Simpson, Burton.

**DUCKS** (Rouco).—First, R. Tate, Driffield. Second, O. A. Young, Driffield. *Ducklings.*—Prize, Mrs. Jordan, Driffield.

**DUCKS** (Any other Variety).—First, J. R. Jessop, Hull. Second, — Laybourn, Nafferton. *Ducklings.*—Prize, — Robinson, Frodingham.

**PIGEONS.**—*Croppers.*—Prize, W. Witty, Cottingham. *Carriers.*—Prize, E. Holdsworth, Leeds. *Trumpeters.*—Prize, F. Key, Beverley. *Jacobins.*—Prize, W. Charlton, Howden. *Fantails.*—Prize, J. R. Jessop, Hull.

**TUMBLERS.**—Prize, T. Rippon, Beverley. *Barbs.*—Prize, W. Witty, Cottingham. *Nuns.*—Prize, F. Key, Beverley. *Any other Variety.*—Prize, F. Key, Beverley.

**RABBITS.**—*Any Breed.*—First, J. Leason, Driffield. Second, W. Charter, Driffield.

**EXTRA PRIZES.**—*Game* (Black-breasted).—Prize, H. Adams, Beverley. *Cock.*—Prize, H. M. Julian, Beverley. *Game Cock.*—Prize, H. Adams, Beverley. *White Dorking Chickens.*—Prize, J. Harrison, Kilnwick. *Peacock and Hen.*—Prize, Mrs. Nicholson, Little Driffield. *Geese.*—Equal Prize, J. Hodgson, Belford; Mrs. Nicholson; F. C. Matthews, Driffield. *Extra Pigeons.*—Equal Prize, F. Key, Beverley; E. Holdsworth, Leeds.

**JUDGES.**—Matthew Hunter, Esq., Green Hammerton Hall, York; Samuel Bird, Esq., Shipley, Bradford.

## SHEFFIELD POULTRY SHOW.

This Show commenced on the 2nd inst., and will be continued till to-day (Tuesday). We shall give our report next week.

The following were the awards of the Judges:—

**SPANISH.**—First, R. Teebay. Second, J. Martin. Third, E. Brown. Commended, J. K. Fowler. **CHICKENS.**—First and Third, J. R. Rodbard. Second, T. Greenwood. **COCK.**—First, R. Teebay. Second, J. R. Rodbard. Highly Commended, R. Teebay; T. P. Wood, jun.

**DORKING** (any colour).—First and Second, Lady Julia Cornwallis. Third, T. W. Hill. Commended, Mrs. Gay. **CHICKENS.**—First, F. Key. Second, J. F. Newton. Third, T. Hadfield. **COCK.**—First, Lady Julia Cornwallis. Second, H. W. B. Berwick. Highly Commended, E. Tudman.

**GAME** (White and Piles).—First, H. Adams. Second, W. Wood. Third, G. Haigh. **CHICKENS.**—First, J. Wildens, jun. Second, J. Camm.

**GAME** (Black-breasted and other Reds).—First, W. Robson. Second, J. Fletcher. Third, H. Adams. Commended, S. Marsh; G. Hellewell; H. M. Julian. **CHICKENS.**—First, W. Bentley. Second, W. Robson. Third, J. Sunderland, jun. Highly Commended, T. Colley; T. Moss. Commended, T. Fiddler.

**GAME** (Black and Brassy-winged, except Greys).—First and Third, G. Hellewell. Second, W. Dawson. **CHICKENS.**—First, W. Dawson. Second, H. Hellewell.

**GAME** (Duckwings and other Greys and Blues).—First, S. Matthews. Second, W. Fell. Third, J. Fletcher. Commended, T. Greenwood. **CHICKENS.**—First, W. Fell. Second, W. Bentley.

**GAME COCK** (any colour).—First, J. Camm. Second, W. Robson. Third, S. Matthews. Extra Third, W. Boyes. Highly Commended, T. Colley; H. M. Julian. Commended, J. Fletcher.

**COCHIN-CHINA** (Cinnamon and Buff).—First, J. K. Fowler. Second and Third, T. Stretch. Commended, H. Bates. **CHICKENS.**—First, H. Bates. Second, T. Stretch. Highly Commended, W. Watkin.

**COCHIN-CHINA** (Brown and Partridge-feathered).—First, T. Stretch. Second, P. Cartwright. Third, H. Yardley. Highly Commended, E. Tudman. Commended, R. White. **CHICKENS.**—First, E. Tudman. Second, J. K. Fowler.

**COCHIN CHINA** (White or Black).—First, R. Chase. Second, W. Dawson. Third, no competition. **CHICKENS.**—First, W. Dawson. Second, R. Chase. **COCK** (any colour).—First, E. Tudman. Second, H. Yardley. Third, J. Martin. Commended, W. Wood; R. White.

**BRAMA POOTRA** (Light or dark).—First and Second, R. Teebay. **CHICKENS.**—First, J. K. Fowler. Second, R. Teebay. Commended, J. Fares. **COCK.**—First, R. Teebay. Second, J. K. Fowler.

**HAMBURGH** (Golden-pencilled).—First, J. Pritchatt. Second, A. Nuttall. Third, J. Munn. Highly Commended, R. Hemingway. **CHICKENS.**—First and Second, A. Nuttall. Highly Commended, J. Munn. Commended, T. Parkinson; Hon. W. T. W. Fitzwilliam; F. Hardy.

**HAMBURGH** (Golden-spangled).—First, G. R. Tate. Second, G. Brook. Third, J. Burton. Highly Commended, T. Wilcock; W. K. Lane. **CHICKENS.**—First, G. Brook. Second, J. Ashcroft. Third, G. Haigh.

**HAMBURGH COCK** (Gold or Silver-spangled).—First, Lady J. Cornwallis. Second, H. A. Hudson.

**HAMBURGH** (Silver-pencilled).—First and Third, J. Martin. Second, W. H. Kerr. **CHICKENS.**—First, J. Dixon. Second, Mrs. Harrop. Third, A. Nicholson. Highly Commended, T. Barber.

**HAMBURGH** (Silver-spangled).—First, H. Carter. Second, J. Ashcroft. Third, R. Teebay. **CHICKENS.**—First, C. W. Brierley. Second, W. M. Mellon. Third, J. Ashcroft. Highly Commended, H. Bancroft. Commended, J. Sunderland; H. Carter.

**HAMBURGH SINGLE COCK** (Gold or Silver-pencilled).—First, Mrs. Froggatt. Second, J. Munn.

**POLAND** (Black, with White Crests).—First, J. Dixon. Second, H. Carter.

**POLAND** (any other variety).—First, J. Dixon. Second, F. Hardy.

**CHICKENS.**—First withheld. Second, H. Beldon. **COCK** (any colour).—First, F. Hardy. Second, H. Beldon.

**RED CAPS** (any other distinct breed).—First, B. Oates (Red Caps). Second, G. Lister (Red Caps). Third, Mrs. E. Talbot (Silkies).

**BANTAMS** (Gold or Silver-laced).—First, E. Yearley. Second, T. H. D. Bayly. Highly Commended, R. Chase; E. Yearley.

**BANTAMS** (Black or White).—First, T. H. D. Bayly. Second withheld.

**BANTAMS** (Game).—First, T. H. D. Bayly. Second, J. Camm. Commended, W. Sylvester; E. Yearley. **COCK.**—First, W. Sylvester. Second, W. Hingworth. Commended, T. Caudy.

**GEES.**—First, G. R. Tate. Second, J. K. Fowler. Highly Commended, T. H. D. Bayly (Sebastopol).

**DUCKS** (White Aylesbury).—First and Second, J. K. Fowler.

**DUCKS** (Rouen).—First, J. Holme. Second, G. R. Tate.

**DUCKS** (any other variety).—First, F. W. Earle (Buenos Ayres). Second, G. Hellewell. Commended, J. R. Jessop (Black East Indian).

**TURKEYS.**—First, Mrs. Guy (Cambridge). Second, no competition.

**SWEEPSTAKES.**

**GAME COCKS.**—First, S. Matthews. Second, W. Robson.

**SPANISH HENS.**—First, F. Crook.

**DORKING HENS.**—First and Second, H. W. B. Berwick.

**GAME HENS.**—First, W. Robson. Second, C. W. Brierley.

**HAMBURGH HENS** (Gold or Silver-spangled).—First, J. Roe. Second, H. W. B. Berwick. Highly Commended, J. M. Williams; W. M. Mellon.

**COCHIN CHINA** (any colour).—First, H. Yardley.

**GAME BANTAM HENS** (any colour).—First, J. Camm.

**Judges:** Mr. Tegetmeier, of London, and Mr. Edwd. Hewitt, of Birmingham.

## LIGURIAN BEES IN SCOTLAND.

CIVIL WAR—COMBS BUILT IN A TREE—ACCIDENT TO A QUEEN—UNITING BEES.

MY stock of Ligurians which I received from "A DEVONSHIRE BEE-KEEPER" last April have done remarkably well, considering that they were decimated at the beginning by some mysterious internal broils,\* and the season has been all through uncommonly bad.

They threw a fine swarm in the beginning of June, another small one after the usual interval, and another still. Also, a smaller one has been given off since, but I do not know the time, as they were only discovered last week in a neighbouring orchard, established on the branch of a tree, and on which they had constructed two considerable combs, both containing honey and pollen, but no brood. I got them hived with some difficulty, and left the hive at the foot of the tree. They are very weak, and will not now have time to increase this season. I have been thinking whether I could strengthen with some common bees; and the other day an accident occurred to one of my hives, which has pointed my attention to it more particularly, and which seems to afford peculiar facilities for making my small Ligurian colony a strong one; but I would be particularly obliged by the advice of "A DEVONSHIRE BEE-KEEPER" in the matter before doing anything.

The hive to which the accident occurred is a year or two old. It is a common straw skep with a fixed wooden top, and is very strong, as it has not swarmed this season. It has two supers to give room—first, a large strong one, and above a glass. It has

\* A most inexplicable internecine war broke out amongst these Ligurians immediately after their arrival in "the land of cakes," which raged with such fury that for some time it threatened the same fatal result as attended the celebrated feud between two Kilkenny cats.—A DEVONSHIRE BEE-KEEPER.

been killing drones for a week past, and they are thickly strewn about. The other day I proceeded to take off the glass super by inserting a thin plate of zinc cautiously between it and the one underneath. The glass and zinc plate were then carried away; and some time after when the glass was lifted I found a queen at the side of the plate surrounded by a few bees so much injured that she died soon after. I must have done this while inserting the zinc, and the consequence is, that a strong hive is left without a sovereign, and at a time when I suspect it is too late to raise another. I may mention the mishap caused no particular disturbance, either among the bees in the hive, or those in the super I had taken off.

My idea is to drive them into an empty hive, put them back on their stool till night, then carry them to where the small Ligurian hive is, turn up the hive in which they are, sprinkle with syrup, set the Ligurian hive over it, and early the next morning when they may be expected to have all gone up together, carry the joined hive away a mile or two, as there being a few hundred yards between the places where they now are, the driven bees might come back from the spot where the Ligurian now is to their old place. I would expect to find a good deal of brood in the old hive if done now, and would either give it to the united hive to hatch out, or place it at once when driven on the top of some other hive.

If driven during the day would the bees without a queen remain quietly in an empty hive on their old stand (from which egress could be got) till the evening? In my little experience I have never been in the same position before.—J. B.

[The only improvement I can suggest upon the course you propose, is to scent the syrup by adding to it a little peppermint water, and baptise both parties liberally before their union, which I should effect by removing the crown-board, if the Ligurians are in a bar-hive, and knocking the cluster of common bees out on the top of the exposed bars. Should the Ligurians be in an ordinary straw hive or box, the cluster of black bees must be knocked out on a cloth spread on the ground, and the Ligurian hive at once placed over them supported on a couple of sticks at least an inch thick, laid on the cloth rather more than a foot apart. You may insure the queenless bees remaining quiet during the day by cutting out a royal cell with a piece of comb attached to it, and fastening it to the top of the hive in which you wish them to remain, by means of a flat-headed nail driven through the comb.—A DEVONSHIRE BEE-KEEPER.]

#### DELAY IN HATCHING A QUEEN.

I MADE an artificial hive twenty-five days since, and when I looked this morning I found one queen's cell not opened-up, but the cell seems long and too much pointed, so that I am afraid there is something wrong, seeing that it is now twenty-five days and all the other brood are out and the queen not. I may state that they began making eight queen-cells, and when we next looked they had only two with brood in them, and now only the one as I have stated. I always understood that a queen took a shorter time to raise than a worker bee or drone, and I shall be glad to know if I am mistaken, and that we may have hope of this one?—A. SHEARER, *Yester Garden*.

[I have had an instance this season in which royal cells did not hatch until the twenty-second day after the removal of the old queen, which is a sufficient proof that the limit of sixteen days fixed by Huber, Bevan, and others, is sometimes considerably exceeded. The queen was a very fine yellow Ligurian, and turned out (as all queens of this species appear to do), amazingly fertile. There is nothing wrong in the shape of the cell according to your description. A long-pointed cell generally produces a very fine queen. I should certainly recommend you at all events to furnish the colony with another brood-comb, which will be of great service to it, whether the royal cell has produced a queen or not.—A DEVONSHIRE BEE-KEEPER.]

#### QUEENS KILLED OR MUTILATED BY THEIR OWN WORKERS.

TO WHAT AGE DOES A YOUNG QUEEN REMAIN CAPABLE OF PERFECT IMPREGNATION?

THE present season may indeed be said to be adverse to bees and honey-gathering, and no locality appears to have been favoured; Devonshire and Somersetshire being announced as bad, and I can add, Middlesex is wretched, and Northumberland

still worse. What I would now call the particular attention of bee-keepers to is the note of warning sounded by "A DEVONSHIRE BEE-KEEPER," that the season has been peculiarly disastrous to the young queens, and it is well to look to the hives which ought to possess them while there is yet a chance of some favourable weather sufficiently warm to secure their due maternal character.

The singular treatment which several queens have been discovered to undergo from their subjects, detected by the vigilance of your correspondent, is a subject of much difficulty, and to which I confess to have been looking forward with interest, as likely to fall under his observation had he prosecuted experiments to test the effect of retarded impregnation by mutilation or otherwise. I have suspected for several years that in certain conditions of the queen and hive, rebellion, regicide, and civil war were not unknown in this unusually loyal community. The latter I have witnessed unmistakably, following, I suspect, on the two former. The question naturally occurs, Why should the bees destroy a queen which they find will not become fertile, when there is no brood in the hive, and no chance of improving their condition? Or does a queen become debilitated after a series of fruitless excursions or confinement to the hive from the unfavourable state of the weather?

Two out of three hives which swarmed early in June were found five weeks afterwards to be queenless. In one of these instances no particular observation was made. In the other, when the queen was near a month old, and it was expected had begun to lay, there was evident restlessness on the outside, and the next day the queen was seen to leave the hive. She was again seen three days afterwards, and the next day there was again excitement, and then she was found dead on the ground. I have since heard that a hive in an adjoining apiary which swarmed about the same time is also queenless.

The above corresponds with results which followed experiments I made some years ago in slightly mutilating the wings of young queens. It did not prevent their flying, as I frequently saw them go off; but two were brought out of their hives dead, one of them on the evening of a day on which I had seen her take flight, the bees rushing out as if going to swarm at eight P.M.

It is not less singular that the bees should be found to hold the queen a prisoner in her hive. That they may throw themselves round her, and enclose her in a dense cluster when threatened by danger, I have witnessed; still it is probable they may be impelled by other feelings than those of love\* in the forcible detention which has been observed. I once saw a queen most roughly received on her return from her last excursion; but I have no doubt it was in the excess of their joy that the bees seemed ready to tear her to pieces with their violent caresses, while the poor queen sought repose and rest. As they were in the unicomb-hive, I had a full view of the interesting scene, and was not without apprehension that the queen would be found minus a leg or wing.

It is satisfactory to find the excursions may not be limited to the fatal twenty-first day of Huber; now the apiarian readers of THE JOURNAL OF HORTICULTURE will hope to learn to what term this period may be extended before the queen becomes deteriorated so irreparably as to produce drone eggs only. Probably the temperature will have an important power in regulating this phase of queen-life.—INVESTIGATOR.

[I wish all apiarians who have sufficient leisure would follow the excellent example of "INVESTIGATOR," whom I beg to thank for his experiments, and for making their results public. At the same time I regret that I am not myself able to practise extensively what I so earnestly recommend to others. The cares attending the multiplication and dissemination of the Ligurian species of honey bee are such as almost to preclude me from entering the lists as an experimentalist, and confine me to observations only; the results of which, however, I am always happy to communicate to the apiarian readers of THE JOURNAL OF HORTICULTURE.

On the 29th July, I had a remarkable instance of the facility with which bees will sometimes rebel against their own sovereign. Having attempted to strengthen a weak Ligurian stock by standing it in the place of a strong half-bred one, I found the queen closely imprisoned (probably by the strangers), and on releasing her had the mortification of discovering that she had been stung, and was struggling in the last agonies of dissolution.†

\* I believe the reverse of love is always manifested by these demonstrations.—A DEVONSHIRE BEE-KEEPER.

† This case and several others which I have witnessed, prove Huber to have been mistaken in declaring that workers never sting a queen.

Not setting any great value on the hybridised queen-mother of the regicides, I thought I would try how she would be received, and accordingly took her from her own hive and transferred her to one of the brood-combs of the other. She was instantly attacked, but I got her away with some difficulty, killing a bee which had pinioned her close to the root of one wing, and whose head, even when detached from its body, still hung by the mandibles, and could not readily be disengaged. Disregarding this incumbrance, I introduced her at the top of her own hive, but was amazed to see her hostilely received after an absence of so few minutes, and was still more astonished to find her the next morning cast out of her hive quite dead.

In page 304, I related an instance in which a fertile and prolific queen only a year old was mutilated by the loss of the last joint of one of her hind legs. Since that article appeared, she has again been maltreated. On the 25th of July I repeated my examination, and found only the stump of the unfortunate limb remaining, another joint having been dismembered in the interim.\* At the same time I discovered and destroyed two sealed royal cells. This latter fact would seem to argue a chronic state of discontent, and a settled determination on the part of the workers to transfer their allegiance to a new sovereign, since the population is by no means sufficient to warrant the sending forth of a swarm.

With regard to the extension of time for the wedding flight beyond the supposed fatal twenty-first day, I can add nothing more from my own experience, but I find the matter has not escaped the close observers of Germany. In reference to this point Herr Neidholdt, writing on the 25th November last, says—"It was formerly thought that the impregnation of the queen had to take place in a certain period, and that it was afterwards no longer possible. This theory has recently lost its credibility since the Rev. Mr. Dzierzon says the time within which a young queen can take her wedding flights cannot be fixed. That this is indeed the case, the year 1860 has very clearly proved, owing to the alternations of warm and cold weather. In my apiary many a young queen took her wedding flights after four and even after six weeks, partly with success and partly without: many did not return. Herr Henmann confirms this, by declaring that one of his queens was not impregnated until the forty-sixth day. Nay, I assert that a queen continues her wedding flights, supposing the weather to be favourable, until she attains her end or perishes. I even go a step further, and say that a queen still flies out and retains the instinct of impregnation after she has begun to lay drone eggs." In this latter opinion, however, Herr Neidholdt differs from Herr Dzierzon who says:—"The queen certainly no more flies out after she (of course drone eggs), once has begun to lay." Two instances are given by Neidholdt in which young queens first laid drone eggs, remaining, as he declares, evidently in a virgin state, and afterwards becoming impregnated proceeded to lay worker eggs in the usual way. I have myself had a case this season in which a young queen commenced by laying a large patch of drone-brood in worker-cells, although ultimately she turned out perfectly fertile, and laid worker eggs with astonishing rapidity. In this case the miniature drone-brood was nursed to maturity, when the unfortunate liliputian males were expelled without mercy.—A DEVONSHIRE BEE-KEEPER.]

### DESTRUCTION OF A YOUNG QUEEN.

A FRIEND brought me a swarm this morning (23rd July), from a hive which had thrown a swarm on the 1st of June, and a second on the 14th. The queen had been thrown out during the night. The bees in this hive had always seemed unsozial. He examined them on the 10th of July and found no brood; again on the 20th, and found brood. We examined the queen with a microscope and could find no eggs as described by "A DEVONSHIRE BEE-KEEPER," only yellow matter. Does "A DEVONSHIRE BEE-KEEPER" know any case in which a queen has laid so few eggs and been thrown out?—A. SHEARER, *Iester Gardens*.

[I have known many queens expelled from their hives, but remember none so young being expatriated in this manner after they had laid eggs. It is by no means easy to distinguish eggs

in the ovaries of a queen bee under the microscope, especially when the ovaries themselves are not well developed, which was very probably the case with the one you experimented upon.—A DEVONSHIRE BEE-KEEPER.]

### OUR LETTER BOX.

**GOLDEN-SPANGLED HAMEDEGES AT LEEDS (W. Lawson).**—We are not surprised at any oversight which may have occurred to the Judges at that Show, for they had to commence their task at 9.30, and the public were admitted at 12. However, the bird you mention, we are informed, won the first prize at Prescott, and if so other judges were similarly deceived; and so good a bird was he considered, that one exhibitor expressed a wish to purchase him for five guineas. We state this to show that we have made inquiries. And now let us add what we consider was the duty of the two members of the Committee, who, with you, detected that the bird's earlobes were painted. They should have forthwith directed the Secretary not to pay the prize to the owner, for if the Judges had been informed of the fact they would have rescinded their award. It was a fraudulent proceeding, and we believe that the money could be recovered from the owner of the bird.

**HENS DYING OF APOPLEXY (A Subscriber, Midland Railway).**—Do not let them have the same nutritious food that you give to their chickens, but feed them chiefly on boiled potatoes, with a very little ground barley, or ground oats, mixed with them. Let the hens have a grass run, and lettuce leaves, but no cabbage leaves unboiled.

**GOOD POINTS IN COCHIN-CHINAS (Partridge Cochin).**—We cannot perhaps recapitulate all the points some of our judges look at, but we can give the principal ones, and the claws are not among them. Small sharp head, perfectly upright small comb, with numerous serrations; tightly clipped wing, large fluff, a gradual rise from between the two wings to the extremity of the tail, which should be small. Add to these, well-feathered legs, and even colour, and we should be satisfied. We forgot the wattle should be double, peadant, and red.

**CROOKED COMBS (Idem).**—We know to our cost crooked combs never become straight; it is like a stooping gait in a young man, it becomes worse as age grows on. All such go into puddings with us; and as they are excellent in that compound, we not only forgive, but look for them. The well-fasted chicken is killed; the next day, or two days after, it is cut into small joints, slightly, very slightly seasoned with pepper and salt. A good light but not very thin crust is made and put into a basin, the members of the chicken are mixed with small thin slices of bacon—if at hand, two or three kidneys are added to it, and it is boiled gently as long as you please, being tied in a cloth. In hot weather, when beef and mutton are hard, this will give a good dinner. It is hardly possible to overboil it.

**PINIONING YOUNG WILD DUCKS (Amateur).**—Your Ducks must be pinioned immediately. We need hardly say you will pinion but one wing. Take either the right or left wing, tell off the first five feathers, this will bring you to a joint. Some will tell you this is the flight, and you need cut no more. We assure you they fly nearly as well without as with these five feathers. Try the wing down with the thumb and finger till you come to the second joint: this is about midway between the spur and the tip. Keep on till you come to the spur, which is a very sharp projecting bone, take a sharp and strong-backed knife, put it under the spur dividing the ligament that connects it to the wing; and when you have brought the edge to bear on the bone, above the joint, which forms the third from the tip or extremity let some one strike the knife sharply with a stick or hammer—the bone is divided, the wing cut off, and the bird ready to feed. They do not suffer in any way from the operation. The spur must be left, as it protects the wound, and the joint should not be injured.

**RABBIT WITH FACE-SWELLING (S. H.).**—From your statement we conclude that a tumour is forming, and if so the only remedy is to open it by means of a pair of sharp-pointed scissors as soon as it has come to a head. No application will be needed. You had better write to Mr. Houghton, Secretary of Poultry Show, Crystal Palace, Sydenham, for we do not know what the railway arrangements are for the conveyance of poultry thither.

**EXAMINING A HIVE (R. C.).**—If you wish to obtain an interview with her Ligurian majesty without inconvenience to yourself and with safety to your bees, you cannot do better than commence proceedings in the manner described by Mr. Woodbury, in page 285. Having administered "a sop to Cerberus," and removed the crown-board, select the side-comb on which the smallest number of bees are congregated; look it carefully over on both sides to make sure that the queen is not present (which is, however, very seldom the case, her place being usually more near the centre of the hive); and having satisfied yourself on this point, place it in an empty box, or stand it carefully on one side where it cannot be blown down. Then steadily raise the next comb, holding it carefully over the hive, so that there may be no risk of the queen or any other bee falling on the ground; and, having completed your inspection of both sides, put it in the place originally occupied by the side comb. Proceed in this way by examining and shifting comb after comb into the place occupied by its predecessor until the examination is complete, when if the desired interview has been obtained, and nothing more remains to be done, the operation may be finished by inserting the first-removed side-comb in the vacant space left on the opposite side to that from which it was taken, and replacing the crown-board. If a repetition of the process be necessary, the combs should be again examined and placed one by one in their original positions. Whenever a side-comb is removed to the opposite side to that from which it was taken, the fact should be noted in order that during the next inspection things may be restored to their normal position.

**HEN CANARY (Bookworm).**—For such a bird as you need we can recommend Mr. Hawkins, of 6, Bear Street, Leicester Square. He is a very respectable dealer in birds, of whom the best and choicest varieties of Canaries can be procured. We believe that the price of Norwich Canaries per pair is from 10s. 6d. to £1.

**CUTTING A LINNET'S CLAWS (E. H.).**—A Linnet's claws which are such a length as to lap over each other, should be cut. Enough should be removed to reduce them to the ordinary length, and taking care not to cut down to the flesh.

\* At this point I dropped my pen and once more examined the hive (July 30). I found things in *status quo*, worker-brood in all stages, and plenty of it, with the poor mutilated queen hobbling over the combs in the due fulfilment of her royal functions.

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 12-13, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.		Moon Rises and Sets.		Moon's Age.	Clock before Sun.	Day of Year.			
			Barometer.	Thermom.	Wind.	Rain in Inches.	m.	h.	m.	h.						
12	Tu	Babiana villosa.	29.880-29.700	89-61	S.W.	.01	m. 12	h. af 4	m. 28	h. af 7	2	8	17	4	49	221
13	W	Beckia linifolia.	29.983-29.822	82-44	W.	—	43	4	26	7	22	8	19	4	39	225
14	Th	Beatonia atrata.	30.032-29.818	79-59	S.W.	—	45	4	24	7	43	8	19	4	28	226
15	F	Billardiera nutabilis, &c.	29.771-29.764	77-55	S.W.	—	47	4	22	7	5	9	20	4	17	227
16	S	Borbonia cordata.	29.813-29.812	67-43	S.	.10	48	4	20	7	32	9	21	4	5	228
17	Sen	9 SUNDAY AFTER TRINITY.	30.021-29.967	74-43	S.W.	—	50	4	18	7	7	10	23	3	53	229
18	Al	Cactus speciosus.	30.027-29.799	76-53	S.W.	—	51	4	16	7	49	10	23	3	40	250

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 73.8° and 58.9° respectively. The greatest heat, 92°, occurred on the 15th, in 1842; and the lowest cold, 32°, on the 13th, in 1839. During the period 141 days were fine, and on 104 rain fell.

NEW BEDDING EDGING PLANTS, CAPE BULBS, AND NOSEGAYS.



**CERASTIUM** Biebersteinii is, indeed, a most charming plant, worthy of all the honours in the schedules of awards. I shall give you a comparison by which you may know it, and that without seeing it. It is exactly, to a shade, the best pattern of the most snowy white satin as compared with common ash-grey-coloured silk. Nor silk nor satin, Greek nor Latin, can be more different than the two Cerastiums in all other respects. More white, more woolly, more prostrate, more manageable, and more of an edging-like plant than even tomentosum, of which you might make a small bed about 4 feet across, and make the edging of Biebersteinii, to see the con-

trast, and to prove what "NICKERBOB" said about it. That bed would also prove another thing, if I am not much mistaken:—it would prove to a person half blind of vision that equal quantities of the Alyssum variegatum with Flower of the Day Geranium, is like salting vinegar, while the two Cerastiums would combine, and form one of the softest tints that you could find between any two plants in the catalogue. I shall never forget the disagreeable twinge of my eyelids when I first looked on that variegated Geranium along with the Alyssum as a mixed bed at the Crystal Palace, and now I am glad to have the opportunity for giving you a sample to enable you and your friends to decide for yourselves. Make two beds instead of one, both to be of one size, and not far apart; then any time between ten in the morning and three or four in the afternoon, just come upon these two beds with the sun directly to the back of the head, and to any one to whom the two are much alike, I do hereby engage to tell a secret. Another thing which I recollect had given a most painful sensation to one's vision, was the use of various-coloured sands round beds edged with various sorts of variegated plants. I think that was the most unpleasant to the eye of all the combinations of colours I ever set my eye on; and I am almost persuaded that no variegated plant ought to be used in beds which are surrounded with very white gravel, or sands, or broken doctor's bottles, if you like it that way, or, at all events when such plants are the edgings; and I prophesy that the new edging Lobelia Paxtoniana will not do well next to light-coloured sand or gravel, nor against white brick walls, or walls of light stone colour anywhere, because I never could fancy a variegated or light-foliaged plant against the Suffolk white brick walls when I had to "furnish" against them with flower-boxes and such contrivances.

But there is one thing here (Surbiton), that would prove the point, and it is worth going ten miles to see it, even if one had to walk half the distance instead of about 150 yards from our railway station. It is a new light-coloured-brick house in the Adelaide Road, behind the church; there is a large, or rather three large windows in one bow to a front drawing-room. The window-sill is as if the late Sir Charles Barry had been the architect, and quite different to the "snibs" of sills you mostly see to the windows of villas round London. This bow sill is boxed for flowers all round; the run of boxes may be about 12 feet or so. The three boxes are "rusticated," as they say—that is, small hazel-rods are peeled and split in two, and the flat side put next the box and nailed on in patterns. The whole is then painted and varnished—a very nice way indeed almost anywhere. But now about the colour of the boxes: there is where the grand secret is for giving a good or a bad effect to the thing itself. The colour which is best to put against a light-coloured wall, or house, is not the desirable colour for placing against a red-brick house. The case is like the white or whitish plants in beds on different-coloured gravels, as above; and without waiting to enumerate the best, the second, and the third best colour for this or that coloured wall. I will state that the boxes here alluded to are painted dark brown—say one shade darker than the colour of a ripe Horse-chestnut, and it seems a soft, agreeable contrast to the light walls.

I recollect three or four years since of hearing a smart, intellectual discussion at the Crystal Palace between some artists there about the best kind of colour for the screen behind plants at the Exhibition there, when the green cloth at the Palace and the green baise at other Shows were both put down as of third-rate merit, and dark brown as the best; but the second best was not mentioned. The chief reason against the use of any sort of green being used with plants was, that you could never get the varied green of vegetation to harmonise or combine with the green of the dyers, neither could they be made of shades to contrast; and when two colours, or two or more shades of one colour, will neither combine to make one whole, or full, or rich colour, or contrast, they should never be placed side by side. Well, then, dark brown carries the day at Surbiton against light-coloured walls; but the colours and the contrast of the flowers in the boxes are the equivalent value of the journey to these parts. The boxes are in one continuous line round the three windows in the bow, and are filled with one kind of Geranium, much in the style and colour of Christine, but not exactly that sort of Geranium; and the outside of the boxes is fringed all round, to the depth of a foot or so, with the *Oenothera prostrata* falling over the edges of the boxes, and hanging down that far on a dark brown ground colour. The whole has, altogether, the prettiest effect I ever saw produced with flowers; but it only shows what can be done with simple means when people know the value of effect, know what to choose, and what to reject, according to the situation. And it is just the same all through, from the milliner's show-room to the

dressing-room, and from the dressing-room to the farthest-off end of the garden—indeed, to all inside or out, upstairs or down. So much for new edgings, combinations, and contrasts in flower-gardening.

I have the most extraordinary edging plant this season almost without knowing it. I had twelve little plants of it sent me in a small 48-pot, last May, among a lot of experimental plants from Mr. Scott, of the Merriott Nurseries, Crewkerne, without a word as to what it or any of them was or were to be. I gave them all a run in cocoa-nut refuse; and whether it was the "pulp," or the nature of this plant, or both put together, I know not, but this one turns out the very next best edging plant after Bieberstein's *Cerastium*. It is some *Arctotis* from the Cape of Good Hope. The name I had with it is *Arctotis melanocyclus*; but in the free soil out in the garden, the habit is altogether different from the published description I have of that kind of *Arctotis*. It is a silvery, prostrate plant, and will not rise an inch off the surface of the bed or border, but will creep along slowly in all directions, and when a shoot gets out of the line, all it needs is a little peg stuck in the ground on the one side of it to direct it in the way it should go, and go it will, and look as pretty and as manageable an edging plant as any one of those now in use, and the *frosted-silver Arctotis* will be the best garden name for it; the look of it being more after the manner of a slender Ice Plant in silver, than any thing else to which I can liken it. Very likely it is as an outcast in many of our large nurseries, or has been time out of mind; but all you will have to bear in mind is, that it has been fixed to stand between the two *Cerastiums*, and, therefore, you can do as you please about it.

Then that other white, woolly, softwooded plant that has been brought out this season at the Crystal Palace, where it edges a long-pointed corner hed on the north-east side of the Rose Mount, and where it is called *Cnaphalium lanatum*, has proved itself to be one of the most useful of all the greenhouse or cold-pit plants for ribbon-rows up to 18 inches high, or not higher than 4 inches as a trailing edge plant. There is no mistake about this plant. There is not one now in use out of pots that will get near it in filling up the spaces allotted to it. Without a rambling habit, it yet runs and fills up as fast or faster in my own garden than any of the *Verbenas*. One man could manage to keep a row of it half a mile long by spending one hour on it for the whole month of June, two hours in July, and perhaps half an hour twice in August. Then take up so many of the plants at the end of September, keep from the frost, and force for cuttings early in the spring, when it will root as fast as *Verbenas* and not require one-quarter of the trouble in looking after.

I had twelve kinds or species of *Crocus* sent me lately without the list of names, and No. 8 is not among them; and if the worthy clergyman who sent them from the north sees this page, will he add to his gift the favour of naming them? also to remind another and a third party who have promised to look out *Crocus speciosus*, *Sibthorpianus*, and several others of the autumnal and winter-flowering species for me, that August is the best time of the whole year to pot such kinds of *Crocuses*, if not the very best time to pot all the garden kinds as well? But with the latter I have nothing to do in this attempt at gathering, once more, as many wild *Crocuses* as all the friends of this *Journal* can muster in the long vacation. If I get a bushel measure full of them, not one of the number shall ever be put under the hushel—at all events as long as I live; and who knows if many of them will not cross and seed as freely as *Poppies*? I know one reason why no *Crocus* could be crossed by Dr. Herbert, the only person who ever tried them in earnest, and I think I know how to avoid the cause of that reason. But without crossing at all, I am persuaded that one could get them to run into endless varieties from self seeds. My idea of them is this: not to have any of the late autumnal kinds out in the open ground, but all in pots; and, while in flower, to be in all places from the drawing-room down to the window-sill of the old woman who keeps the London lodge; to have more kinds of them so, on Christmas-eve, than could be got for Easter Sunday, and those to be far more varied in looks and stripes than the garden breeds from *vernus*, *versicolor*, and *lagenæflorus*.

To another class of our people I should point out how well they would do with the *Cyclamens* on raised beds 2 feet 6 inches above the level of the ground, on a west sheltered aspect, with glass over them, more to keep them dry than for fear of frost;

but to have frostproof mulching for the glass night at hand. Then the Royal Horticultural Society, having now a collector at the Cape of Good Hope, we shall run a chance of getting all the Cape bulbs over again, and we must not roast them a second time as our friends and fathers did those sent home by Masson, and almost all subsequent travellers and explorers of the Cape territory, and ten to one if we lose one out of a thousand of them. The same run of raised pits, and in many instances the very same pits as for *Crocuses* and *Cyclamens* will do, and will be the best of all means to grow the Cape bulbs as they have never yet been done. Then, instead of sandy peat, and starvation staring us in the face every time we go round the garden, we shall have 1 foot deep of rubble at the bottom of the raised beds, and 18 inches of two thirds of the cocoa-nut refuse, and the other third of half turfy peat and half best loam, and 2 inches of clean cocoa stuff for a top; and not one particle of sand at all in the compost. In those raised beds, and in that compost, all the finer *Crocuses* from Cintra to Mount Taurus, and all the *Cyclamens* from Persia to the Pyrenees will do equally well with all the bulbs that can be got within the range of our Cape colonies; and such as the *Vallota*, several *Hæmanthi*, and *Tritonias* with *Tritonias* from the lower grounds, where they run near the marshes; and such as the grand and superb *Disas* from the top of Table Mountain will, and must have, flat-bottomed beds to hold water, something after the way of Sir Joseph Paxton's beds for Water Cresses. Then the marshy ground, or bed, or compost for all these thirsty bulbs must be made of the cocoa stuff and loam instead of peat, the bulb part being wholly in the cocoa stuff, as in sand, to keep them clean and free from all crawling worms and grubs; and yet with full exposure to the outer air, notwithstanding the soft slimy nature of the bottom part of such marshy beds.

The first raffle for the Cape bulbs is just announced by the Royal Horticultural Society; and the next turn will be that the lucky winners will come, the one after the other, to our office to ask about the names and about how to grow them. It will be easy enough to tell the names of all the old bulbs at the Cape, when a whole flower-spike of the smaller kinds is sent, or two fresh flowers of the larger kinds, and one-half (the upper half) of one of the leaves, all as fresh as oilskin silk can keep them. Under no other conditions shall any one in our office, or any of us out of it, undertake to name any of the raffled-for bulbs of the Royal Horticultural Society. The Society intended to advise the Fellows to retain the number or numbers attached to their bulbs, in order to be able to name them more easily at some future time, because there will be dried specimens of many of them kept for reference, and the same numbers do for both the bulbs and the dried specimens of them. But somehow or other this part was overlooked; and as one of the Society who knows the great bother, and the loss of time in hunting after a hare which ought to have been in the cook's hands all the time, I gladly fill up that blank; and, for the future, it would be a good thing for all us to mind and keep the numbers we might get with any plant from a regular collector, or from an occasional contributor, as the gentleman who sent me twelve numbers with eleven *Crocuses*, the bulbs for No. 8 being wanting. If I should never get the names I shall not part with any of the numbers as long I hold the bulbs to which the number refers; and I advise the same care being taken, at least, of all the numbers referring to all the plants that will be raffled for from the Royal Horticultural Society, in order that the naming may be got over more easily by some one or other; but the outer world has no idea, comparatively speaking, of the value of time to men who can make out the names of plants, if they do not happen to know them by sight, by comparing the botany of their formation with the ancient descriptions of them given by authors before we were born.

To come still nearer home, I have good news for Mr. Robson at last; but I thought at the time he had a leaf out of my book when he wished for a *Nosegay Geranium* as big in the flowers as the *Nosegay Fothergillii* or *Purple Nosegay* of the gardens. Well, I have lots of that description now, and of all shades of the colour peculiar to the family of *Geraniums*, except the blue or purplish-blue of *sylvaticum* and *sibiricum*, with as broad and broader petals than those of *Fothergillii*, and with all habits, from that of *Mangles*' to those of *Punch*, *Cottage Maid*, *Tom Thumb*, and all the rest of them. And I have still hopes of obtaining a *Yellow Nosegay* clear as a *Buttercup*; but that will not be just yet; but I have the deep orange for a foundation.

I want a few kinds yet, with the right sizes of plants, before I can make the shaded arrangement, as with the Berlin wool, from the lightest to the darkest tints—a thing for which I have been urged on for the last twenty years nearly, by a band of hope who amuse themselves with such arrangements. It has been an up-hill work, however, but I have stuck to it. Mr. Eyles has been a right-hand help to me since I lost the Experimental. He has promised to do some of my Nosegays, as the ladies like them, at our new garden; and I am in expectation of an arrangement with the authorities at the Crystal Palace for having a display of some of the more delicate tints, next season, in the vases round the crystal fountains inside the Palace, and I have the fullest confidence that all of them will be as safe in both gardens as if they were in my own garden. D. BEATON.

### AMARANTHUS MELANCHOLICUS RUBER AND COLEUS VERSCHAFFELTI FOR BEDDING.

To the enterprising flower gardener there is nothing more interesting than the introduction of new plants suited to his wants, or, it may be, the restoration of old ones; for, however much he may wish to curtail the lists of plants available for general display and symmetry, he is, nevertheless, at all times anxious if these can be in any way improved or substituted by others of still superior merit. This spirit of enterprising industry has led to innumerable varieties of most of the favourite bedding plants of the day, some of them being decided improvements and some about equal to those previously in use, whilst a few have no higher claim to distinction than that of the high-sounding name they were ushered into the world with. Be this as it may, there are some new things which receive almost, if not quite, the entire approbation of every one in any way interested in the matter—plants with distinct coloured or singularly formed foliage being as much sought after as floral beauties. In fact, the rage for foliage of widely distinct colours and features has equalled that for flowering plants, and in some instances forms the more important part of the display; any addition, therefore, to the latter class is eagerly sought after. White-leaved plants, or those having broad margins of white or yellow on their leaves, form a very important item in the sum total of the flower-garden lists, and each year something fresh is added to the catalogue, the respective merits of which will doubtless be as difficult to settle as that of many other matters of a like nature where individual tastes are concerned. I may, however, be induced to give an opinion of these hereafter. Suffice it to say that for light-coloured edging plants I have not seen anything yet to excel *Cerastium tomentosum* for a low edging, unless it be the variegated *Arabis*. *Cineraria maritima* is as good, but not so easily kept in order. A white Grass I have looks as well as either, but gets higher than *Cerastium*. I am told *Centaurea candidissima* makes the best of all.

But my purpose is not to dilate on the respective merits of these, but to mention a crimson-leaved plant lately introduced from Japan by Mr. Veitch, and which, I think, cannot fail to become a favourite in the flower garden. This new plant is dignified by a name more grave than poetic, and I cannot but think inappropriate. This, however, has nothing to do with its merits, and I expect the season of 1863 will see the *Amaranthus melancholicus ruber* figuring in most flower gardens, as I expect that, like the Prince's Feather and other members of the family, it will be found to seed freely, perhaps abundantly. So far as I can judge by its habit and growth it will take the place of *Perilla* in many cases, and very likely may be still hardier than that popular plant, as some plants here seem to stand the cold winds very well, though only recently planted. But it is mostly in the colour of the foliage that its merits especially lie, and this is not easy to explain; but those who have seen the crimson tints of the Virginian Creeper when at its best will have a good idea of the rich hue this plant presents. The brightness of its colouring I expect will continue during the entire summer, as the oldest leaves have not that sombre hue the *Perilla* has very late in the season. It is, however, too early to prognosticate what its appearance so late in the season may be, but at the present it seems all that can be wished for; and to those who have not yet made its acquaintance I would strongly advise them to do so, and to judge for themselves.

I would also wish those who have grown *Coleus Verschaffelti* as a bedding plant to report their experience with it. If it has

prospered under the chilling winds and dull sunless sky of June and July up to the 21st, its hardihood may be regarded as fairly established; but if, like many other plants, it has succumbed to the unfavourableness of the season, it will require further trial to confirm its position in the front rank of useful flower-garden plants.

It is very likely, from the enterprising spirit now abroad, that something still more imposing than anything we have yet got will be forthcoming by-and-by in the *coloured-foliage-plant* way. In the meantime, however, I strongly advise those who have not seen the new *Amaranth* Mr. Veitch, jun., has introduced from the far east (we might almost say the land of fable) to make it a point to do so, and I flatter myself they will feel pleased with it, as I confess being unexpectedly so, and towards the end of the season a further report on its merits or shortcomings from those who have grown it will be very acceptable. Not having experienced its services throughout the whole season, the opinion above afforded is of course limited to the season at which it is given (July), and its aftergrowth may possibly be less satisfactory. This, however, I do not expect: nevertheless, experience teaches all things.—J. ROBSON.

### PEACH AND NECTARINE TREE CULTURE ON THE OPEN WALLS.

(Concluded from page 355.)

**WINTER TREATMENT.**—This season commences as soon as the leaves are fallen off. If the wood has been properly ripened the leaves will naturally fall off with the first frost. Collect them as soon as they fall and convey them to the rubbish-heap at once. Then loose the trees from the wall, take off all the shreds, burn such as are decayed, and let such as are fit to use again be put into boiling water to destroy the insects and their eggs. The nails should be carefully drawn out of the wall, and in order to do so without drawing away the mortar give each nail a gentle tap with the hammer. To cleanse them from dirt and rust throw them into a vessel containing hot oil, and let them steep for a few hours. Then take them out and put a few at a time in a rough, coarse bag, and shake them well backwards and forwards. This operation will cleanse and keep them from rusting, and will destroy insect life thoroughly.

The trees should be drawn from the wall, and the wall itself should be thoroughly cleansed, and repaired if necessary. If the red spider has prevailed during the summer it will be advisable to make up a mixture of sulphur and soap water, and paint the walls with it, rubbing it well into the crevices and nail-holes. The trees also should be painted over with this mixture, moistening every part of the tree, especially on the side of the branches next the wall. When all these are completed, then fasten the trees to the wall by a few of the main branches only. This is to secure them from being blown about by the wind till the pruning time. I prefer the end of February or the first week in March for that operation. Where the walls are extensive the pruning may be done sooner, in order to get through the work. The fruit-bearing branches may be shortened-in, but care must be taken that a wood-bud is next the cut. Those that bore fruit the preceding year must be cut out entirely, excepting the leading shoot at the end of a main branch. As soon as a tree is pruned it should be trained and nailed to the wall, or if the wall is wired it should be tied to the wires. Then, when all the trees are gone through, the winter work on the Peach and Nectarine trees is completed.

I do not think it necessary to enter upon the subject of propagating the Peach. It is seldom that a gardener has the time and means for that work. Indeed, the price of maiden and trained trees is so reasonable, that it is not worth the trouble, skill, and room requisite for that purpose.

**DISEASES.**—The only disease that I know of is that named *gumming*. It is a kind of gangrene, which first appears like a swelling, then bursts and exudes out the gum. If the border is made properly and the wood well ripened this disease will not appear; hence, if ever symptoms of the gum disease show themselves, the only remedy is to examine the border. If it is wet at the bottom, let it be thoroughly drained; if it is too full of manurial matter, remove that soil entirely and replace it with fresh maiden earth. Then, again, take great care that the branches are not wounded by the hammer or any other instrument.

*Mildew* is, I think, caused by insects (or perhaps fungus), and therefore is not a disease. The remedy for it I have already described. Sometimes the leaves are blistered. Perhaps the cause may be traced to sudden gleams of hot sunshine when the leaves are wet, as young tender leaves only are affected. When they are fully grown and become mature no blistering ever takes place. It all amounts to this: Make a right border well drained, water in dry weather, and get the wood well ripened, and then you need not fear but your trees will be clear of disease, and consequently healthy and fruitful.

I shall, therefore, conclude these few practical remarks on this part of gardening operations, by giving a select list of the best and hardest kinds of Peaches and Nectarines for out-door culture.

SELECT LIST OF NECTARINES, arranged according to their time of ripening:—

*Hunt's Tawny*.—Melting, flesh yellow. Earlier than most kinds.  
*Elruge*.—Medium size, melting. Rich and sugary.  
*Newington Early*.—Very large clingstone. Rich flavour.  
*Violette Hâtive*.—Medium size. Rich in flavour, melting.  
*Balgowan*.—Large, melting, and excellent.  
*Downton*.—Large, melting, rich, and very good. Raised by Mr. Knight between Elruge and Violette Hâtive.  
*Murrey*.—Medium size, melting. Rich and good.  
*Hardwick Seedling*.—Large, melting, rich and excellent.  
*Roman*.—A clingstone. Rich when thoroughly ripe.  
*Victoria*.—Melting, rich, and good. Mr. Rivers' seedling between Violette Hâtive and the Stanwick.

For a small garden I would recommend Early Newington, Violette Hâtive, and Victoria.

SELECT LIST OF PEACHES, arranged according to their time of ripening:—

*Early York*.—Medium size, melting, rich, and excellent. Very hardy.  
*Alice*.—Large, melting, and excellent.  
*Acton Seed*.—Medium size, melting, and excellent.  
*Early Grosse Mignonne*.—Medium size, melting, rich and excellent.  
*Early Savoy*.—Large, deep red next the sun. A fine, melting, early Peach.  
*Croxford's Early*.—Early, yellow flesh, melting, rich aroma, and very good.  
*Galande*.—Large, melting, and excellent.  
*Royal George*.—Large, melting, and excellent.  
*Noblesse*.—Large, melting, and excellent.  
*Bellegarde*.—Large, melting, juicy, and excellent. Leaves dark green. Fruit dark, almost black.  
*Chancellor*.—Large, melting, and very good.  
*Leopold I*.—Very large, melting, and rich.  
*Late Admirable*.—Large, pale yellow, flesh melting, rich and good.  
*Walburton Admirable*.—Large, melting and excellent. Hardier than the Late Admirable.  
*Gregory's Late Peach*.—Medium size, melting and excellent, and very hardy. Ripens in October.

For a small garden I would recommend Early York, Galande, and Late Admirable. T. APPLEBY.

## CHARCOAL AS A MANURE.

In the July Number of "Blackwood's Magazine," there is an interesting anecdote respecting the beneficial effects of charcoal-dressing on Vines, flower gardens, &c. Can you give any instructions or direct to any publication where such instructions may be found for the best and most successful mode in applying charcoal to Vines, flowers, or any fruit or flowering tree or vegetable? It appears to be an excellent thing to use, and it is very desirable that the best mode of application, and to what particular plants it is likely to be useful, should be made known.—N. X. T.

[The anecdote related by the author of "The Caxton Family," in "Blackwood's Magazine," is as follows:—

"A certain nobleman, very proud of the extent and beauty of his pleasure grounds, chancing one day to call on a small squire, whose garden might cover about half an acre, was greatly struck with the brilliant colours of his neighbour's flowers. 'Ay, my Lord, the flowers are well enough,' said the squire, 'but permit me to show you my Grapes.' Conducted into an old-fashioned little greenhouse, which served as a vinery, my Lord gazed, with mortification and envy, on Grapes twice as fine as his own. 'My dear friend,' said my Lord, 'you have a jewel of a gardener; let me see him!' The gardener was called—the single gardener—a simple-looking young man under thirty. 'Accept my compliments on your flower-beds and your Grapes,' said my Lord, 'and tell me, if you can, why your flowers are so much brighter than mine, and your Grapes so much finer. You must have studied horticulture profoundly.' 'Please your Lordship,' said the man, 'I have not had the advantage of much education; I

ben't no scholar; but as to the flowers and the Vines, the secret as to treating them just came to me, you see, by chance.'

"By chance? explain."

"Well, my Lord, three years ago, master sent me to Lannon on business of his'n; and it came on to rain, and I took shelter in a mews, you see."

"Yes; you took shelter in a mews; what then?"

"And there were two gentlemen taking shelter too; and they were talking to each other about charcoal."

"About charcoal?—go on."

"And one said that it had done a deal o' good in many cases of sickness, and specially in the first stage of the cholera, and I took a note on my mind of that, becase we'd had the cholera in our village the year afore. And I guessed the two gentlemen were doctors, and knew what they were talking about."

"I dare say they did; but flowers and Vines don't have the cholera, do they?"

"No, my Lord; but they have complaints of their own; and one of the gentlemen went on to say that charcoal had a special good effect upon all vegetable life, and told a story of a vinedresser, in Germany, I think, who had made a very sickly poor vineyard one of the best in all these parts, simply by charcoal-dressings. So I naturally pricked up my ears at that, for our Vines were in so bad a way that master thought of doing away with them altogether. "Ay," said the other gentleman, "and see how a little sprinkling of charcoal will brighten up a flower-bed."

"The rain was now over, and the gentlemen left the mews; and I thought, "Well, but before I try the charcoal upon my plants, I'd best make some inquiry of them as aren't doctors, but gardeners;" so I went to our nurseryman, who has a deal of book-learning, and I asked him if he'd ever heard of charcoal-dressing being good for Vines, and he said he'd read in a book that it was so, but had never tried it. He kindly lent me the book, which was translated from some forren one. And, after I had picked out of it all I could, I tried the charcoal in the way the book told me to try it; and that's how the Grapes and the flower-beds came to please you, my Lord. It was a lucky chance that ever I heard those gentlemen talking in the mews, please your Lordship."

"Chance happens to all," answered the peer, sententially; "but to turn chance to account is the gift of few."

"His Lordship, returning home, gazed gloomily on the hues of his vast parterres; he visited his vinerie, and scowled at the clusters; he summoned his head gardener—a gentleman of the highest repute for science, and who never spoke of a Cowslip except by its name in Latin. To this learned personage my Lord communicated what he had heard and seen of the benignant effects of charcoal, and produced in proof a magnificent bunch of Grapes, which he had brought from the squire's."

"My Lord," said the gardener, scarcely glancing at the Grapes, 'Squire ——'s gardener must be a poor ignorant creature to fancy he had discovered a secret in what is so very well known to every professed horticulturist. Professor Liebig, my Lord, has treated of the good effect of charcoal-dressing, to Vines especially; and it is to be explained on these chemical principles'—therewith the wise man entered into a profound disputation, of which his Lordship did not understand a word.

"Well, then," said the peer, cutting short the harangue, 'since you know so well that charcoal-dressing is good for Vines and flowers, have you ever tried it on mine?'

"I can't say I have, my Lord; it did not chance to come into my head."

"Nay," replied the peer, 'chance put it into your head, but thought never took it out of your head.'

"My Lord, who, if he did not know much about horticulture, was a good judge of mankind, dismissed the man of learning; and, with many apologies for seeking to rob his neighbour of such a treasure, asked the squire to transfer to his service the man of genius. The squire, who thought that now the charcoal had been once discovered, any new gardener could apply it as well as the old one, was too happy to oblige my Lord, and advance the fortunes of an honest fellow born in his village. His Lordship knew very well that a man who makes good use of the ideas received through chance, will make a still better use of ideas received through study. He took some kind, but not altogether unselfish, pains with the training and education of the man of genius whom he had gained to his service. The man is now my Lord's head forester and bailiff. The woods thrive under him, the farm pays largely. He and my Lord are

both the richer for the connection between them. He is not the less practically painstaking, though he no longer says 'ben't' and 'his'n'; nor the less felicitously theoretical, though he no longer ascribes a successful experiment to chance."

How much of substantial truth may be in this well-narrated anecdote we cannot take upon ourselves to say, but we can undertake to affirm that something more than charcoal was needed to produce super-excellence in the Grapes and flowers, and that the nobleman must have had some other ground of complaint, or he would have been very unjust to discharge his gardener because he was scientific and had never used charcoal as a manure. If these were just grounds of offence, we fear there would be a large number of vacancies immediately. We shall be glad to receive any notes on the employment of charcoal as a manure, and will only add at present the following from Mr. Johnson's "Science and Practice of Gardening," recently published:—

"It is to its power of gradually forming carbonic acid gas that charcoal partly owes its value as a manure. The chemical operation of charcoal, when employed for this purpose, is by no means so well understood as that of most other fertilising additions to the land. That the carbon of the charcoal operates so beneficially upon plants, amongst other modes by a gradual combination with oxygen, hardly admits of a doubt. Liebig gives the results of a series of experiments by Lukas on the use of charcoal as a manure, which seem to corroborate his opinion. From the facts which these chemists, however, adduce, it is evident that the beneficial action of charcoal, as a fertiliser, depends upon the presence of other substances besides carbon. Liebig notes (*Organic Chem.*, p. 62), that 'plants thrive in powdered charcoal, and may be brought to blossom, and bear fruit, if exposed to the influence of the rain and the atmosphere. Plants do not, however, attain maturity under ordinary circumstances in charcoal powder when they are moistened with pure distilled water instead of rain or river water. Rain water must, therefore, contain within it one of the essentials of vegetable life; and it has been shown that this is the presence of a compound containing nitrogen: the exclusion of which entirely deprives humus and charcoal of their influence on vegetation.' It is ammonia, to whose presence in rain water Professor Liebig thus refers, in whose valuable work (p. 207) the experiments of Lukas will be found. From these we learn that in a division of a low hothouse, in the Botanic Garden at Munich, a bed was set apart for young tropical plants; but instead of being filled with tan, as is usually the case, it was filled with powdered charcoal, the large pieces of charcoal having been previously separated by means of a sieve. The heat was conducted by means of a tube of white iron into a hollow space in this bed, and distributed a gentle warmth, sufficient to have caused tan to enter into a state of fermentation. The plants placed in this bed of charcoal quickly vegetated and acquired a healthy appearance. As always is the case in such beds, the roots of many of the plants penetrated through the holes in the bottom of the pots, and then spread themselves out; but these plants evidently surpassed in vigour and general luxuriance plants grown in the common way; for example, in tan.

"M. Lukas then gives a list of several of the exotic plants upon which charcoal appears to have produced the most beneficial effects. It appeared also to promote the rapid germination of seeds. He then proceeded to try the effects of charcoal when mixed with vegetable mould, all of which answered very well. 'The charcoal,' continues M. Lukas, 'used in these experiments was the dust-like powder of charcoal from Firs and Pines. It was found to have most effect when allowed to lie during the winter exposed to the action of the air. In order to ascertain the effects of different kinds of charcoal, experiments were also made upon that obtained from the hard woods and peat, and also upon animal charcoal; although I foresaw the probability that none of them could answer so well as that of Pine wood, both on account of its porosity and the ease with which it is decomposed. The action of charcoal consists primarily in its preserving the parts of plants with which it is in contact, whether they be roots, branches, leaves, &c., unchanged in their vital power for a long space of time, so that the plant obtains time to develop the organs for its further support and propagation. There can scarcely be a doubt, also, that the charcoal undergoes decomposition; for, after being used five or six years, it becomes a coaly earth. It exercises likewise a favourable influence by absorbing and decomposing the matters excreted by the roots of plants, so as to keep the soil free from the putrefying substances

which are often the cause of the death of the spongioses. Every experiment,' concludes M. Lukas, 'was crowned with success, although plants belonging to a great many different families were subjected to trial.'—(*Ibid.*, p. 211.)

"Professor J. F. Johnston (*Elem. of Ac. Chem.*, p. 142) recognises the good properties of charcoal as 'a valuable mixture with liquid manure, night-soil, farmyard manure, ammoniacal liquor, or other rich applications to the soil.' And, as he observes in another place, when speaking of the fertilising portions of farmyard drainage (*Trans. High. Soc.*, 1846, p. 190), 'The only substance at present known, by which the separation of all the valuable ingredients from liquid manure can be fully effected, is animal charcoal. A sufficient supply of this substance, when intimately mixed with the liquid manure, will take up nearly the whole of the saline and colouring matters it holds in solution, will carry down the substances it holds in suspension, and will leave the water nearly pure and colourless. The refuse of the prussiate of potash manufactories will have this effect, and what remains when ivory-black is digested in spirit of salt (muristic acid), will do still better; but this kind of charcoal is neither cheap nor abundant, and, therefore, cannot be recommended for general use. The refuse animal charcoal of our manufactories is now sold for manure at the price of several pounds a-ton: either those who sell it, or those who use it, might render it still more valuable by causing fermenting liquid manure to filter through it before it is applied to the land.

"But other kinds of charcoal possess this property to a certain extent: wood charcoal, reduced to powder, charred sawdust, and charred peat, are all capable of being used with advantage in extracting the ammoniacal and other salts, which give its value to the liquid of our farmyards. Experiment has shown that when filtered through a bed of such charcoal, the liquid escapes without colour, and almost without taste, while the charred peat or sawdust is converted into fertilising manure. A great portion of the loss now incurred may be prevented by the use of such kinds of charcoal; and the fertilising substance may, through their means, be applied to our crops at seasons of the year for which, in their liquid form, they are not suited. It is even capable itself of yielding slow supplies of nourishment to plants; and it is said in many cases, even when unmixed, to be used with advantage as a top-dressing. In moist charcoal the seeds of the gardener are found to sprout with remarkable quickness and certainty, but after they have sprouted they do not continue to grow well in charcoal alone.'—(*C. W. Johnson's Modern Agricultural Improvements.*)]

## THE TESTIMONIAL TO MR. MARNOCK.

MANY of our readers are no doubt aware that a subscription was set on foot to present the above-named gentleman with some token, in recognition of the unvarying courtesy with which he has for so many years discharged the arduous duties of curator at the gardens of the Royal Botanic Society. Probably there is nothing calculated to try the patience and temper of a man more than the conduct of horticultural exhibitions—there rival candidates meet to fight their battles for honours, there many exhibitors must necessarily be unsuccessful, and there too are jealousies to reconcile, and nice points to adjust, requiring the utmost discretion, tact, and good feeling to be exercised in order to give satisfaction.

Many men have under such ordeals given way, but Mr. Marnock has ever risen superior to them; and for the long series of years during which he has been connected with the gardening world, we have ever heard him spoken of in the highest terms by all with whom he has been brought in contact.

On Thursday last, the 7th inst., the presentation of a very handsome tea service took place at the London Tavern. H. G. Bohn, Esq., occupied the chair, the vice-chair being taken by Mr. Cutler.

The usual loyal toasts having been given, Mr. Bohn, in an appropriate speech, adverted to Mr. Marnock's services during the last twenty-one years, and that throughout that period he had won the good will of all, whether judges, exhibitors, or visitors, by his constant urbanity and kindness of disposition; and concluded by presenting the service in the name of the 153 subscribers.

Mr. Marnock, in returning thanks expressed the great difficulty under which he laboured in expressing himself in suitable terms. He stated that in his official capacity duty had ever gone

before friendship, but he had never found the two much at variance, and he had always met with persons who had afforded him every assistance.

The healths of the Chairman, Mrs. Marnock, and some other toasts having been given, the company separated, after spending a most agreeable evening.

### THE ROYAL HORTICULTURAL SOCIETY'S GARDEN AT CHISWICK.

ALTHOUGH the Society's Chiswick garden is no longer maintained as regards the ornamental portion in its former high condition it still presents a respectable appearance, whilst on the score of utility it has lost none of its ancient prestige. Whatever may have been the faults of the garden as originally laid out, it is certainly well adapted for carrying on those experiments which have been and are proving so useful to horticulturists. The collections of fruits and vegetables of different kinds here are such as probably no private individual could gather together; and even could he do so, the results and conclusions at which he might arrive would not inspire the same amount of confidence on the part of the public as the disinterested decisions of the Fruit and Floral Committees, who have the opportunity of ascertaining at Chiswick the comparative merits of the productions which belong to their respective departments.

In the ornamental portion of the grounds the arboretum, from the grass being tolerably short at present, is looking very well; and the ribbon-border on each side of the walk leading from the entrance past the council-room is exceedingly gay, although only made up of odds and ends. It is about 90 yards in length, and is planted as follows:—The first row next the walk is *Cerastium tomentosum*, the second is *Crystal Palace Nasturtium*, the third *Purple Verbenas* and *Heliotropes*, the fourth *Scarlet Geraniums*, and the fifth *Calceolaria Aurea floribunda*. The *Cerastium*, being in its second year, has gone off in places, and is elsewhere too bushy, and has lost much of that fine frosted appearance which constitutes its charm. The *Nasturtium*, on the contrary, is very even and covered with flowers. The *Verbenas* are very poor; and dark *Heliotropes*, such as *Voltaireanum*, *La Petite Nègresse*, *Beauty of the Boudoir*, &c., have been substituted for them throughout a great portion of the line.

By the side of the walk running from the conservatory to the old American garden are ribbons of annuals. The ribbon nearest the front of the border consists of *Silene pendula*, purple *Candy-tuft*, and mixed *Larkspurs*, and, being well covered with flowers, is free from that weedy appearance which annuals are so apt to assume. The second ribbon, which also looks well, especially the front row, consists of *Clarkia integripetala* backed with the double-flowering variety of *Clarkia pulchella*. At some distance from this there is a broad band of *Coreopsis hybrida* not yet out; and the back lines are composed of *Clarkias*, *Malope grandiflora* and *Coreopsis*, with a row of tall *Purple Orach* to divide it from the trees on the kitchen-garden side. We had almost omitted to say that just within the edging in front of this border is a long line of new *Petunias*, among which were several fine sorts in bloom, as *Coquette*, *Spitfire*, *Rubens*, *John Lothar Faber*, *Monarch*, and *Ruby*.

Among the bedding *Geraniums*, of which there is a collection of about two hundred varieties, *Victor Emmanuel* was conspicuous for its large truss and free-blooming habit; *Vivid*, another bright *Scarlet*, was also very fine; *Eclipse* is a strong-growing bright *Scarlet*, suitable for pillars in conservatories. *Madame Vaucher* is evidently one of the best *Whites*; and of the *Nosegay* sorts *Stella* was noticeable for its large scarlet truss and compact habit. In the *Variegated* class *Sunset*, *Mrs. Pollock*, and *Gold Pheasant* appeared the most striking. Of *Phloxes* and *Pentstemons* there are likewise very large collections containing several fine varieties.

The glass wall, which never was of any use for the culture of fruit trees, has been taken advantage of to construct a long house for proving about two hundred reputed sorts of Vines, the merits and distinctions between which have not been as yet satisfactorily determined. When completed this house will be about 200 feet in length; and as it is likely to be a very useful and economical structure, it may be of interest to state its construction. It is in the form of a narrow flat span-roof placed against a wall, which forms its back; and this being only about 8 feet high is heightened by the addition of 18 inches of glass, bringing

the total height at back up to 10 feet. The front is formed of the glass wall before alluded to, and the width is 10 feet. Heating is effected by two four-inch flow-pipes in front, and one return of similar capacity at the back, an arrangement by which Mr. Eyles obtains a more rapid circulation of water through the return. Ventilation is effected by moveable sashes in the roof, and every alternate light in front can be drawn behind the others which are fixed. All the moveable sashes in front are connected together by a rod resting on rollers; and this rod, and consequently the lights, can be drawn backwards or forwards with ease, by means of a large screw connected by a simple arrangement of bevelled wheels with a handle by which the whole is worked. A large number of Vines are already in this house, and there are also some young Peach trees in course of training *en cordon oblique* in the front of the house, as well as some Gourds of the bottle, club, and other forms. Besides these there were several handsome umbrella-trained Peaches and Nectarines in No. 4-pots, and others trained in the pyramidal form.

In the curvilinear vinery a number of varieties of Muscat Grapes have been planted in the border inside for the purpose of trial, and are now making vigorous growth, and will, probably, bear a few bunches next season, thus affording the means of judging of their comparative merit. There are also a number of other Vines in pots which will be eventually turned out in the new house, and a large number of pots of the different kinds of Capsicums, some of which are very pretty.

In the lean-to vinery is a collection of Figs in 24-sized pots, also for trial. These are grown as dwarf standards—a mode which seems the best suited to the Fig when subjected to pot culture.

Adjoining these vineries, in the quarter outside there is a collection of about ninety sorts of handsome pyramid Pears of the newest kinds, which were presented by Dr. Hogg about two years ago. They are all now in fine condition, many of them being 12 feet high and bearing well. In the spring they were covered with blossom; but, in consequence of frost, a great portion of it was killed; still the crop on some of them is quite heavy enough.

In the span-roofed Peach-house, formerly the *Geranium*-house, we found a number of fine umbrella-trained Peaches and Nectarines planted-out inside. They are all well covered with fruit, and have a very pretty appearance. There were also some in pots, but the fruit of those planted-out was the larger.

The Vine-pit is a beautiful sight, the roof being covered with bunches of black, white, and yellow Grapes. Here there are about eighty varieties for trial, which were struck from eyes planted about eighteen months ago. They are mostly growing in ten-inch pots, but some are in eight-inch ones; and on an average they are bearing six or seven bunches each.

Adjoining are two long pits, containing about 150 so-called varieties of Melons, grown in fifteen-inch pots, for the purpose of trial and comparison; but the results, it is to be regretted, will not be so conclusive as was expected, in consequence of the plants having been attacked with a disease somewhat like burning, but which was certainly caused by some kind of mildew. It first appeared on the old leaves, and then gradually spread over the whole plant, giving it a blotched, burned appearance. In consequence of this some plants are now leafless; but what is singular, others standing next to those severely attacked are untouched and extremely vigorous. Besides the Melons, there are several serpent and other ornamental Gourds.

We now come to the orchard-house, which is a fine example of this mode of culture successfully carried out, and which reflects the greatest credit on Mr. Eyles' skilful management. It is a sight which alone will well repay a visit to Chiswick, the trees with only a few exceptions being loaded with fruit, and all of them are models of judicious training. The Plums, of which there are *Victoria*, *Jefferson*, *Green Gage*, *British Standard*, *Golden Drop*, *Reine Claude de Bavay*, and some others, both in pots and planted out, are covered with fruit; and the Peaches and Nectarines in eight-inch pots are also particularly fine, as well as being perfect examples of pyramid training.

The Apricots, especially one grown as a standard, are likewise very productive, and the fruit on the standard is very large, being even of greater size than when grown on walls. We have only to add that the whole of the trees are perfectly healthy and vigorous and the foliage very clean.

Outside there are a number of Apple and Pear trees in pots, which were put out after having set their fruit in the orchard-

house in order to make room for the Peaches, &c. The Apples in particular are in a fine healthy condition and bearing an abundance of rosy-checked fruit; whilst the Pears, though not looking so well, are bearing in the greatest profusion.

The large conservatory is another beautiful sight, the Vines being this season covered with bunches up to the very top, produce a most imposing effect. The Barbarossa is bearing here as freely as the Black Hamburgh, and some of the bunches are enormous. The Frankenthal, Black Hamburgh, Black Prince, and Raisin de Calabre are likewise very fine.

Of Apples there is an excellent crop on standards, but the dwarf trees have not fruited so well.

There is likewise a very good crop of Pears on walls, the trees having been as usual protected with tiffany, otherwise the fruit would have been all cut off. The Peach-wall is now much improved in appearance, and the trees which were at one time getting bare at bottom and over-vigorous at top, have had the balance of vigour restored, and are now offering an excellent show of fruit.

In the border in front of this wall, and in other parts of the garden, there are about 150 varieties of Gourds, which, though the season has been hitherto unfavourable to their growth are doing very well, and some are attaining a large size. One a Potiron jaune growing on a dung-bed with very little soil, must have been about 2 feet across at the widest.

In the kitchen garden we observed a collection of about seventy distinct sorts of Peas grown for comparison, and about forty kinds of Potatoes, which here as elsewhere are but little affected by the disease. It would seem that the disease is wearing out, and the plant is regaining its former vigour, and the quality of the produce this season approaches nearer to that of the Potato of long-ago, than it has done for several years.

## NOTES FROM PARIS, JULY, 1862.

### VERDIER'S AND LEVEQUE'S.

THE same cause which has cramped the nurseries in our own metropolis—viz., the dearness of land, has to a much larger extent influenced those of Paris. The continued improvements that the Emperor is making quickly bring upon the inhabitants an edict of the Prefect of the Seine, and houses and lands under his transforming hand vanish out of sight, and boulevards and open streets make their appearance; and hence it must happen that nurserymen will either content themselves with small parcels of land, or else remove beyond the fortifications. Thus Marest, the raiser of Prince Léon and Cécile de Chabillant, has left the Rue d'Enfer for a place outside the barrière in the Route d'Enfer. Touvais has gone to Angers, and the Rose-growers I have named above are compelled to grow their Roses some leagues from Paris, and have only a small portion of them at their "homesteads." To see Roses in Paris thus becomes almost an impossibility—quite as difficult, at any rate, as to see them in London; and as flower shows are by no means so abundant there as with us, one has not that opportunity which they afford Rose-growers in England: hence, in receiving the accounts of new Roses from time to time, we must, as I ventured to say last autumn, depend more on the character of the persons who distribute them than on that given to the Roses. Applying this test to the list I gave last autumn, I find my judgment singularly borne out—the most telling Roses, as far as we have yet been able to judge, are those which come from Margottin, Verdier (the elder), and Levêque; for Souvenir de Comte Cavour, Alexandre Dumas, Frauçois Lacharme, La Brillante, Duc de Rohan, and Maurice Bernhardt may fairly be assumed to be among the best of those we have received; while of the twelve sent out by the younger Verdier only one or two—Madam Charles Wood and Wilhelm Pfizer—promise anything. Of Touvais' ten not one is likely to survive another season, and the same may be said of Pradel's nine. Of Lartey's five, one promises well—Gloire de Bordeaux; and owing to Trouillard's having been detained on their way to Mr. Standish for six or seven weeks, he has found it quite impossible to exhibit them, so that we cannot tell what they may be yet. There is one satisfactory item of news connected with this season—viz., that we are not likely to be inundated with such a host of new Roses as last autumn produced. Touvais has none; it is questionable whether Eugène Verdier will have any either. Jamin, the raiser of Madame Boutin, is *hors de combat*. Margottin, as we have seen, has but two. Marest none. But whether the south will make

up the deficiency I know not. The truth is, that the severe winter of 1860 effected a clearance here as elsewhere, and other circumstances have conspired: thus the depredations of the "ver blanc," as the grub of the cockchafer is called, has made such depredations on Marest's new grounds that he is unable to come into the market at all; and the difficulty of saving seed in the very wet summer preceding it has also greatly diminished the prospects of new Roses. I saw at Margottin's rods of ground in which he had sown seed, and which he always had filled with seedling plants, and not one had come up of that season's sowing—though the seed, he said, looked plump and good. The same has been experienced in other things beside Roses, and in other places than Paris.

I was fortunate enough to find both Mons. Verdier himself, and his son Mons. Charles Verdier at home, and to have an agreeable chat with them, and Madame C. Verdier, on our mutual pet. By-the-by, the good wives of these French nurserymen take far more interest in the "establishment" than those of our English ones do. You may be generally sure that if the head of the firm is out, his wife can give you quite as much information. It is she, too, who keeps the accounts, and knows how matters stand. We were all agreed on the impolicy of sending out such a multitude of seedlings, and as to the certainty of its defeating its object. Perhaps nurserymen in France may see this; but if not, I know of nothing so likely to open their eyes than to see that we can raise such Roses as John Hopper, Lord Clyde, and Beauty of Waltham, in England, and that they are sent out at 5s. each instead of £1, and 16s. 8d., as most of the new French Roses are.

Of new Roses, the Messieurs Verdier have three this autumn. One of them, *Madame William Paul*, I had the good fortune to see, for Mons. Charles Verdier very kindly went to a piece of Rose-ground that they have a little distance off, and brought me in some blooms; and although it was late, and the weather was very warm, yet sufficient was seen to enable me to pronounce it to be a desirable Rose. It bears a strong resemblance to Margottin's Souvenir de Comte Cavour, being of the same bright crimson, but a little more "velouté," or shaded with dark than that variety. It is not, perhaps, quite so full as it is, and in smoothness it would be difficult to beat that very smooth flower. The habit seemed good: it is evidently another of the Général's numerous progeny, and like all the children, and the parent, too, the footstalks are somewhat long and slender. His other Hybrid Perpetual I did not see, nor is it yet named. He has also a Tea, which he pronounces to be of excellent quality.

I may as well mention here what will, I fear, not be very acceptable news, that Gladioluses have done as badly at Paris as with us. The fault is laid, and I believe with justice, to the wet and cold of the months of May and June. They evidently, as natives of the Cape, prefer a more genial time than this year has afforded them, and the great coldness of the ground has prevented their starting, in some instances at all, and in others, has made them very yellow and sickly-looking. This is a matter to be deplored, for as they are making such progress as public favourites, that it is a great disappointment to many who had commenced their growth for the first time.

MM. Levêque et fils, of the Boulevard de l'Hôpital, grow very few Roses in their Paris establishment, and I could only gain from them the information that they have six Roses to let out this autumn. These are—Duc d'Anjou, Gustave Rousseau, President Lincoln, Madame Petit, Duchesse de Polignac, and Comte de Beuges. Of the first two, raised we believe at Angers, they speak very highly, and assured me that they would be found really valuable Roses. As they have proved themselves good judges, we may hope that in this respect also they are correct. We must make some allowance for the difference of taste in the two countries. Those dull-looking Roses, which to us seem so worthless, are not so with them. May it not be that the difference of climate has to do with this, their bright and glaring sun may lead them to admire the more sombre colours, as toning down the excessive glare, while with our sombre and leaden skies and our large quantity of verdure we, perhaps, look rather for brighter colours, as helping to give life to the garden? For the same reason I hardly fancy that our style of bedding-out would suit them; there is too much colour, too much red and yellow to please their eye, which would rather rest on masses of green foliage. But more of this anon. I mention it here, because Levêque seemed to think it odd that we did not like such flowers as Comtesse de Segeurier, which he let out last autumn.

I have thus given all the information I have been able to glean on the subject of Roses across the water, and hope that those numerous friends who asked me to give them what information I could obtain as to the new kinds will receive this in lieu of private communications. They are all, I believe, readers of THE JOURNAL OF HORTICULTURE, and some of them are aware of the many calls on my time that I have, and so will, I am sure, have compassion on me. I wish the information had been fuller, but the area in which I had to obtain it was circumscribed.

I hope to say a few words on the public gardens of Paris as compared with our own, and on the state of horticulture generally in France.—D., Deal.

GRAPES FOR A COOL VINERY.

I AM preparing to make a place to grow a few Grape Vines in, and to train them after the form shown by Sanders, in plate 7, and page 23, third edition, for the outside wall.

My wall is the end of the dwelling-house, having a south aspect, and 25 feet in length. I purpose covering the whole length of this wall with perpendicular sashes, 6 feet high, with 1 foot of a wood shutter below, and 3 feet from the wall, making them, or most of them, to open like so many glazed doors, so as to get at the plants when necessary. When the place is made it will look like a narrow lean-to house, 25 feet by 3 feet, and 7 feet to 8 feet in height (roof glazed, of course). Do you consider such a place suitable for Vines, and which of the best kinds will succeed? There will be no fire heat, except at the place where the kitchen fire is. The situation is six miles south-west of Manchester, and one of the warmest near Manchester.—NOTICE.

[For such a place we would prefer Black Hamburg and Royal Muscadine. We have no doubt that your plan will answer if well attended to; but if the place is your own, for convenience and economy combined, we would have a fixed roof, ventilation at top and bottom, and enclose 6 feet or 7 feet instead of 3 feet. This is merely our idea, and may not at all interfere with the success of yours; though sashes made to open as doors are not done economically unless pivot-hung.]

REPORT ON THE BROCCOLIS

GROWN IN THE GARDEN AT CHISWICK IN THE AUTUMN OF 1861 AND THE SPRING OF 1862. BY ROBERT HOGG, LL.D., F.L.S., Secretary to the Fruit Committee.

(Continued from page 334.)

LEE'S SPROUTING . . . . . J. & C. LEE.

This is a variety of Spring White Broccoli, which in its best state forms a good-sized terminal head about 8 inches across, and produces from the axils of the leaves smaller heads, about the size of Walnuts. It is very rarely, however, that this character is met with, the great bulk of the crop having the appearance of a spritious stock of Spring White Broccoli.

VEITCH'S SPROUTING . . . . . VEITCH & SON.

From the appearance that this and the preceding variety of White Sprouting Broccoli presented, it was the opinion of the Committee that neither of these was a variety desirable for cultivation.

MITCHINSON'S PENZANCE . . . . . TURNER.

Early White Cornish . . . . . TURNER.

Mitchinson's Early White . . . . . CARTER.

One of the best of the Spring Whites. The leaves are very much wavy on the margin, and enclose very large and fine heads, which are almost of a pure white colour. This is a very hardy sort, and comes into use about the 20th of March.

AMBLER'S EARLY WHITE . . . . . MINIER & CO.

Also one of the best Spring Whites. It is remarkably hardy, and produces a very large creamy white head, and very uniform in size. It may easily be distinguished from the preceding by its winged leaf, that of Mitchinson's being interrupted. It comes into use about the 22nd of March.

KIDDERMINSTER . . . . . BUTLER & McCULLOCH.

The head is large and handsome, of pure whiteness, and very much exposed. It is evidently a form of *Wilcove*, and has no doubt emanated from that variety; but it is a little earlier, having come into use on the 20th of March.

CHAPPELL'S CREAM . . . . . VEITCH & SON.

A very hardy and very fine Broccoli, coming into use about the same time as Ambler's. It produces large creamy heads.

D. Late Spring White Broccoli.

WILCOVE . . . . . VEITCH & SON.

The true *Wilcove* is a perfectly distinct variety from every other of its season. The heads it produces are very large, firm, even, and fine, and of a pure whiteness. They are fully exposed, and not protected by the leaves as most other Broccolias are. On this account it is more exposed to the influence of the weather than any of the other late sorts, and, therefore, in severe winters must be regarded as a tender variety. It is, nevertheless, one of the finest Spring Broccolias. It came into use on the 1st of April.

SHEARER'S LATE WHITE . . . . . LAWSON & SON.

This is a very fine Late White Broccoli, producing large heads; and is remarkably hardy. It comes into use in the beginning of April.

TAMWORTH . . . . . BUTLER & McCULLOCH.

The same as Portsmouth or Brimstone Broccoli, of which it is a very fine stock.

VEITCH'S EARLY WHITE . . . . . VEITCH.

A distinct sort, with a stem about a foot high, producing very large heads, of uniform size, and of a clear creamy white; very excellent and hardy. In use April 1st.

KNIGHT'S PROTECTING . . . . . MINIER & Co.

Invisible . . . . . BUTLER & McCULLOCH.

Frogmore Protecting . . . . . VEITCH.

Early Gem . . . . . NUTTING.

The Gem . . . . . SUTTON & SON.

Lake's Gem . . . . . TURNER.

Waterloo Late White . . . . . BUTLER.

Dillistone's Late White . . . . . HURST & McMULLEN.

Almost all the Late Spring Broccolias are more or less modified forms of Knight's Protecting, or, as it is sometimes called, Invisible Late White, and indeed all the truest stocks of these late sorts are the genuine Knight's Protecting. The true kind is of a dwarf habit of growth, close to the ground, and with long pointed and winged leaves, which have a spiral twist round the head, and turn in closely over it, so as effectually to protect it from the effect of frost, and preserve it of a fine white colour. The head is of good size, and comes into use in the beginning of April.

KENT'S LATE WHITE . . . . . BATT, RUTLEY, & SILVERLOCK.

A dwarf-growing variety, with very dark green foliage, and remarkably hardy. It comes into use about the second week in April, and produces a good-sized well-protected white head.

WARD'S SUPERB . . . . . SUTTON & SON.

This is a form of the Knight's Protecting, and considerably later than that variety, so much so, as to come in from a fortnight to three weeks later. In the trial from which these observations were made, while Knight's Protecting was ready from the 1st to the 6th of April, Ward's Superb did not come in till the 24th. It is of a dwarf habit of growth, closely protected by the spirally compressed leaves; and the head is of good size, and pure white. One of the best Late White Broccolias in the collection.

SHAW & CROSSLAND'S DWARF . . . . . TURNER.

This was the latest sort grown in the garden, as it did not come in till quite the end of April. The heads were small and very white, and deeply enveloped in the leaves.

II. PURPLE BROCCOLI.

PURPLE CAPE . . . . . BATT, RUTLEY, & SILVERLOCK.

Early Purple Cape . . . . . VEITCH & SON.

Howden's Superb Purple . . . . . BUTLER & McCULLOCH.

This is the earliest of the Purple Broccolias, and comes into use about the second week of August, at the same time as Walcheren. It produces a medium-sized head, which is greenish-yellow, with a purple tinge. The leaves are open and spreading, and expose the head during the whole period of its growth.

EARLY PURPLE . . . . . TURNER.

Early Purple Sprouting . . . . . CARTER.

At first this produces exposed medium-sized heads of a greenish-yellow colour, tinged with purple, which come into use in the beginning of November. It then throws out numerous

sprouts of flower-heads from the axils of the leaves which continue in use during the winter and spring.

DANCER'S LATE PINK CAPE . . . . . TURNER.

This is a very fine late Broccoli, in use in March. It produces very large heads, which are uniform in size, and with a fine even surface.

WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 360.)

CRUSTACEA—(continued).

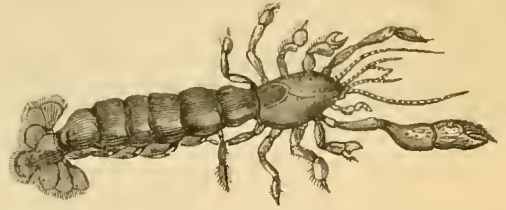
**THE SPINOUS GALATHEA (*Galathea strigosa*).**—This specimen bears a very considerable resemblance to the foregoing one; still on examination it differs from it in several material points. There is the same sharp strong spine projecting from the front; but there are only three others on either side of it, whereas in the Sealy Galathea there were four. It is a little larger also, measuring about four inches, and the colour instead of being a greenish-brown is reddish, marked with blue lines and spots. The front legs are equal, long, flattened, and furnished plentifully with spines on all sides, excepting the outer margin of the arm. The second, third, and fourth pairs of legs are likewise armed with a quantity of strong acute spines. Professor Bell gives a very interesting account of this species, furnished him by Mr. R. Q. Couch, of Penzance, a part of which I make no apology for transcribing. "This is a common species throughout the whole of the south coast of Cornwall, and I have also found it on our northern shores. It frequents pools between tide-marks where there are loose stones and sand. It is, generally speaking, very slow in its motions, though it will frequently move with very great activity, especially when alarmed. From the great length of its first pair of legs, its motions are always retrograde. In walking its pace is tardy, but in swimming it darts from spot to spot with the rapidity of an arrow. It is never seen in any exposed part of the pool, but always seeks the shelter of stones or some hole in the rock, so that it can retire on the least alarm. It is very remarkable to witness the accuracy with which it will dart backward for several feet, into a hole very little larger than itself. This I have often seen, and it is always done with precision. The Galathea are very tender and require great care in confinement. They soon die, and hence it is not easy to rear the young. I have on many occasions hatched a very numerous family, but like those now before me, they soon die."

**EMBLETON'S GALATHEA (*Galathea nexa*).**—This is a much smaller species than either of the two just before mentioned, not measuring more than an inch in length; and from being a deep sea species not so commonly met with, the hands are hairy and destitute of spines, one being somewhat smaller than the other. Its colour is brownish. Professor Bell says:—"Mr. Thompson's specimens, which I have before me, were obtained 'from the stomachs of Cod fish brought from the coast of Down and Antrim to the Belfast Market, and in Dr. Drummond's collection are specimens which were similarly procured.' I have several specimens which were taken by Mr. McAndrew in dredging in Loch Fyne, at a depth of from twenty to seventy fathoms, and by that gentleman and Professor Edward Forbes, at Zetland."

**LONG-ARMED MUNIDA (*Munida Rondeletii*).**—This remarkable species derives its name from the great length of its anterior legs or arms, which are double the length of the body, measuring about six inches, whereas the animal itself from rostrum to tail measures only three. On the rostrum are three spines, the centre one being extremely long. The anterior legs are furnished with a series of spines, both on the upper and under surface. The remaining legs are long, slender, and cylindrical, the whole covered with close short hair. The abdomen is convex, the second segment having six small acute spines arranged on it. The third has four similar ones. In colour it is of a dull reddish-yellow, streaked with brighter red. "This remarkable species," says Professor Bell, "appears to be far from common on our coasts, although it is, probably, more numerous than has been supposed, from its frequenting deep water. It was found in Plymouth Sound by Mr. Prideaux. I have received it from Falmouth through the kindness of Mr. Cocks, but it is not included in the 'Cornish Fauna,' by Mr. Couch. Mr. Thompson in recording its repeated occurrence on the coast of Ireland, establishes its habitat in deep water, by stating several instances

of its being found in the stomach of the Cod, and, still more remarkable, by the fact of its having been 'dredged alive in water from one hundred and ten to one hundred and forty fathoms in depth, off the Mull of Galloway.' These were all of them very small specimens. It is, in fact, an inhabitant of deeper water than any other of the family, not excluding *Galathea nexa*."

**CALLIANASSA SUBTERRANEA (*Underground Callianassa*).**—



This strange species is by no means uncommon, particularly on the coast of Devon, where it resides in subterranean passages. It is about two inches in length, and when alive of a bright red colour, which colour, however, disappears shortly after death. The carapace is flattened at the sides, and the eyes very small. The anterior feet are remarkably unequal; the larger one, which in some specimens is the right, in others the left, is extremely large, flat, and polished, and fringed with hair on the margins. The smaller foot is very slender, the hand being small and smooth. The second pair of feet are two-toed, and the pincers strong. The third pair have the penultimate joint oval and hairy; and the fourth and fifth pairs are simple and nearly filiform. "Its claim to be considered as an Irish species," says Professor Bell, "is thus stated by Mr. Thompson," March 25th, 1839.—"On examining the contents of the stomach of several individuals of the *Platessa Pala*, which were taken off Newcastle (County Down), two of the larger arms of this species, so peculiar in form and still retaining their beautiful pink colour were detected."

**GEBIA STELLATA (*Starred Gebia*).**—This little creature is a burrowing species like the Callianassa. It is about an inch and a half in length. It has a pair of antennae about the same length as the body. The legs get gradually slenderer towards the fifth pair, and are all fringed with long hair. Leach states that "it has been taken on some of the shores of Plymouth Sound, under the mud of which it makes long, winding, horizontal passages, often of a hundred feet or more in length." This habit of burrowing is peculiarly strange. The following are Professor Bell's remarks on this head:—"The burrowing of these fossorial species is a subject which deserves more attention than has hitherto been paid to it. The means by which it is effected are at present absolutely unknown, nor is it yet certain whether they ever avail themselves of the labours of other animals, or whether the excavations in which they are found are wholly the work of their own hands. The account given above from Dr. Leach of the extent of these passages appears at first scarcely credible, and may well challenge a thorough examination of these points in the economy of these curious animals."

**AXIUS STIRYNCHUS.**—This is also one of the fossorial or burrowing species, about three inches in length, and of a pale reddish-brown colour. The first pair of legs are stout and slightly unequal; the second pair two-toed, rather small and compressed; the whole, especially the arm, being furnished with long hair on the inner margin. The remaining feet are all simple; the third pair being the thickest, and the fifth the most slender.

"This species," says Mr. Couch, "like those of the genus Callianassa, has the habit of burrowing in the sand, from which it rarely emerges; and then it seeks shelter in a crevice covered with weeds, for it is sluggish in its motions, and, if distant from a soft bottom in which to sink, incapable of escaping from an enemy. A female that I obtained, loaded with spawn, was dug out of the sand in the middle of summer." "This species," says Professor Forbes, "the largest of the family indigenous to this country, was first discovered by Dr. Leach at Sidmouth, where it was taken amongst Prawns on the shore; although," as the Professor adds, "this occurrence of Dr. Leach's specimen among Prawns must have been purely accidental, as it is essentially a fossorial species."

**CALOCARIS MACANDREÆ.**—This is also a fossorial species, and, as Professor Bell remarks, "constitutes one of the most singular

and interesting additions which have for a long time past been made to our list of British Crustacea." The shell is thin and flexible; the carapace large, narrowed towards the front, where it terminates in a sharp triangular rostrum. There is a small raised line running the whole length of the carapace. The fore feet are about two-thirds of the length of the body. The claws are very long, compressed, grooved, and furnished with some small tubercles. The second pair of feet are two-toed, and resemble the first pair in their general form, although considerably smaller. The other pairs are slender and one-toed. All of them, as well as most of the limbs and other appendages, are hairy. The usual colour is a pink or pale rose, varying in intensity in different parts; but the colour fades out if the

creature be placed in spirits, leaving it a simple white. The length is about two inches. The eyes have a strange peculiarity. Professor Bell states, "The absence of all colouring pigment, as well as of the cornea in the eyes, is a very remarkable, and, as I believe, a unique instance in the whole of the higher forms of Crustacea. But it is admirably in keeping with its habits; for," as the Professor goes on afterwards to say, "it occasionally inhabits a depth of no less than 180 fathoms, in which situation it is fossorial in sandy mud. Now it is clear that at such a depth, and of fossorial habits too, distinct vision would be useless and unavailing, and this at once accounts for the rudimentary character of the eyes, which are entirely white."—W.

(To be continued.)

### SOME HINTS ON BUDDING ROSES.

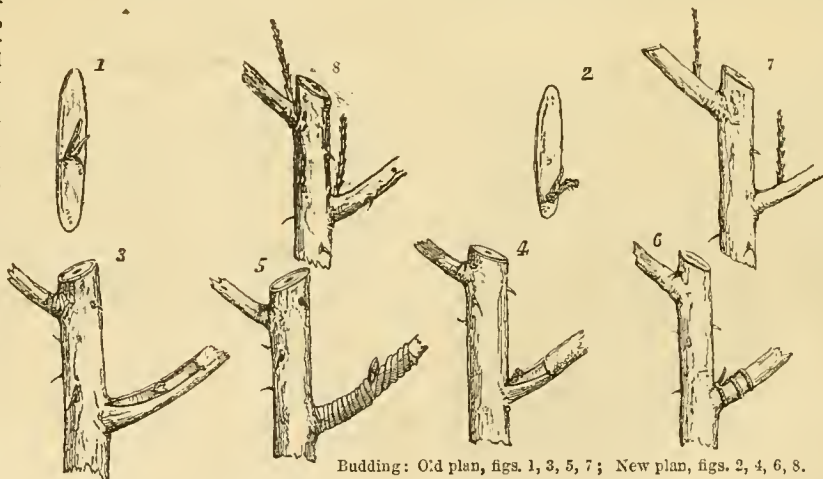
"WHAT is the best weather for budding? I am told damp cloudy weather is." How often would such a question, asked by an amateur, obtain such an answer? How startling, therefore, to him to be informed to the contrary! Why, he has seen it recommended in books! Yes, nothing more generally recommended than damp cloudy weather for budding! To say bright, warm, sunny weather is best, provided the stocks are in proper condition, will sound like heresy; extensive experience, however, tells me such is the case. I may be asked why? And I would answer, that in warm weather the sap is more gelatinous; and the bud, on being extracted and inserted in the stock quickly, properly tied, &c., soon takes. On the contrary, in wet cloudy weather the sap is more thin and watery, and the bud will not unite so freely. To this we add that a fall of rain (likely in such weather) after the buds are inserted, will fill up the incisions, and thereby rot and perish the buds before they have time to unite with the stocks. Not only is clear warm weather best for the experienced budder, but likewise for the amateur and tyro, and August is a good month for the operation.

Another question is common—Is it necessary to extract the wood from the bud? I answer, Yes; whilst American writers say, No. The Americans, indeed, work nearly all their fruit trees, ornamental trees, Rosez, &c., with the wood left in the bud as cut from the shoot. This may best suit their hot dry climate; but after giving it repeated and extensive trials, I must give the preference to our old system of extracting the wood from the bud, not only for Roses, but ornamental trees, forest trees, &c.; for in our comparatively cool moist climate it answers better. In all cases where they have been tried, the failures have been much more considerable under the American system than under the old, the circumstances being equal. Sometimes there may be an advantage in putting in the wood—namely, where the shoot is become firm, and the wood and bark will not freely separate; then, if inserted in a free-growing stock, it will in all probability take.

In budding, the top bud on the shoot should be commenced with, cutting from about an eighth of an inch below the bud or eye to from half an inch to an inch above it, in order that there may be a sufficiency of bark to hold with the fingers without rubbing the portion which is to be inserted (shown in *fig. 2*); take out the wood as already recommended. Next make an incision in the shoot of the stock close into the main stem, and about half an inch long: this is long enough. Cut across at top, raise the bark with the end of the budding-knife without

bruising it, and insert the bud, which will then have the appearance of *fig. 4*. It is now to be tied with a little worsted or cotton, as shown in *fig. 6*; one tie below the eye and two above will be ample, as its entire length will not be more than half an inch, and a quarter of that below the eye. The most inexperienced amateur need not give more than two rounds below the eye and three above, but the practical workman will find the number I have mentioned sufficient.

The superiority of this system of budding over the old must be apparent. *Fig. 1* shows a bud extracted on the old method, the whole more than an inch in length. *Fig. 3* shows the same inserted, and *fig. 5* the same tied-in with innumerable rounds of matting. *Fig. 7* shows it the following season, the buds having grown. *Fig. 8* represents the growth which the buds take on the new system; they grow out nearly from the axil of the branch, and look neat and workmanlike; and after a season or two, when the shoots are headed back and healed over, which they freely do, they have the appearance of growing out of the main stem, forming neat heads without scars, wounds, or knots, very different to the appearance of those worked like *fig. 7*, which have an unsightly and unworkmanlike appearance, and liable to be blown out by the wind, having scars and dead snags in abundance, and never forming such neat, compact, and clean healthy heads. Those who are acquainted with budding will easily understand this from the figures. I have purposely shown the one-year shoots in *figs. 7* and *8*, as if they had not been stopped the first season, to explain the system. When strong, however, they had always better be stopped the first season when they attain from 1½ inch to 2 inches in length, repeating it as the growth proceeds. In this way, by the end of the first season from the bud the heads will be fine and bushy, which will not be



Budding: Old plan, *figs. 1, 3, 5, 7*; New plan, *figs. 2, 4, 6, 8*.

the case if they are allowed to run up with single shoots.

I should have said that the shoots selected for budding must be pretty firm—young watery shoots and buds are useless; from the former the buds always take more freely, provided they only separate readily from the wood. For tying, worsted or cotton is in every way incomparably better than matting. Cotton I consider best of all; it is much cheaper, more expeditious in use, does not cut the bark as much as matting, and requires nothing more than cutting into lengths of from 4 inches to 6 inches to be ready for use; the former length will be sufficient for the experienced, whilst the tyro may require it of the latter length. Lamp-wick answers for this purpose, but it

requires splitting as it is generally too thick; about the substance of strong yarn is sufficient. Suitable yarn may be obtained of any dealer in cotton, or at a very cheap rate from any cotton manufactory where they sell retail. All things in these nurseries which are budded are now tied with cotton—Roses, ornamental trees, shrubs, fruit trees, &c.; it is found much

cheaper than matting at the first cost, and matting requires much more labour in cutting, splitting, wetting, &c., before it is used. Cotton, on the contrary, requires only cutting in lengths, when it is ready for use; it can be employed more expeditiously, and is more efficient.—J. SAUL, *Durdham Down Nursery, Bristol.*—(*Gardener's Magazine of Botany.*)

### ORNAMENTAL PLANTS.

*MOUSSONIA ELEGANS* (Elegant Moussonia). *Nat. ord.*, Gesneraceae. *Lin.*, Didynamia Angiospermia.—A rather handsome sub-shrubby herb, requiring a temperate stove. It has soft hairy stems and leaves, more or less tinged with red. The leaves are opposite, ovate-oblong, acuminate, crenate-dentate, and shortly petiolate. The flowers grow in three or four-flowered umbels, on

pedicels springing from the axils of the leaves; the corolla is an inch and a half long, somewhat curved and swollen about the middle of the tube, scarlet; the limb of five spreading, nearly equal crenate-lobes, yellowish inside, with lines of purple spots; the throat is yellow. From Guatemala: mountainous regions. Flowers during winter.



1. *Moussonia elegans.*

2. *Cuphea cinnabarina.*

*CUPHEA CINNABARINA* (Cinnabar-coloured Cuphea). *Nat. ord.*, Lythraceae. *Lin.*, Dodecandria Monogynia.—A very pretty sub-shrubby greenhouse or half-hardy plant, with strigulose branches, bearing opposite lanceolate leaves, acute and narrowed towards the point, and racemose panicles of showy blossoms; the viscid, hairy, calyx-tube is about three-quarters of an

inch long, pale red, with green ribs and tips; the two enlarged upper petals are minute and of the same colour. A variety called *atro-sanguinea* has the petals deep blood red. From Guatemala. Introduced to the Belgian gardens by M. Van Houtte in 1818. Flowers during summer.

### PORTRAITS OF PLANTS AND FRUITS.

**NOLANA LANCEOLATA** (Lance-leaved Nolana). *Nat. ord.*, Solanaceæ. *Linn.*, Pentandria Monogynia.—It has also been called *Sorema lanceolata*. Native of Chili. Introduced by Messrs. Veitch & Sons, of the Exeter and Chelsea Nurseries. Flowers brilliant blue, with white centre. "A charming, compact-growing annual, promising to be a great acquisition to our parterres."—(*Botanical Magazine*, t. 5327.)

**GRAMMITIS CAUDIFORMIS** (Taper-pointed Grammitis). *Nat. ord.*, Cryptogamia-Filices.—It has been called also *Selliguea plantaginea* and *Polypodium caudiforme*. A handsome Fern from the Malay Archipelago.—(*Ibid.*, t. 5328.)

**BOLBOPHYLLUM PAVIMENTATUM** (Clustered Bolbophyllum). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of the banks of the Nun, in Tropical Western Africa. Flowers purple, blooming in February.—(*Ibid.*, t. 5329.)

**IPOMEA ALATIPES** (Winged-stalked Ipomœa). *Nat. ord.*, Convolvulaceæ. *Linn.*, Pentandria Monogynia.—It has also been named *I. pterodes*. Native of Veraguas and Venezuela. Flowers rich salmon colour, blooming in the stove during June.—(*Ibid.*, t. 5330.)

**ANOMOCHELOA MARANTOIDEA** (Maranta-like Anomochloa). *Nat. ord.*, Gramineæ. *Linn.*, Tetrandria Monogynia.—A curious grass. Native of Bahia, Brazil.—(*Ibid.*, t. 5331.)

**NEPHALOPHYLLUM PULCHRUM** (Beautiful Cloudy-leaf). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of Mount Salak, Java. Introduced by Messrs. Low, Clapton Nursery, where it flowered in May. Flowers green and white.—(*Ibid.*, t. 5332.)

**SINGLE PETUNIAS**.—Raised by Mr. Holland, and sent out by Mr. Williams, Paradise Nursery, Holloway. **ROSA BELLE-FORME** is "a flower of very fine shape and good substance, larger and stouter than any of its class; the colour a bright magenta, with a very clear white throat." **FLOWER OF THE DAY** is somewhat in the style of Madame Ferguson, "but the bands, which are bright rosy crimson, are much broader and brighter than in that variety."—(*Floral Magazine*, Pl. 109.)

**ROSE JOHN HOPPER**.—Raised by Mr. Ward, of the Rosery, Ipswich, from Jules Margottin fertilised with the pollen of Madame Vidot. A large Rose "somewhat in the style of Pauline Lanzeteur, but fuller, the colour a bright crimson suffused with violet, and is of a very vigorous habit."—(*Ibid.*, Pl. 110.)

**CINERARIAS**.—Three varieties from Mr. Turner, of Slough. **JAMES ANDREWS**, dark purple, of good shape. **THE ARTIST**, bright magenta with a small white circle round the disk. **THE WINNER**, a bright magenta self.—(*Ibid.*, Pl. 111.)

**SARMIENTA REPENS** (Trailing Sarmienta).—*Nat. ord.*, Gesneriaceæ. *Linn.*, Diandria Monogynia. Native of the Chilian Audes. Flowers tubular, swollen in the centre, light crimson scarlet.—(*Ibid.*, Pl. 112.)

**DOUBLE CHINESE PRIMROSES** (*Primula prænitens flore pleno*).—Two full-double fringed varieties from Messrs. F. & A. Smith, of Dulwich. **DELICATA**, nearly 2 inches across, white changing to a delicate blush. **RUBRA GRANDIFLORA** large, magenta, and the variety like the preceding, has the property of reproducing itself from seed.—(*Florist and Pomologist* i, 113.)

**APPLE, IRISH PEACH** (*Syn.*, Early Crofton).—Fruit middle-sized, roundish, deep crimson next the sun, streaked with deeper crimson, and strewed with yellow dots. Ripe in August, and lasts all through the month. "A most beautiful and certainly one of the most excellent summer Apples, possessing all the rich flavour of some of the winter varieties, with the abundant and refreshing juice of the summer fruits."—(*Ibid.*, p. 120.)

### ENTOMOLOGICAL SOCIETY'S MEETING.

THE August meeting of the Entomological Society was but sparingly attended as usual at this season. Amongst the donations were the publications of the Royal Society, the Society of Arts, and various periodicals. Also, a fine new work on the Diptera of Mexico, by Luigi Bellarde.

On the motion of the Rev. Hamlet Clarke, a vote of thanks was unanimously passed to W. W. Saunders, Esq., F.R.S., Treasurer of the Linnean and Royal Horticultural Societies, &c., for his handsome entertainment of the members of the Society, at Reigate, recorded in our last report.

Mr. S. Stevens exhibited a very beautiful collection of Coleopterous insects captured in the interior of Cochinchina by the

late M. Moulhot, whose untimely decease was a great loss to natural science. Amongst these insects was a magnificent new genus of Scaritidæ of very large size, and a great number of new and splendid Longicorn Beetles.

Mr. Stainton exhibited a number of curious varieties of *Gracillaria semifascea*, which he had reared from small conical galls on the leaves of Maple trees growing in Headley Lane, near Croydon.

Mr. Wallace exhibited some very effective photographic representations of insects, both of the natural size and magnified. These were arranged on sheets of an octavo size, and were thus for publication in books without mounting. The smaller specimens had been mounted on gelatine, and thus the blurred appearance of photographic representations of insects gummed on cardboard was avoided.

The President, Mr. F. Smith, exhibited two rare Staphylinidæ—*Myrmecodia Haworthii* and *Heliobates propinqua*, taken by his son during the Reigate excursion. Also, a very remarkable specimen of Honey Bee, possessing characters of each of the three kinds of individuals in the hive, the head being that of a drone, the legs partly drone and partly worker, and the sting like that of the queen.

Professor Westwood gave an account of a specimen of the Honey Bee, which he had recently captured. The head of which was adorned with a large tuft of the pollen-masses of an Orchis, most probably *O. maculata*, as that species was in blossom in the Professor's garden. The specimen was captured on the alighting-board of one of his hives, another bee being in the act of dragging it out of the hive, where it was evidently obnoxious from its novel appendages.

The President read a memoir containing a revision of the tribe Cryptocerides (belonging to the family of the Ants), a group of great interest, and of which Mr. Smith has more than doubled the number of species within a few years, chiefly from the collections of Mr. Wallace in the Islands of the Eastern Archipelago.

Dr. Wallace made some observations on the destructive habits of the Gooseberry grub, *Nematus ventricosus*, and on the most effectual means for preventing its ravages. From the memoir of M. Vollenhoven it appears that the eggs are laid in considerable numbers on the under side of the leaves along the midribs, and that the young larvæ as soon as hatched commence feeding on the leaves, which they riddle with small holes like gun shot. As soon as this is observed the leaves should be gathered and destroyed; but if unattended to for two or three days the insects have eaten the whole of the leaf which formed their cradle and dispersed themselves over other leaves, where they are more difficult to be attacked. There are several broods in a year; and although the first brood confines its attacks to Gooseberry leaves, the second is said to attack the Currant with equally injurious effects. We have not been able to verify this observation, as we found the first brood indifferently on the Currant and Gooseberry.

### THE INTERNATIONAL EXHIBITION.

(Continued from page 359.)

#### TASMANIA.

AMONG the vegetable products of Tasmania, that which will probably hold the first rank in the estimation of the people of this country is its timber, which from its great size, strength, and durability, seems eminently suitable for ship-building, as well as for a variety of useful purposes of minor importance. The numerous specimens of the ornamental and useful woods of the colony are formed into a trophy, the flagstaff on the summit of which reaches the roof of the Exhibition building.

The tall central column consists of eight spars of Stringy Bark, Blue and White Gum, Silver Wattle, Blackwood, and Sassafras, arranged as an octagon, and the eight sides at the base are composed of planks of Blue Gum and Stringy Bark, the heart being sawn off; that part in most Tasmanian as well as Australian timber, being almost always more or less shaly.

"Samples of other ship timber form the base of the trophy—which is thus constructed:—Five planks (20 feet long) of Blue Gum, Stringy Bark, Blackwood, and Myrtle, the two former being fitted for ship-building, and the two latter for cabinet-work, are first laid down. Placed across these are ship's-keel pieces (10 feet long, squared) of Blue Gum, and Stringy Bark. Immediately on these lie, transversely, joists of Stringy Bark,

covered with ordinary flooring-boards of the same wood. The framework of the pedestal placed on this floor is composed of Blue Gum, White Gum, and Stringy Bark. The joists, quartering, and flooring-boards of the pedestal platform are also of Stringy Bark. The centre piece of the spiral staircase is formed of a spar of plain Huon Pine, the stairs being made of this free-working and almost imperishable wood. These samples will show what Tasmania can supply of plain timbers. Of large ship's knees an unlimited supply can be obtained from Tasmania, where the stumps of the large trees which might supply them are left to rot after the tree has been cut up. They are also shown in the angles of the pedestal frame, of various conditions as to seasoning. A large Blue Gum knee, and also a Blue Gum crook have been exposed to the open air nearly ten years, in the shipyard of Mr. McGregor. In other angles of the frame are three very fine ship's knees from Tasman's Peninsula, exhibited by Mr. Boyd. There are also three smaller knees, a Blackwood crook for curved banister work, and a fine Huon Pine knee, in the other angles. In the interior are some railway sleepers of Blue Gum and Stringy Bark, and pieces of White Gum, or Gun-topped Stringy Bark, 12 inches by 6 inches, 12 feet in length, contributed by Dr. Crowther, and by Mr. Boyd, together with some sleepers of Blue Gum and Peppermint wood. The split palings and roofing shingles here displayed are also fine specimens, varying in length from 5 feet to 15 feet, and in breadth from 6 inches to 24 inches. These are specimens of the ordinary splitting qualities of Swamp Gum."

There is also in the garden of the Royal Horticultural Society a spar of the last-named wood, from Mr. Boyd, of the extraordinary length of 230 feet, and which would have been brought in one piece to England could a ship have been found capable of taking it. In the absence of such it had to be divided into 20 feet lengths, and bolted together on its arrival in this country.

Besides these there are a plank of Blue Gum 90 feet long, 20 inches wide, and 6 inches deep; and one of Stringy Bark 80 feet long, 24 inches wide, and 6 inches deep.

Blue Gum, Stringy Bark, and Peppermint will, it is believed, from their great durability, prove of great value for railway sleepers, of which, according to Mr. Stephenson, 2,800,000 are required every year in Great Britain, and to supply this quantity it is estimated that the wood of 7000 acres of land is annually required. An ordinary sleeper lasts about twelve years, whilst these woods it is imagined would remain sound for fifteen or twenty at least, and, probably, much longer. To show their resistance to the action of the atmosphere and water, old piles and planks from the wharves at Hobart Town are exhibited, which have been exposed for twenty-one years to the alternate influences of sea-water, air, sunshine, and rain, without undergoing material deterioration. There is timber that was used in the construction of the old Court House, and the old Gaol at Hobart Town, as sound as when first used; and, finally, there is the fencing of the early settlers in an almost unimpaired condition after forty years' exposure.

In an appendix to the account of the colony are some useful notes on its vegetable products, by Mr. Archer, from which the following is extracted with some alterations and abridgments:—

**BLUE GUM, *Eucalyptus globulus*.**—The common name is derived from the bluish-grey colour of the young plants. Diameter, 5 feet to 30 feet; average of those felled for use, 6 feet. Height, 150 feet to 350 feet. Sp. grav. about .945 to 1.055. Abundant in the southern and south-western parts of the island. Cut for house-building it sells at 8s. to 10s. per 100 superficial feet—for ship-building at 12s. to 14s.

(Used for the same purposes as Oak, and, according to some experiments which were made, much stronger than either that wood or teak, its breaking weight being 1031 lbs., while that of English Oak was 637 lbs., and of teak 938 lbs.)

**STRINGY BARK, *Eucalyptus gigantea*.**—Common name taken from the coarse fibrous bark. Diameter, 4 feet to 24 feet; average of those sawn about 5½ feet. Height, 150 feet to 300 feet. Sp. grav. about .905. Abundant everywhere upon hilly ground. Price, the same as that of Blue Gum.

(Used for ship-planking, boat-keels, house carpentry, and found to be extremely durable for out-door work. Breaking weight 867 lbs., that of English Oak being 637 lbs.)

**SWAMP GUM.—WHITE GUM, *Eucalyptus viminalis*.**—Common name from its growing to perfection in humid situations—and from its gigantic white trunk. Diameter, 4 feet to 18 feet; average about 5½ feet. Height, 150 feet to 300 feet. Sp. grav. about .885. Growing in forests with other kinds of *Eucalyptus*, in rather humid localities. Price, for general purposes the same as that of Blue Gum; fire-wood palings, 6s. to 8s. per 100.

(Breaking weight, 784 lbs., against English Oak, 637 lbs.)

**GUM-TOPPED STRINGY BARK, sometimes called WHITE GUM, *Eucalyptus gigantea*, var.**—A tree resembling the Blue Gum in foliage, with rough bark similar to Stringy Bark towards the stem. It has been found recently that this wood possesses nearly all the properties of strength, solidity, and

durability of the Blue Gum—whilst being straight-grained, it is much easier to work. Price, about the same as Blue Gum.

**PEPPERMINT TREE, *Eucalyptus amygdalina*.**—Common name from the odour of the leaves. Diameter, 3 feet to 8 feet; average about 4 feet. Height, 100 feet to 150 feet. Sp. grav. about .895. The Peppermint tree abounds throughout the island on gravelly and other poor soil. Price, about the same as that of Swamp Gum.

(Some specimens of this timber have a fine wavy marking, which renders it suitable for cabinet work.)

**HUON PINE, *Dacrydium Franklinii*.**—So called because it was first discovered on the banks of the Huon River. Diameter, 3 feet to 8 feet; average about 4½ feet. Height, 50 feet to 120 feet. Sp. grav. about .650. Abundant in portions of the south-western part of the island. Price, about 16s. per 100 superficial feet, in the log.

(Excellent for ship building and for every purpose for which the Pine is employed, much heavier and harder than that wood, and taking a fine polish as well as being fragrant, it is excellent for cabinet work. To show its adaptation for this purpose, a wardrobe is exhibited which has been constructed of this wood and polished. The ship's knee is a beautiful example of this kind of timber without the slightest crack or unsoundness. It is of this wood also that the two whaling boats suspended from the trophy are constructed.)

**BLACKWOOD, *Acacia melanoxylon*.**—So called from the dark brown colour of the mature wood, which becomes black when washed with lime water. In moist shaded localities the tree grows more rapidly, and the wood is of a much lighter colour. Hence this variety is called "Lightwood," in Hobart Town, to distinguish it from the other. Diameter, 1½ foot to 4 feet; average about 2½ feet. Height, 60 feet to 130 feet. Sp. grav. about .885. Found throughout the island, but not abundantly in any one locality. Price, about 12s. to 14s. per 100 feet super., in the log.

(A beautiful wood for furniture, and excellent for the staves of casks. Lightwood is excellent for veneering. The bark is used for tanning. A large oval table is shown.)

**NATIVE MYRTLE, *Fagus Cunninghamii*.**—Common name from the fancied resemblance of its dark green leaves to those of the Myrtle. Diameter, 3 feet to 12 feet; average about 3½ feet. Height, 100 feet to 180. Sp. grav. about .795. The native Myrtle exists in great abundance throughout the western half of the island, growing in forests to a great size, in humid situations. Price, about 16s. per 100 feet super., in the log.

(Admirably fitted for furniture and for the purposes of the cabinet-maker. The timber possesses a lively reddish colour. There are splendid planks of the plain wood exhibited 20 feet and 30 feet in length, which are used for seats along the gallery. The figured wood, of which there are some fine polished slabs and panels shown, display deeper tints, with markings and venation of the richest and most varied character. A handsome bureau is shown made of this wood.)

**CELERY-TOPPED PINE, *Phyllocladus rhomboidalis*.**—So called from the fancied similarity in form of the upper part of the branchlets to Celery. Diameter, 1½ foot to 2 feet; average, about 1½ foot. Height, 60 feet to 150 feet. Sp. grav. about .655. Rather common in damp forests in the southern parts of the island, and in some sub-alpine localities.

(This tree yields timber remarkable for its close and clear white grain, and for its great strength and toughness. Where it abounds it is used for house-fittings and for agricultural implements, &c. Its strength and elasticity adapt the young spars for masts and yards of vessels.)

**MUSK-WOOD, *Eurybia argophylla*.**—Named from the musky odour of the leaves. Diameter 6 inches to 15 inches, the butt enlarging towards the ground to 1½ and even 2½ feet. Height, 15 feet to 30 feet. Sp. grav. about .685. Abundant throughout the island in damp localities.

(A most beautiful solid wood for cabinet work. The Davenport and round table exhibited are fine examples of this wood when polished and worked.)

**SHOE-OAK, *Casuarina quadrivalvis*.**—A portion of the common name is evidently derived from the resemblance of the markings to those of Oak. Diameter, 1 foot to 1½ foot. Height, 20 feet to 30 feet. Sp. grav. about .845. Very common on dry stony hills, excepting in the north-western districts.

(Hard, and takes a good polish.)

**SILVER WATTLE, *Acacia dealbata*.**—So called from the whiteness of the trunk, and the silvery green of the foliage. Used for cask-staves and treenails. Diameter, 1½ foot to 2½ feet. Height, 60 feet to 120 feet. Sp. grav. about .955. Very common.

(This timber makes good staves; and the young wood when split thin makes excellent hoops for dry casks. Bark considered in Tasmania the most valuable of any for tanning. It also yields a gum which is likely to prove useful.)

**IRON WOOD (Tasmanian), *Notela lignustrina*.**—An exceedingly hard close-grained wood, used for mallets, sheaves of blocks, turnery, &c. Diameter, 9 inches to 18 inches. Height, 20 feet to 35 feet. Sp. grav. about .965.

(Very hard and heavy, takes a good polish.)

Of the other woods, the native Box, *Bursaria spinosa*; White-wood, *Pittosporum bicolor*; Pink-wood, and the native Pear, are used for turnery; the native Cherry for tool-handles and gun-stocks; while the Dogwood, *Bedfordia salicina*; and Honey-suckle, *Banksia australis*, are very suitable for cabinet work.

Several kinds of fibres are exhibited, such as the Kurrajong, Lyonsia, Blue Gum, Stringy Bark, and a kind of Stipa, some of which may be turned to useful account, and though scarcely within our scope, the opossum furs are particularly worthy of attention on account of their good appearance, warmth, and agreeableness to the touch.

It will thus be seen that though Tasmania has brought forward but few examples of manufacturing skill, she has yet produced an exhibition of natural products of eminent utility to the rest of the world. The collection of timber in particular coming at a time when the growing scarcity of ship-building materials is beginning to be felt, cannot fail to attract the attention of those connected with our mercantile and war marine; the various woods and their adaptations will become the subjects of careful experiment, and their good qualities being once established, that which is now an encumbrance to the soil will become a source of wealth. The exhibition in the Tasmanian department will likewise serve another end of not less importance, for it furnishes the intending emigrant with incontestable proofs in its agricultural and horticultural productions of the great capabilities of the climate and soil of the rising colony which it represents.

The weight of the best sample of Oats in this department is 51 lbs. 10 ozs., not 56 lbs. 10 ozs. as printed last week.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE practice of keeping the surface of the ground loose and open about growing crops is most advantageous, especially to stiff, loamy garden lands. From inattention to this apparently simple matter, it is evident that both the absorption and evaporation of moisture must be impeded, and thus the advantage of atmospheric influences considerably diminished. *Broccoli*, the decline of some of the earlier quarters of Peas, Beans, Cauliflowers, and Spinach, will afford the opportunity of making further additions to the stock, or of planting a crop of Coleworts. Where there have been any planted between Peas, the latter should be removed as soon as they are done with, the ground to be dug, and the intermediate spaces filled up. *Cauliflowers*, the plants which are now coming in should be duly supplied with water, which is the means best adapted to produce close, compact heads. *Chervil*, make a sowing for autumn use. *Endive*, continue to transplant as circumstances require. Another sowing may also be made. *Lettuce*, keep a succession sown and planted, they will now require a good supply of water to make them crisp. *Onions*, bend them down by hand in order to accelerate their ripening to get the ground clear for winter greens.

### FLOWER GARDEN.

This is a good time for removing dead wood from shrubs, and controlling their luxuriant growth by careful pruning. Attend to the tying-up of Hollyhocks, Dahlias, &c., and go over the masses of Verbenas, &c., frequently, for the purpose of regulating their growth so as to keep them orderly and neat. Sow Ten-week or Intermediate Stocks for spring-flowering; transplant Brompton and Queen Stocks, and if the situations in which they are to flower are not at liberty, prick them out in nursery-beds, allowing them plenty of room to prevent weak growth. Pink-pipings to be planted out as soon as they are fairly rooted, the beds to be made of well-decomposed dung, loam, and leaf mould in equal portions. A second crop of pipings may be put in if an increase of stock is required. Attend to the layering of Carnations and Picotees as speedily as possible. Should the weather be dry attention to be paid to regular watering. Take off the rooted offsets of Auriculas, place them round the sides of the pots, and then in a shady place. Prick-out seedling Polyanthuses on a north border or any other shady situation.

### FRUIT GARDEN.

Keep the shoots of all fruit trees closely tacked to the walls, and afford the fruit as fair an opportunity of exposure as possible. Trap carwigs and ants about the trees. See to the speedy formation of Strawberry-beds. Examine the figatures of stocks budded in July. Budding may still be performed. No superfluous shoots ought to be kept on Peaches, Nectarines, and other fruit trees on walls and espaliers after this month, so that the wood for the ensuing year may be well ripened.

### STOVE.

Much moisture and free ventilation are to be provided here during hot weather. Indeed too much atmospheric moisture

can scarcely be supplied if free ventilation is given. Let all faded blossoms be constantly removed, straggling growth pinched back, and exhausted stock cut-in previous to making a new growth. Bear in mind that the autumn is fast approaching, and that the sooner new growths are encouraged, in order to become somewhat hardened, the better. See that the Orchids growing on blocks and in baskets are properly supplied with moisture at the roots, and to prevent any mistake handle every plant at least once a-week, and immerse those found to be dry in tepid water until the material about their roots is well soaked. Syringe slightly morning and evening, and sprinkle the floors, &c., frequently so as to keep the atmosphere thoroughly moist.

### GREENHOUSE AND CONSERVATORY.

The conservatory-borders to be liberally watered, and care to be taken to insure a sufficient supply of water to any plants which have recently been turned out of pots. Let the growing plants having occasional stoppings, as recommended in the stove department. New Holland plants and Heaths that have for some time been standing out of doors, should receive particular attention if wet or windy weather prevails, to ascertain that they are in a proper state as respects moisture, and that the mildew does not prevail. Some of the best and most tender varieties should be secured by placing them in cold pits. Keep the creepers neatly trained and occasionally washed with the engine or syringe. Cinerarias for early blooming should now be growing freely, and should be shifted when necessary, for if they are to form large specimens for flowering in the winter they must not be permitted to sustain any check. See that a sufficient quantity of the various kinds of Scarlet Geraniums, Heliotropes, and Chrysanthemums, Asters, and other autumn-flowering plants are duly encouraged.

### PITS AND FRAMES.

If a good stock of Scarlet and other Geranium cuttings has not already been put in, let no time be lost. Proceed afterwards with the general bedding stock. Endeavour annually to get some new plants, and to vary your arrangement in the flower garden that the scene may not be monotonous. W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

SOWED Atkin's Matchless Cabbage, London Market, &c., for the main spring crop. The glass has been low for some time owing to brisk drying winds, and though rain has threatened little or none has come. The ground has, therefore, been very dry—a matter of importance to us where we have little water to depend upon, except what we collect from the heavens. In sowing the above, and also Lettuces and Endive, the ground was dug, then raked moderately fine, sown, the soil patted down, well watered, and the seed covered with dry soil, refuse from the potting-bench. If the weather should be at all dull this will suffice. If the weather should continue bright, a few branches or mats, or a little litter will be put on before the seeds are up. For the last week, though the sun heat was seldom up to 70° in the shade, the sun and the wind together were very parching, and had a tendency to crack all the ground exposed to it. The light fork and the hoe were used to loosen the surface to keep the moisture in and the heat out, which latter but for the moisture we would not have minded, as the soil is not by any means up to the summer warmth as yet. Forked all along by the sides of the rows of Peas to prevent this cracking; gave them waterings in addition. Would have used manure water, but the tank is empty; or at least a little soot along the rows, but our soot-heap also is exhausted. So shall be glad to see the chimney-sweep coming to look after the chimnies again. Have asked him to bring a bag or two of his pure and undefiled net time he comes. There is no more valuable help than soot when obtained unmixed with earth, sawdust, &c. Our tradesman prides himself on selling it pure, and he says it pays him best to do so, as farmers depend on the article and cheerfully pay him accordingly. No soot goes away from our premises, that is one of the things I manage to get hold of. For all such accessories gardeners must keep their eyes open and never mind being accused for having an eye to everything, provided they fairly and honestly can get hold of it. The disagreeable affair is to obtain a character for coveting much that you may see without any satisfying of the desire; but then even we must make the most of what little we may manage to obtain. If the weather con-

time so dry, will be forced to mulch Peas, Beans, Cauliflowers, &c. At present, after stirring and then watering, threw a little dry soil over the sides of the rows after watering, to keep the moisture in. It will go off fast enough through the leaves and stems of the plants, without full permission to rise from the ground again by evaporation. Threw a dusting of soil over watered Celery-beds, as unless for the earliest it is too soon to earth-up. As fully explained some time ago, the bit-by-bit earthing-up of Celery an inch or two at a time, as most gardening books tell you, is the most fruitful source for causing early Celery to bolt up into flower-stems. Encourage such to grow, tie up the heads if you will, but do little as to earthing-up until a month before you want the plants for use. This practice is founded on the natural character of the plant, and when followed there will scarcely be ever such a thing as a run head. Proceeded with digging-down Strawberry ground for winter greens, Lettuces, &c. Just to show how taste changes, I may mention that for a long time it was a matter of no importance with me whether I had cabbage Lettuces or not, but now this season all the go seems to be for such Lettuces as the Victoria and the Marselles, not only for steaming, but for salad. Well, in all such matters the demand is the best remembrancer as to the supply to be provided. Sowed the first bit of Spinach for early winter use, using the Prickly or the Flanders variety for this purpose. We generally sow in rows from 15 inches to 18 inches apart. This crop likes a fair amount of organised material, but I could give it nothing but rotten short grass and a little rubbish-heap material, keeping it well down. Used in moderation, all such succulent vegetables like such rough manure. In last week's Number, page 361, in the paragraph on Mushroom-rooms, there is a period, which as printed is worse than nonsense. It begins, "I seldom bother with them elsewhere," &c. It should read, "I seldom bother with them in summer in a common Mushroom-house, above the ground; they are so apt to come thin and maggotty." In such a season as we have had there would have been no difficulty in getting crops in a common Mushroom-house. In such a hot season as the last in this part of the country, there would have been difficulty, and hence the propriety of recommending cellars and sheds out of doors in summer, or a shady place under trees. The mistake above has led to some inquiries being made direct to me instead of through the Editors, which is against rules; but the above correction will make all smooth sailing. The very interest such matter excites shows that Mushrooms, especially in the small button state, are fast becoming a necessary ingredient in the best dishes and the most famed cookery. Where such things are wanted all the year over, I only state my approval of the open shed or the shady place in preference to the common Mushroom-house, because it has saved me much bother and the unpleasantness of not having a thing fit for use when wanted.

#### FRUIT GARDEN.

Planted-out Strawberries; watered those laid in pots. Put a fire in Peach-house from which the fruit was all gathered, and smeared the pipes with sulphur, so as to give a start to any red spider that might be left; shutting-up the house, and giving but little air and heavy syringings next day, and since less air than usual, in order to keep up a moist sulphury atmosphere, and, the roots not being over-moist, to help to harden the wood thoroughly. Some fly appearing on Melons and Cucumbers, syringed early with soot and lime water holding a little sheeping in solution; and when the leaves were dry placed a shallow box of bruised laurel leaves—say a peck for a two-light box, inside the frame, and shut it up. A syringing next morning and a second application of the laurel leaves bruised seemed to settle every insect that was then alive. I believe that such a remedy would pretty well kill everything; but then, if too much were used it would kill the plants too. As stated some time ago, great care must be used in all such remedies, noticing the age and the state of the plants, &c. This spring I put two Peach trees in pots much infested with the black fly into a fumigating-box, used a Neal's pastil, allowed the trees to remain for three or four days, and then syringed them well: not a fly appeared afterwards, not a leaf was injured, and the fruit swelled nicely. A few days afterwards much less of the pastils were used for some nice Geraniums that had some fly; and if the fly was not destroyed we could not say the same as respected the fine foliage, most of which was much injured. Other things were tried—some with full success, others quite the reverse; and I could not form any correct idea as to the cause of success in one case

and failure in another. Two good gardeners were here the other day and asked me what I thought of the pastils. It would appear that both, and also a neighbour, relying on the recommendation of an authority in such matters, had tried the same specific, and irreparably injured some of their best plants. I mention this, not disparaging the pastils, but merely showing that just as in the case of the best remedy—tobacco, which sometimes kills plants as well as insects, that much depends on the state of the plants at the time. Taking such things into consideration, the simplest remedy is often the best. If we catch and kill, in other words squeeze and syringe, there will often be less time lost than by any other mode, and there can be no question as to the security.

Proceeded, as time would permit, in nipping young wood on fruit trees, shortening-in breastwood, and watering heavily trees in orchard-house, doing it at several times to prevent the fruit being thrown off. Find that in such weather the soil in such houses dries so quick, that I would have mulched if there had been any nice thing to use. Find also the importance of tanks for such houses, as all the rain that fell on the glass during the season will be transferred to the pots and trees inside if we happen to have five days more of such bright windy weather.

#### ORNAMENTAL GARDENING.

Proceeded with potting hardwooded and softwooded plants, giving them a shady position at first; layering Carnations, striking Pinks, Cloves; budding and propagating Roses; tying-up Dahlias and Hollyhocks, Pentstemons, Phloxes; regulating flower-beds; and not only bushing Calceolaria-beds, but running a string round them to prevent the wind breaking them and sweeping them away. A gentleman visitor expressed his surprise to the workmen at what he called the uselessness of this bushing of beds (which, however, he could not have seen without looking for it somewhat narrowly), as being done nowhere else, a waste of time, &c. Without it, it would be a waste of effort to make flower-beds at all here. Before now we have found half beds, tops and roots, careering over the park. Thus circumstances alter cases, though many wise people never can be made to understand such a simple thing. We have commenced getting a little sandy loam from the sides of the highway, preparatory to commencing bedding-propagating before long. Our chief work, however, for the last eight days has been securing and watering where most essential flower-beds, and especially those in which the centre was considerably raised. The water being scarce shortly after it was applied, the hoe was employed to level the light material used as top-dressing, and to loosen all the outsides to prevent cracking. By thus keeping the surface loose and moved little water is needed, and what is given is made to do its best in keeping the soil at the roots moist, whilst the surface is loose and dry. In extreme cases short grass might be used for mulching, but it is very littersy-looking, and moss would be little better unless it were fastened down and kept moist. Then an outside border next the grass would look very nice. There would be little use anywhere else now, as the beds are getting choke full.—R. F.

#### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the department writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.,"* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**COCOA-NUT FIBRE REFUSE (A Working Man).**—Do not make a mistake—it is the snuff-like powder, not the fibre, which is useful. We should apply it for Potatoes when digging the ground for planting. It would improve the stiff soil with which you intend to make a Peach and Vine border.

**PERILLA (J. C.).**—Perilla nankinensis requires the same treatment as Barley, with the help of a hot bed or place—that is, to be sown every spring and reared like the little blue Lobelias, and then to be planted out. It comes easy enough from cuttings, but the plants will not stand over the winter to pay.

ATRIplex HORTENSIS (*Idem*).—This also must be from seeds annually, to be sown out of doors in the middle of April, or any day from September to April; but the April-sown seeds will give plants just as early as if the seeds were sown in October. All of ours come from self-sown seeds in the autumn; *Gazania splendens* from cuttings in September and kept like blue *Lobelias*.

STRIKING CARNATIONS (*J. C.*).—This is the time to put them in under a hand-glass in a shaded place, and the afternoon, about five to six o'clock is the best time of the day to water them; but they do not want much water, only that the soil should be moist and no more. But the "names." What have you been thinking of? Why their name is legion; we have known over five hundred names in our day.

PLANTATION OF LARGE TREES (*Patelin*).—Large trees to grow fast to screen a place, and to require little "looking after," near Bickley, are, of all other things, the easiest to find and the soonest told. But you are on the wrong scent altogether, it is simply a waste of time and money to plant "as large trees as can be put in." First of all, see that the whole space is most thoroughly trenched, and the soil is well mixed, not thrown over in layers as some do. Then take moderate-sized plants, not large or small, but well-rooted, also about equal quantities of evergreens and deciduous. The evergreens to be Firs, Spruce, and Pine, a few *Lomboc* Oaks, *Tunkey* and *Scarlet American Oaks*; *Cobbett's Loest*, or *Robinia pseudacacia*, common Birch, *Mountain Ash*, *Laburnum*, *Acer pseudo-platanus* or "Park Plane," *Horse-chestnuts*, and some worked *Thorns* to be near the outsides with the *Laburnums* and *Mountain Ash*. All these will soon take care of themselves; but you ought to keep the ground clear about them for the first three years.

DAHLIAS (*J. L.*).—All your Dahlias will soon be right enough. The first blossoms often come badly in such a season as this. This is the eleventh hour to talk about selections of Dahlias; wait a while, and you will see all the best kinds of the last few years in our autumnal reports of them.

PINK RINGS ON LEAVES (*W. H., Teignmouth*).—They are Oak spangles, which many persons have mistaken for fungi, and they are formed by the larvae of a minute Cynips, called by French naturalists *Diplolepis lenticularis*. The antennae of the perfect insect are blackish, a little longer than the thorax; the whole of the body is black and shining, and the legs yellow. They are sometimes so abundant in the south of France that in autumn when the Oak trees are shaken they fall like rain. They detach themselves from the trees in October, and remain buried in the earth till spring, when the perfect insect appears. These spangles are certainly very pretty objects for examination under the microscope. We know of no mode of destroying them.

DATERA ARBOREA (*M. F., Limerick*).—Give no extra heat to your plant now. If the weather should be cold give maure water at a temperature of from 80° to 90°. Continue this for a month, and the plant will be sure to bloom, if it has blooming blood in it. This is all you ought to do this season. As you have picked out the terminal buds give little water, and as much sun as possible after that; prefer, in fact, that the plant should show a little distress in October than otherwise, and this will ripen the buds well, and you will be almost sure to have a mass of flowers next season. When ready to bloom it is hardly possible to feed the plant over-much. This should be discontinued when it is desirable to have the plant ripened in its wood. When once a plant blooms freely, and it gets plenty of sun in summer, it generally gives little trouble afterwards, except storing free from frost, pruning back, fresh soil when fresh growth has commenced, and plenty of nourishment to give strength to the young shoots loaded with blossoms.

WHITE LILIES (*Idem*).—We presume you mean *candidum*. We have known it growing many years in the same place and to do well, with a top-dressing every year of leaf mould. Perhaps your soil has become exhausted. At any rate, a fortnight or so after the leaves and stems are fallen it would be advisable to take up the roots and replant in deep, rich, sandy loam, using very rotten leaf mould as the enriching medium, and sharp sand in moderate quantity as the lightening medium, if the ground is very stiff. The soil should be well firmed about them, and a mulching of very rotten dung and quicklime put over the surface. This Lily will not stand moving after growth has commenced to any extent. Such moving will injure its strength and beauty for years. It would be much the same as sending home bulbs from the Cape when the growth was appearing; then hardly any care or trouble will ever restore them to vigour.

GREEN MOSS OR SCUM ON GLASS (*Idem*).—For this which collects on the under side of the glass in a greenhouse, we know of no remedy so effectual as soap and water, and a fair portion of that most valuable recipe for removing all kinds of filthy encrustations—elbow grease. Such a house should generally be thoroughly washed, woodwork and glass, twice a-year. Mr. Thomson in his work on the Vine, lays great stress on the thorough cleansing of the house after the fruit is cut, and the Vines pruned, and not without reason. Without cleanliness there can be little satisfactory gardening. In fact, this cleanliness in minutiae often forms a good test for deciding whether a man is anxious and persevering, or a mere six o'clock man, passing through a number of hours in dull, plodding fashion, and then letting things succeed if they will, or die if they will, and influenced little by either. These encrustations are just as natural as fly-marks and cobwebs on a window never cleaned, and both tell their own tale. On once entering greenhouses under the care of one of the brightest geniuses in gardening, it was vexing to see the laps thoroughly festooned with filth. A morbid melancholy took possession of the manager, and the garden soon became a counterpart of the state of his own mind. The employers with great kindness never noticed the change, and chiefly owing to their concealed efforts, the usual buoyancy and activity of mind were restored, and the sight of the houses told us all that, even before we had the pleasure of encountering the sparkling eye of our friend. Take the plants all out, syringe the house all over, and wash with water holding a little soap in solution; but if there are creepers in the house at all thick, it will be best to use water alone. It is well not to use much soap, or it may take off some paint as well as filth. Be assured that all such appearances speak of slovenliness in gardening.

PALOX CUTTINGS (*Idem*).—We presume your seedling is a variety of *Drummondii*. You had better save the seed, if particularly fine. If you can get a few shoots on the plant not showing flower, and from 2½ inches to 3 inches long, slip them off and plant them in sandy soil under a bell-glass or hand-light. If not, wait until the seed is ripe, cut the plant over, and take the shoots that come.

GREENHOUSES FOR THE MANY (*G. S.*).—The new edition is ready, and may be had by application at our office, and enclosing seven postage stamps.

SPERGELAS (*Cramand, N. B.*).—None of them will do any good under trees where grass cannot get a hold.

SHRUB FROM THE CRYSTAL PALACE (*A Subscriber*).—It is *Spiraea arifolia*, a fine thing to stand out on the glass for a specimen.

LOBELIA PAXTONIANA (*Idem*).—This fine new edging *Lobelia* will, probably, not come true from seeds; but some one in the trade will surely take to it, and furnish the country with it next spring in the usual way.

SITUATION TO HARDEN-OFF AZALFAS (*An Old Subscriber*).—Pots answered last week. When Azaleas have finished their growth the terminal buds will become prominent, and the wood will begin to assume a brownish hue. After that Azaleas may be kept in the greenhouse, may be placed in cold pits, with lights over them, but plenty of air back and front; or they may be set in a sheltered place out of doors, keeping in mind that though the plants will stand sunshine the pots should be protected from it.

SUCCULENTS FOR GREENHOUSE (*H. B.*).—You will find much information in various volumes, "Window Gardening for the Many," &c.; but we are so convinced of the suitability of succulents for those who have an eye to beauty and to the grotesque in form, and but little time at their command, that ere long we will devote some more attention to a suitable list and culture. In the meantime you may be on the out-look for *Cereus*, *Euphyllium*, *Mesembryanthemum*, *Haworthias*, *Crassulas*, &c. Few of these plants will require much water in winter, and will not feel much if neglected for a day or two in summer.

VINES (*A Young Gardener*).—Your Vines have just done of their own accord what Mr. Thomson, of Dalkeith, has been doing by art for some seasons past. They have gone to rest in the summer. Now, if you seize the opportunity and start them in August, you will be able to do what that great gardener has done—viz., place new Grapes on your master's table on New-year's Day. You should read Mr. Thomson's papers on the subject in the "Florist and Pomologist," where you will learn all about it.

NAMES OF PLANTS (*Gay Street, Bath*).—It is one of the *Hepaticæ*, or *Liverworts*, *Marchantia polymorpha*, commonly called *Liver-green*. Not at all uncommon. (*Norfolk Subscriber*)—*Berberis aquifolium*. Sow as soon as ripe. (*Guisbro'*).—1, *Platanus orientalis cuneata*; 2, *Alnus glutinosa laciniata*. (*J. Straghan*).—A *Mesembryanthemum*, perhaps *lepidum*; but the specimen is insufficient. (*Ignoramus*).—*Pteris hastata macrophylla*, a hardy greenhouse Fern. The leaf is that of the variegated variety of *Arabis albidula*. (*A. B. W.*).—It seems to be nothing more than *Reseda fruticulosa*. It is not a *Mignonette* in the correct sense, as that name is only given to *R. odorata* and its varieties. (*J. D.*).—1, *Trifolium arvense*; 2, *Galium verum*; 3, *Lepidium campestre*; 4, *Verbascum thapsus*.

### POULTRY, BEE, and HOUSEHOLD CHRONICLE.

#### POULTRY SHOWS.

- AUGUST 25th, 26th, 27th, and 28th. CRYSTAL PALACE. Sec., W. Houghton. Entries close July 26th.
- AUGUST 27th. COTTINGHAM. Sec., Mr. J. Brittain. Entries close Aug. 20th.
- AUGUST 30th. HALIFAX and CALDEN VALE. Sec., Mr. W. Irvine, Holmsfield. Entries close August 16th.
- SEPTEMBER 2nd. POCKLINGTON, Yorkshire. Sec., Mr. T. Grant. Entries close August 26th.
- SEPTEMBER 4th. WARFIELD and WEST RINGING. Sec., Mr. J. Croxland, jun., Entries close August 23rd.
- SEPTEMBER 9th. WORSLEY and ARNLEY (near Leeds). Sec., Mr. Robert Hoyle, Ainley, near Leeds.
- SEPTEMBER 9th and 10th. CALNE. Secs., A. Heath and F. Baily. Entries close August 28th.
- SEPTEMBER 10th and 11th. MANCHESTER and LIVERPOOL. Sec., Mr. T. B. Ryder, Church Street, Liverpool. Entries close August 11th.
- SEPTEMBER 25th. STAFFORDSHIRE. Sec., Mr. W. Tomkinson, Newcastle. Entries close August 25th.
- DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John P. Lythall, 14, Temple Street, Birmingham.

#### FATTENING YOUNG FOWLS.

(Continued from page 363.)

THE method of practising fattening poulardes reduces itself to these principal conditions:—

- 1st. Among all the young cocks and pullets of the year to choose the best, and those that possess the qualities we have named.
- 2nd. Not to have recourse to mutilation, such as is practised on capons and even on hens in some places where they are fattened.
- 3rd. To prepare a dark place where little fresh air is possible, and where the birds are lodged in narrow coops without being too uncomfortable.
- 4th. Not to clean out the birds, or to remove the dung while the birds are fattening!!!
- 5th. To prepare the fowls for forced feeding during eight or ten days before they are submitted to cramming.
- 6th. To cram them quickly and cleverly.
- 7th. To give them two meals in twenty-four hours at regular intervals.
- 8th. Not to make it essential that the birds shall all swallow an equal number of crams; to be guided in that respect by the size of the crop, which during the first few days should be moderately filled. Later, it should be quite filled but without excess.
- 9th. To confine oneself to the food named without making

the least change, except altering the quantities of the same ingredients if it is thought advisable.

10th. To learn to discern the different stages of maturity in fattening, and to watch the subjects of it, that where it is necessary some may be withdrawn, although not quite fat, lest they go amiss or die.

Having duly observed all these rules, good results will follow.

In order to come to a calculation of the expenses of fattening, it is necessary to establish an average of a number of fowls. Then, suppose that each poularde during forty days of treatment causes a consumption of thirty quarts of meal thus composed:—

	Fr. Ct.
Three double decalitres of buckwheat, at 3 <i>fr.</i> .....	9 0
Two double decalitres of barley, at 3 <i>fr.</i> .....	6 0
One double decalitre of oats, at 1 <i>fr.</i> 50c. ....	1 50
Total .....	16 50

	Fr. Ct.
This disbursement of 16 <i>fr.</i> 50c. for 120 quarts of this meal or grinding, will suffice to feed four fowls. This allows for one, 4 <i>fr.</i> 12-50, which sum being multiplied by fifty fowls, will give a total of ...	206 25
Assume that 1200 crams—that is, twenty-four per head for two meals are necessary. Fifty centimes worth of skimmed or watered milk to mix them for forty days, will amount to .....	20 0
Forty days work at 3 <i>fr.</i> each, quarter of a day for a woman at 80c., to make up crams—say for forty days .....	128 0
Two kilos, five of hard for the last ten days, twenty-five decagrammes in cakes, at 1 <i>fr.</i> 60 the kilogramme .....	4 0
The purchase of each fowl in a lean state being taken at 1 <i>fr.</i> 50, fifty will cost .....	75 0
As the place that serves for a feeding-house, and the construction of the feeding-coops are almost nominal, as well as the expense of grinding, this fictitious cost may be advantageously counterbalanced by the produce of the feathers, and the coarse bran taken from the meal. Let it stand then .....	6 0
	433 25

This sum forms the necessary outlay to feed and attend to fifty poulardes. If this be divided by 50, it will be seen the expense per head is 8 <i>fr.</i> 26c., and as it must be admitted, large as the sum may seem, that there will still be one-sixteenth loss, each poularde will cost about 9 <i>fr.</i> It will then be necessary to add to the expenses of the fifty poulardes, 25 <i>fr.</i> , and this will make the amount .....	458 25
Now, if an average of 6 lbs. weight can be attained for each poularde, the result will be 300 lbs. As it always reckoned they will realize 3 <i>fr.</i> 60c. per kilo. (taken as 2 lbs.), the produce will be .....	540 0
Deduct disbursements .....	458 25

The profit will be..... 81 75

—(Translation from "Le Poulailleur," by Mons. Jacques)

[We give the translation and figures as they occur. At a future time we will remark on them.]

(To be continued.)

### SHEFFIELD POULTRY SHOW.

The Exhibition of poultry at Sheffield was this year held under an entirely different management to those of preceding years, and took place at the newly-opened Cremorne Gardens, within a comfortable walking distance of the town. The weather being so favourable, the attendance was most satisfactory, embracing members of almost every family of distinction in the neighbourhood, and the grounds even on the first day of opening were, therefore, well filled. We are informed, too, that on the ensuing days, when the price of admission was lowered, the accession of numbers was so great as to even exceed the anticipations of the most sanguine among its projectors. It must be borne in mind, however, that poultry was not the only object of attraction presented to the public; for combined with it was held one of the largest and best shows of dogs that has ever yet been got together. Horses, also, were exhibited for prizes, the competition being restricted to hunters only, the result being as goodly a muster of first-rate nags as any rotary of the fox-hunt could desire.

A great variety of manufactured articles were on the ground, and perhaps nothing connected with the Meeting caused so great an amount of general interest as an armour plate of 4½ inches thickness that had been subjected to the test of both Armstrong guns and likewise shells that had been, previously to firing, filled with molten iron. In these warlike days, when public attention is more than usually directed to matters of this nature, it is almost needless to say this portion of the Exhibition was thronged to excess, and many were the expressions of astonishment that were involuntarily uttered when viewing for the first time the frightful effects these missiles had produced. A plate newly manufactured, of the same strength, exhibited alongside of the one above re-

ferred to, added by contrast much to the information of visitors. The scene was certainly strange, and one that inspired the minds of the reflective with thankfulness to see on all sides so far as the eye could reach—and the view a most extended one—our own happy land glowing beneath a sunny sky, with corn fast ripening to the husbandman; nor were there wanting hopes again and again audibly expressed among the company that ere long our Atlantic brethren might again enjoy the blessings ever attendant upon peace.

But to return to the poultry. We did not anticipate first-rate condition among the adults; it was not to be expected, as the moulting this year is unusually premature; but we were certainly surprised at the general excellence of the classes, for decidedly we never visited a Show where the competition was so good and universal. The *Spanish* classes, whether old or young, were excellent throughout; Mr. Tebbay, of Preston, taking the lead in adults, and Mr. Rodbard showing pens of most enviable chickens.

The *Grey Dorkings* were equally good, Lady Julia Cornwallis and Mr. Key exhibiting specimens that not only secured for their owners present high positions, but which, we doubt not, will be heard of equally favourably at ensuing Shows. Only a few years back the attainment of such perfection would have been pronounced impracticable.

All amateurs admit nothing interferes so materially with an exhibition of Game fowls as moulting time. At Sheffield the *Game*, with few exceptions, were in really indifferent feather; indeed, it will generally take a month from the present date to insure plumage fully matured: consequently this portion of the Show, though by no means lacking the best of specimens, was not nearly so attractive as usual.

In *Cochins* the Show was perfection, the Partridge-coloured being, perhaps, the best represented.

In the *Hamburgh* classes the Golden-spangled were decidedly the best variety shown.

Nor were the *Red Caps* (a breed almost confined to the locality) less commendable than in former years.

The *White-crested* were the best of the *Poland* class, and the *Schbricht Bantams* were especially good.

Although the entries were not numerous, the *Geese* and *Turkeys* shown were very superior; nor were the *Aylesbury Ducks* and the *Rouens* less worthy of mention.

The *Game Bantam* classes were better than we remember ever seeing at a Sheffield Show; but moulting was almost universal among them.

We cannot close our remarks without expressing our satisfaction that the present Meeting has proved so successful—a "first effort" of a new Committee rarely exhibits so little to complain of; and we do not doubt, with the experience now gained, future exhibitions of this Society will be regarded with even increased popularity.

### PIGEONS.

The show of Pigeons was fully as numerous as that of previous years, and included many very first-rate specimens. In *Carriers* Sheffield is always powerful, one of the best breeders and most successful exhibitors of that variety living in the town. The first prize was awarded to a magnificent young black cock of very good carriage and colour. The blue taking the second was an older bird, one of the best of that colour we have ever seen. The third went to a dun. The first-prize *Carrier* hen was a very superior bird, though somewhat out of condition. In *Pouters* the best bird in the class in limb and feather was Mr. Taylor's young mealy cock. Mr. Smith's highly commended red was also very good. The prize for *Short-faced Tumblers* went to a good pair of Almonds. The *Fantails* were very good, whites winning the prizes. In *Owls* the pretty little white African variety took first. In the "distinct variety" class there were numerous entries. The first prize was awarded to a pen of feather-legged, silver-chequered, turn-crowned, rock-headed birds that have lately been shown as *Icelanders*; they were pretty, and good specimens of the variety. The second prize went to a good pair of black Swallows. We had omitted to mention the *Barbs*; they were broad-skulled, large-eyed birds; the second prize, yellows, being apparently a pair of cocks. But, considering the very short time allowed to the Judges, we are only surprised that there was so little to complain of in the awards.

*Carrier* (cock).—First, J. Wadsworth. Second and Third, T. Colley. Highly Commended, J. Percival; T. Colley; H. Merris. *Carrier* (hen).—First, W. Cannon. Second and Third, J. Wadsworth. Highly Commended, J. Dotchon. Commended, A. L. Sylvester. *Pouter* (cock).—First, H. Yardley,

\* It will be well to say we will take the frame at 25 to £1 sterling.

Second, W. Taylor. Third, H. Beldon. Highly Commended, J. Smith. *Powder* (hen).—First, H. Yardley. Second, W. Taylor. Third, H. Brown. Highly Commended, S. Robinson. *Short-faced Tumblers*.—First, Miss Brown. Second, W. Cannan. Highly Commended, A. L. Sylvester. Commended, T. D. Walker. *Fantails*.—First, Mrs. Taylor. Second, F. Key. Highly Commended, J. R. Jessop. Commended, H. Morris. *Jacobins*.—First, W. Cannan. Second, T. D. Walker. Highly Commended, H. Morris. *Trumpeters*.—First, H. Morris. Second, F. Else. Commended, H. Yardley. *Barbs*.—First, A. L. Sylvester. Second, T. D. Walker. *Turbits*.—First, A. L. Sylvester. Second, F. Else. Highly Commended, H. Yardley. Commended, T. D. Walker. *Owls*.—First, H. Morris. Second, F. Else. Highly Commended, W. Cannan; F. Key. *Any other New or Distinct Variety*.—First, H. Yardley. Second, H. Morris. Highly Commended, S. W. Turner. Commended, S. W. Turner; T. D. Walker; J. R. Ward; and H. Yardley.

**RABBITS**.—*For length of Ears*.—First, W. Howell. Second, G. Jones. *For Colour*.—First, G. Jones. Second, W. Hudson. Highly Commended, G. Gale. Commended, B. Gale. *For Weight*.—First, W. Rollison. Second, W. Howell.

## NEWMILLERDAM POULTRY SHOW.

THE tenth annual Exhibition of the Newmillerdam Agricultural, Horticultural, and Poultry Society took place on Tuesday, the 29th ult., in a field adjoining Chevet Park, the residence of Sir Lionel M. Pilkington, Bart., at Newmillerdam, near Wakefield. The poultry entries were not numerous, but many good birds were exhibited—Mr. S. Pickard and Master Crosland carrying off most of the prizes. Dorkings, Cochins, Game chickens, Golden-spangled Hamburgs, Geese, and Bantams, were the most meritorious.

We subjoin the prize list:—

**GAME** (Black-breasted or other Reds).—First, Master G. H. Crosland, Wakefield. Second, C. W. Brearley, Rochdale. Highly Commended, J. Riley, Chickenley, Dewesbury; Master Crosland; W. Cope.

**GAME** (any other variety).—First, J. Riley, Dewesbury (Duckwings). Second, Master G. H. Crosland, Wakefield. *Chickens*.—First and Second, Master Crosland, (Black Reds and Duckwings). Highly Commended, J. Craven (Blacks); J. Riley.

**COCHINS** (Cinnamon and Buff).—First, Messrs. H. & G. Newton, Leeds. Second, S. Pickard, Dittcar, near Wakefield.

**COCHINS** (any other variety).—First, S. Pickard, Dittcar, near Wakefield. Second, J. Hazelgrave, Chapelthorpe. *Chickens*.—First and Second, S. Pickard.

**DORKINGS**.—First, S. Pickard, Dittcar, near Wakefield. Second, H. Hims-worth, Lupset Hall, near Wakefield. *Chickens*.—First and Second, S. Pickard. Highly Commended, J. Hazelgrave, Chapelthorpe.

**SPANISH**.—First, W. Cope. Second, J. Ellis.

**HAMBURGHS** (Golden-spangled).—First, Master G. H. Crosland, Wakefield. Second, J. Ellis. *Chickens*.—Prize, Master G. H. Crosland.

**HAMBURGHS** (Silver-spangled).—First, Master G. H. Crosland, Wakefield. Second, G. R. Tate, Driffield. *Chickens*.—Prize, Master Crosland.

**ANY OTHER DISTINCT VARIETY**.—First, Lady Hawke, Womersley Park, Fontefract (Brahmas). Second, Master Crosland, Wakefield (Golden-pencilled Hamburgs).

**BANTAMS** (White or Black).—First, Master Crosland, Wakefield. Second, G. R. Tate, Driffield.

**BANTAMS** (any other variety).—First, Master Crosland, jun., Wakefield. Second, C. W. Brearley, Rochdale.

**GEESE**.—First, Lady Hawke, Womersley Park. Second, J. Fawcett, Wakefield.

**DUCKS** (Aylesbury).—First, J. Walsham. Second, Lady Hawke, Womersley Park.

**DUCKS** (Rouen).—First, J. Hazelgrave, Chapelthorpe. Second, J. Hirst.

**SWEETSTAKES FOR GAME COCKS**.—Prize, C. W. Brearley, Rochdale.

The Judge was Mr. T. J. Charlton, Bradford.

## YORKSHIRE AGRICULTURAL SOCIETY.

THE twenty-fifth annual Meeting of this Society was held last week, for the fifth time in the city of York. The show of cattle, horses, pigs, sheep, and implements was very extensive; while the poultry although not numerously represented, were of equal merit, many first-class birds being shown. Black *Span'sh* formed the first classes, Mr. Cannan securing both first honours with fair birds. *Dorkings* and *Cochins* were good. In *Game*, adults, Mr. H. Adams gained first prize with Brown Reds. The *Game* chickens, with the exception of Mr. Smith's prize *Duckwings*, were an inferior lot. Mr. Cannan showed good *Hamburgs*, more particularly Golden-spangled and Silver-pencilled. Mr. Dixon also exhibited several good pens, taking prizes. As usual, the same gentleman stood pre-eminent in *Polands*, old birds. In *Poland* chickens, Mr. Newsome's White-crested Black prize pen was much admired. Mr. Dawson added another to his many honours, in "any other variety," with his noted *Sultans*. In *Black or White Bantams*, the former variety took both prizes. *Silver-laced* and *Gold-laced* respectively were successful in "Bantams, any other variety." The *Geese* and *Ducks* were excellent.

**SPANISH**.—First, W. Cannan, Bradford, Yorkshire. Second, J. Dixon, North Park. Highly Commended, J. Katcliffe, Osbaldwick, York. *Chickens*.—Prize, W. Cannan.

**DORKINGS**.—First, H. W. B. Berwick, Helmsley. Second, E. Smith, Middleton, Manchester. *Chickens*.—Prize, Rev. J. F. Newton, Kirby-in-Cleveland, Stokesley. Highly Commended, T. W. Hill, Heywood, Manchester.

**COCHIN-CHINA** (Black or White).—First, J. Dixon, North Park, Bradford. Second, W. Dawson, Hopton Mirfield. Highly Commended, A. Cattley, Tower Street, York.

**COCHIN-CHINA** (any other colour).—First, Messrs. H. & G. Newton, East Street, Leeds. Second, E. Smith, Middleton, Manchester. Highly Commended, G. Jackson, Penley Grove Street, York.

**COCHIN-CHINA CHICKENS** (any colour).—Prize, W. Dawson, Hopton Mirfield. Commended, R. Gatenby, Shipton, Market Weighton. Messrs. H. & G. Newton, East Street, Leeds.

**GAME**.—First, H. Adams, Beverley. Second, H. Beldon, Park Cottage, Bradford. *Chickens*.—Prize, J. H. Smith, Skelton Grange, York.

**HAMBURGHS** (Golden-spangled).—First, W. Cannan, Bradford, Yorkshire. Second, G. R. Tate, Driffield. *Chickens*.—Prize, W. Lawson, East Chiven.

**HAMBURGHS** (Golden-pencilled).—First, W. Cannan, Bradford. Second, S. Cliffe, Grantham. *Chickens*.—First, J. Dixon, North Park, Bradford. Highly Commended, W. Cannan, Bradford, Yorkshire.

**HAMBURGH** (Silver-spangled).—First, S. Campling, Cottingham, Hull. Second, J. Dixon, North Park, Bradford. Highly Commended, G. R. Tate, Driffield. *Chickens*.—Prize, W. Cannan, Bradford.

**HAMBURGH** (Silver-pencilled).—Prize, W. Cannan, Bradford, Yorkshire. *Chickens*.—Prize, W. Cannan, Bradford, Yorkshire.

**POLAND** (any variety).—First and Second, J. Dixon, North Park, Bradford. *Chickens*.—Prize, W. Newsome, Bingley, Leeds.

**ANY OTHER VARIETY**.—Prize, W. Dawson, Hopton Mirfield. Commended, G. R. Tate, Driffield. *Chickens*.—Prize, J. Dixon, North Park, Bradford.

**BANTAMS** (Black or White).—First, J. Dixon, North Park, Bradford. Second, E. Holdsworth, 90, Calls, Leeds. Commended, G. R. Tate, Driffield; E. Holdsworth, Leeds.

**BANTAMS** (any other colour).—First, H. Beldon, Park Cottage, Bradford. Second, W. Hodgson, Grimston, Tadcaster. Highly Commended, E. Year-ley, Wood Lane, Sheffield.

**SPANISH COCK**.—Prize, J. Dixon, North Park, Bradford.

**DORKING COCK**.—Prize, H. Beldon, Park Cottage, Bradford. Highly Commended E. Smith, Middleton, Manchester.

**COCHIN-CHINA COCK**.—Prize, J. Bell, Thirsk.

**GAME COCK**.—Prize, H. M. Julian, Beverley.

**HAMBURGH COCK** (Golden-spangled).—Prize, J. Dixon, Bradford.

**HAMBURGH COCK** (Golden-pencilled).—Prize, S. Smith, Northwram.

**HAMBURGH** (Silver-spangled).—Prize, J. Dixon, North Park, Bradford.

**HAMBURGH** (Silver-pencilled).—Prize, H. Beldon, Park Cottage, Bradford.

**GEESE**.—First, G. R. Tate, Driffield. Second, J. Dixon, Bradford.

**DUCKS** (Aylesbury).—First, O. A. Young, Driffield. Second, G. R. Tate, Driffield.

**DUCKS** (Rouen, or any other breed, not Aylesbury).—First, G. R. Tate, Driffield. Second, Mrs. Jordan, Eastburn House, Driffield.

**TURKEYS**.—First, T. Ward, Bannial Hat, Whitby. Second, J. Dixon, North Park, Bradford.

The Judges were Mr. J. O. Jolly, Acomb, near York; and Mr. T. J. Charlton, Bradford.

## GOLDEN-SPANGLED HAMBURGHS AT LEEDS.

In your Letter Box of last week's Journal you gave an answer to Mr. William Lawson, who apparently complains that the earlobes of the first-prize Golden-spangled Hamburg cock were painted. On the second day of the Show Mr. Lawson did try to convince another member of the Committee and myself that the earlobes of the first-prize bird had been painted, but failed to do so. However, we promised him that the matter should be fully looked into, and, if necessary, the bird disqualified.

Several experienced breeders were asked to examine him, and their unanimous opinion was that the earlobes were in a perfectly natural state, and such confidence had the Committee in their judgment, that they did not think it necessary to trouble the Judges with the matter. What more have I to add except that the maligned bird has (under another ownership) taken a first prize at the late York Show, with exactly the same competition as at Leeds—the only difference being that other gentlemen officiated as judges? Is not this sufficient?

Allow me, in conclusion, to say a few words about the time the Judges were allowed for performing their labours at the Leeds Show. Twelve o'clock certainly was the hour at which the Show, by the rules, was to have been opened, but no time was set for the commencement of the judging. The birds were ready for inspection at six A.M.; and it the Judges did not commence before half-past nine it was not the fault of the Committee.—ONE OF THE COMMITTEE.

I AM very much surprised to find such remarks. I can assure every one that the earlobes were perfect and free from any paint; in fact, I got the bird out of the pen and handed him to Mr. Beldon, and in the presence of Mr. G. S. Sainsbury, one of the Judges, I took out my handkerchief and rubbed the earlobes to see if they were right. As I had heard here a remark passed that they were painted, I made the remark, "If the cock can be bought for £5, he will be mine." I was as good as my word. I wrote

to the owner to advise me the price of the cock, also the price of the pen. I got the reply by return of post that I could have the pen for £5. I was so dead on the birds that I took train to Dinton, in Lancashire, and got them. Since I got the birds I have had several parties in want of them. As I had bought them for my own use, I did not feel disposed to part with them. One of our well-known fanciers, Mr. Beldon, brought a gentleman to look at them, and we bargained that I should have £10 and show them at Newmillerdam, at which place the cock again took first prize, and if I be a judge the pen will take many firsts this season, without the assistance of paint. If Mr. Lawson attends the great Yorkshire Show he will find the pen there, and if the earlobes are yet painted, I will give Mr. N. Marlor the £10 for the receipt of his patent. I think the above remarks are a sufficient proof the birds were good.—JOHN CROSLAND, JUN., Wakefield.

HAVING noticed the remarks respecting the prize pen of Golden-spangled Hamburgs at Leeds, I assure you my birds were not trimmed either in earlobes or feather. I am very sorry such remarks should have been made. I sold the pen to one of our noted exhibitors, and he examined the same at my house and told me such remarks had been made at Leeds, but he was quite satisfied the earlobes were perfect. I am sure the above party is considered a good judge of poultry, and I have known him for years as a fancier and breeder of Hamburgs, and I trust he will give his opinion on the matter.—NATHAN MARLOR.

### FECUNDITY OF HENS.

The ordinary productiveness of a single hen is astonishing. Instances are recorded of hens laying over 200 eggs annually, while, probably, 120 would be a fair average. Undoubtedly much depends on circumstances as to the productiveness of hens. Climate has great influence on this subject, and the lodging, food, and attention which are bestowed upon these animals have more or less effect in promoting their fecundity. It is asserted by Buffon that a hen, well fed and attended, will produce upwards of 150 eggs in a year, besides two broods of chickens. We find statements recorded in our agricultural journals of several instances of extraordinary products of hens, which will enable us to form some judgment on the subject. The editor of the *Massachusetts Ploughman* says, from 83 hens 7200 eggs were obtained, which would give to each hen 84 eggs for the year. A remarkable instance of fecundity in the hen is related by a correspondent:—Three pullets of the Poland breed, hatched in June, commenced laying in December following, and, from that to the next December, laid 554 eggs, averaging 155 to each hen. It seems ever to be an object of great importance in an economical point of view to secure the laying of hens during those periods of the year when, if left to themselves, they are indisposed to deposit their eggs. Old hens cannot be depended on for eggs in winter, the very time we want them most. As pullets do not moult the first year, they commence laying at an earlier period than the old hens; and it is possible so to arrange as to have eggs throughout the winter as well as spring and summer. Some hens are ascertained to lay at longer intervals than others; some will lay one egg in three days; some every other day; others every day; and we have heard of one that laid two eggs in one day. The act of laying is not voluntary on the part of the hen, but is dependant upon her age, constitution, and diet. If she be young, healthy, and well fed, lay she must; if she is old and half fed, lay she cannot. All that is left to her choice is where she should deposit her egg.—(*Californian Farmer*.)

### GISHURST COMPOUND APPLIED TO DOGS.

IN answer to the query in last Number as to the use of Gishurst Compound to clear fleas from dogs. I have never tried it for this purpose myself; but a friend, knowing in dogs, having some time back told me that he regularly used it with entire success, I showed him your correspondent's question, and asked his *modus operandi*. He breaks up Gishurst into small pieces; then, having the dog wetted, rubs with his hand till the whole coat is in a lather. This, he said, effectually cleared off all fleas, but not the burrowing ticks. Some time ago I had a dog with mange, and thinking that Gishurst, from containing sulphur, must be beneficial, it was applied, and with obviously good

results. In this case Gishurst was dissolved forty-eight hours before—half a pound to a gallon of soft water, and, if I remember, was applied by means of a large painter's brush.—GEORGE WILSON.

**BULLFINCHES' EGGS DISAPPEARING.**—In reply to "CUMBERLAND'S" inquiry in THE JOURNAL OF HORTICULTURE, I am not aware of any bird that particularly destroys the eggs of Bullfinches; but Crows, Magpies, Jays, Squirrels, Rats, and Mice will destroy the eggs and young of any birds they meet with, and it is most likely to some of them that the disappearance of the eggs may be attributed.—B. P. BRENT.

### LIGURIAN BEES.

I THINK there can be no doubt about the Ligurians being more prolific than the blacks, as I have a last-year's swarm that swarmed four times in five days in June, and is now hanging out, and I believe would swarm again if the weather had been more favourable; but having killed the drones, and there being little honey to get, I suppose there will be no chance of its doing so. I observe my bees have been able to gather a little honey the last three or four days.—A. W.

### HINTS FOR PRACTICAL BEE-KEEPERS.

[THE following address was delivered on the 4th September, in last year, to the Potsdam Central Bee-keeper's Society, by Herr Viebig, of Klein-Glienicke, near Potsdam. The speaker is evidently one of the old school of apiarians, and deprecates some of the modern innovations with earnestness and no small ability.—A DEVONSHIRE BEE-KEEPER.]

"Prove all things, hold fast that which is good."—1 THESS. v., 21.

DURING the last fifteen years the science of bee-keeping has advanced and improved far more than during the thousands which have preceded them. The author of this progress is, as every one of you knows, Pastor Dzierzon, of Carlsmarkt; wherefore also he is termed by all rational apiarians, the master of modern bee-keeping. All of you, gentlemen, have, some by way of trial, but the greater number entirely, practised bee-keeping according to the new system. Unfortunately, however, success has not always equalled expectations. The last two years have been years of probation for bee-keepers, during which many of you have not unfrequently sighed and complained that things were going so badly with your bees. Of late years I have had many opportunities of becoming acquainted with other apiaries, and have frequently heard complaints sung to the same tune. Generally, however, I found that the fault was not so much in the season, but was often the consequence of wrong treatment. We all make the great mistake of refining too much, and in seeking after new discoveries, make too great sacrifices from which we expect as great success, forgetting that success is not always proportioned to the means employed and the sacrifices made, and not considering that the making of these experiments is the business of those who pursue other objects than our own. We aim at honey-gathering; they multiply the Italian species, and endeavour to enrich science. We practise bee-keeping from economical considerations; they from passion. We are practical men; they apply their minds to the development of theory. Not, therefore, that we should restrict ourselves to the narrow circle of our merely empirical endeavours, and reject the good which theory has produced, and which may be of practical utility. On the contrary, in this we will imitate the bees themselves which gather honey from all flowers, by making the blossoms of theory practically useful, whilst we shun prolix experiments, which are attended with trouble and expense, and the results of which, however good they may appear, are very often the reverse. In short, we will take the word of our greatest poet—

"Wilt thou still farther rove?  
Look, the good is near."

It need scarcely be said that by this revolution really useful ideas are by no means to be excluded, but only that blind zeal and rage for imitation, which, neglecting that which is old and well proved, looks always for that which is new, unproved, and very often far-fetched. This false passion for novelty shall be condemned by us, for that is mostly imitated which is praised as being clever by bee-keepers whose names carry weight with

the press without considering that different localities require different maxims. By this means, also, that which really practical and experienced bee-keepers advise and recommend is but seldom followed, although the ever-true words, "Prove all things, hold fast that which is good," are especially applicable to bee-keeping. We must not entirely cast aside the experience gathered during thousands of years, but rather seek to unite it to the present system of rational bee-keeping, if not in absolute contradiction to it.

As for me, I do not join in the complaints which are everywhere made. The want of honey was complained of in the year 1860. I speak the truth in asserting that I never gathered so much as in that ill-famed year. The last year, as I heard both privately and at public meetings, entirely ruined many apiaries, whilst others were reduced to a modest minimum. I kept last autumn and through the winter eighteen hives—namely, fifteen boxes, and three straw hives. The boxes were closely examined and the deficient food supplied; the straw hives were weighed, and, by means of food given to them, made able to stand the winter. I never put my stocks during winter into a cellar or other room—I should only do it if I feared their being stolen. In their wild state bees must winter in the open air, and there they are stronger and more diligent than our domesticated bees, although the former are less sheltered from the cold than the latter. The bees will, therefore, during winter breathe the pure atmosphere and not the damp cellar air. The only reason why bees are generally brought into cellars is to protect them from cold; but this can be done at least as well in the bee-house. I have never doomed my bees to the air of the cellar, and yet they were quite as warm on their stand as others in the cellar. To keep them in the latter has also other very disadvantageous consequences. With the greatest care and attention the appearance of light at some point or other cannot be entirely avoided; by this the bees are allured to fly out, and by this I have known them in certain cases killed in great numbers. What bees also have generally the dysentery in the spring? In most cases those which stood in the cellar. The damp air and unavoidable noises in the rooms above frequently cause an agitation among the bees, which very much promote both water-dearth and dysentery. How different is it on their stand! They are outwardly sheltered against the cold by means of wrappers (the best are pine-needles), are never disturbed, breathe the pure air, and are sheltered against cold storms by a curtain over the entrance. When there is a warm hour in January or February the curtain is removed, and the bees can employ themselves in cleaning. If they stand in the cellar this must certainly be left undone, as the transport is generally troublesome and the bees are put by it into such a commotion that a flight for cleaning would be hurtful. My stocks which were outwardly protected from cold by wrappers in the above manner have all, in spite of the cold winter, come excellently through it. They were very lively in spring, no sign of dysentery was observed, and no stock was without a queen. The loss of a queen during winter arises only from their being disturbed, for it is known that she does not grow old in this time. In their agitation the bees begin to hum, they disperse, and the queen gets benumbed or is even killed by the enraged bees.

A second plan which is frequently recommended is the removal of an old queen that a new one may be bred. I believe one makes oneself here sorrows without any necessity, as bees feel very readily the insufficiency of an old queen and kill her themselves (of course only in summer), in order to breed a new one. Although I have myself not yet seen this act of the bees, I think I have cause to infer it pretty surely from the following:—One of my Dzierzon-boxes must, according to my account, have a queen more than five years old. She would, therefore, if still alive, be no longer very fruitful; and yet is this stock particularly active. It bred many workers and but few drones. Certainly, therefore, the bees must already, during the summer, have killed their old queen and reared a young one. Also, I have boxes with queens four years old, but in none does there appear any decrease in fertility. The removing of old queens I deem, therefore, quite useless, and even a risk, although it is recommended by many authorities. Most bee-keepers would also be incapable of performing it, as it requires dexterity, boldness, and quietness, which are not often met with. In order, therefore, not to aggravate the difficulties, or create a distaste for bee-keeping, one may leave this experiment alone.

I turn now to artificial swarms. The fatalities attending our artificial swarms are, perhaps sufficiently well known; they have

either perished entirely, or become very weak stocks, whilst the boxes from which they proceeded have suffered endless evils. The best and most natural mode of increase is by natural swarms. If one keeps a few straw hives, and causes the bees therein to breed early by means of feeding, one receives swarms in favourable years in the middle of May. It can scarcely be expected that artificial swarms can be made earlier, as drones must previously exist for impregnation. It is altogether a mistake to believe that early swarms are more prosperous than later ones.

I got this year my first swarm on the 5th of June, and another on the 17th. On the 27th of June the latter had a perceptible advantage over the former. The principal thing is that swarms should issue during a fall pasture: therefore May swarms are less prosperous than those of June. But how stands a natural compared with an artificial swarm? The first has a strong people with the instinct to found immediately a separate family—it has a queen—it accepts any place which is offered to it, and flies from there immediately out for food. The artificial swarm has a weak people—it must generally be conveyed to another apiary—the instinct to form a new colony does not awaken till after some unquiet days—viz, when queen-cells have been begun. After several days the weak people (which, even with the assistance of the inserted brood, does not arrive at the condition of a weak second swarm for eight to twelve days), begin sparingly to fly out and to work. A first swarm is therefore farther advanced in one day than an artificial swarm in a fortnight. The boxes from which artificial swarms are taken are in reality only intended to give honey. If the bees, during their diligence, are suddenly disturbed—if their strength is weakened by the removal of brood-combs—they can seldom fulfil their proper purpose by giving much honey. He that would pursue bee-keeping with success should never increase his stocks by artificial but always by natural swarms.

(To be continued.)

### THIS HONEY SEASON,

I HAD two swarms about the 26th of June, and hived them into straw hives with comb and a little honey. A few days after I had another swarm, from which I took the queen by fumigation, and divided the bees between the two former swarms; but that night I heard both queens piping, and the next morning picked up a queen thrown out by one of the hives, since which I find they both have thrown out many drones; and yesterday the drones were flying out from one of the hives quite strong. Can you inform me how I can tell if they both have queens or not?—A. W.

[If pollen is carried freely into both hives, the probability is that both have queens; but there is no means of positively ascertaining the point unless they have either bars or frames, in which case an examination might be made, during which an interview with royalty could be obtained without difficulty.]

### OUR LETTER BOX.

BLINDNESS IN FOWLS (*Joghehah*).—Many persons, ourselves among the number, have had to complain of diseases this year that were previously unknown. Proof: In one yard we rear Spanish, Cochins, and Brahmans. We have not had a case of sickness among the latter. All the Spanish chickens die of a hard swelling in the face, generally between the eye and nostril. We hope this is no comfort to you. You may keep fifty fowls in such a place as you describe, if the run is unlimited, and if the doors and windows are open all day. The blindness may be cured by bathing the eye with vinegar and cold water. We do not believe there is much suffering, and we think castor oil, wormwood, and ale persevered in would cure any early cases.

BREED OF FOWLS (*Subscriber, Cork*).—It is impossible to say what breed claims the bird you have described; but as the eggs all came from Silver-spangled, it is more than probable they were laid by birds of that breed. The bird in question may be a "lusus nature," or the result of a "faux pas" or "né-salliance." Your description would portray an indifferent specimen, but not of necessity an impure one. Were it not for the Lark-crest, this animal may be a result of an experiment a long time ago.

### LONDON MARKETS.—August 11.

#### POULTRY.

The market goes on without much fluctuation. There is an unusual trade which carries away all that is left by the ordinary buyers, and prevents the collapse which usually takes place when the house closes. Grouse-shooting comes in, and London goes out of town.

Large Fowls .....	3 0 to 3 6	Ducks .....	2 0 to 2 3
Smaller do.....	2 0 ,, 2 6	Hares .....	0 0 ,, 0 0
Chickens .....	1 6 ,, 1 9	Rabbits .....	1 3 ,, 1 4
Geese .....	6 0 ,, 6 6	Wild do.....	0 8 ,, 0 9
Goslings .....	0 0 ,, 0 0	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of M'tl.	Day of Week	AUGUST 19-25, 1862.	WEATHER NEAR LONDON IN 1861.									
			Barometer.	Thermom. degrees.	Wind.	Rain in Inches.	Sun Rises. m. h.	Sun Sets. m. h.	Moon Rises and Sets. m. h.	Moon's Age.	Clock before Sun.	Day of Year.
19	Tu	Athæa frutex.	29.922-29.904	72-42	S.W.	—	m. h. 53 af 4	m. h. 11 af 7	m. h. 38 11	24	3 27	231
20	W	Aizoon lanceolatum.	30.067-30.002	75-37	S.W.	—	55 4	12 7	moon.	25	3 13	232
21	Th	Sun's declin. 12° 8' N.	30.169-30.156	72-39	W.	—	56 4	10 7	25 0	26	2 59	233
22	F	Trevirana pulchella.	30.239-30.071	71-55	S.W.	.02	58 1	8 7	40 1	27	2 44	234
23	S	Manettia glabra.	30.046-30.032	79-48	N.W.	—	v	6 7	46 2	28	2 29	235
24	Sun	10 SEN. APT. TRIM. ST. BART.	30.139-30.052	72-46	W.	—	1 5	4 7	58 3	29	2 13	236
25	M	Tigridia pavonia.	30.153-30.070	75-52	N.W.	—	3 5	1 7	sets	30	1 57	237

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 71.9° and 50.4° respectively. The greatest heat, 89°, occurred on the 25th, in 1859; and the lowest cold, 32°, on the 21st, in 1850. During the period 138 days were fine, and on 107 rain fell.

THE PLANTING-OUT AT THE ROYAL HORTICULTURAL SOCIETY'S GARDEN AT SOUTH KENSINGTON IN 1862.



**M**OST alterations, additions, subtractions, and improvements have been made on the hot haste of the finishing, planting, and arrangements of 1861. And notwithstanding all the twaddle about "broken bottles" —referring, of course, to the spar glacis, and to the ground colour given to the fans and friezes of the corridors or arcades—our town garden is, most undoubtedly, the very best example in the three kingdoms of the old school of Italian design for a town garden, or for a suburban one either. Away, then, with the criticism on the design itself, and any slips of the pen or pencil which may have been made in the hurry of execution. Meantime let us note the process of planting-out, and the progress of the garden in general for the last twelve months. But first of all let me say that they have taken a leaf out of Sir Joseph Paxton's way of gaining one whole month on the London season in flowers by planting their pot-established Crystal Palace Scarlet Geraniums almost all over the garden. Let me be just also, and I must say that plan of planting out well-grown plants in the pots they were in all the spring entails just three times the usual expense of keeping up a flower garden very early in the season and very late in the autumn. Then it follows that if your flower garden cost you only £100 in keeping from May to October, and you should turn over this new leaf, be it known to you and yours and to all whom it may concern, that £300 will not more than keep one out of the fix of certain failure.

Beginning on the middle terrace next the council-room there are three pairs of oblong beds across the terrace, and along the walk which crosses the bottom of that terrace. The first pair is planted with Cottage Maid Geranium, the centre pair with two kinds of Nosegay Geraniums, and the third with the Geranium Attraction, and the whole is edged with Mint and Alyssum mixed. The soil in these wants renewing. Then up along the east side come Rhododendron-beds, Hollyhock-beds, and beds of bedding Dahlias. The Rhododendron-beds have, first, an edging of Andromeda floribunda, both doing exceedingly well; and outside three rings of flowers—Scarlet Geranium, Heliotrope, and an edging of Mint. The best

edgings of the variegated all over the garden are from cuttings put in at planting-out time just where they stand—say two rows of cuttings at 3 inches apart to make one row of edging, or, as Mr. Thomson of Archerfield taught us, how he made his edgings of Cerastium tomentosum. The best bedding Dahlias in these beds are four kinds out of six or seven kinds that are there. The best of the four is a very good dwarf yellow one called Titian; the next best is Royal Purple, which is of the same size and habit as Zelinda, which is planted next to it for comparison. The next kind is named Pigeon, one of the dwarf fancies, white and lilac; and the best white is named White Unique, but it does not seem to be so free in blooming as the rest, and there is a dingy-coloured one which ought never to have been even suggested for a flower-garden. There are abominations of colours in the Dahlias and in the Hollyhocks which no real lady can look on with approval. But the two friezes are the gems of this side of the terrace, or say they and the corresponding pair on the west side, are the pride of the arcade accompaniments; and the four are in four different patterns this year, all very beautiful, and, as far as the patterns would allow, remarkably well planted this season. In some instances there, and elsewhere in the garden, the Council of the Society and the artist who designed the plan both erred in principle by adopting too much of a good thing. I mean by attempting to make spar-coloured beds parts and parcels of groups of flower-beds, instead of ground colour only: that is a radical mistake, and an index to the value of the weight of these authorities on matters of flower-gardening.

The next question is, Would you alter them—that is, change the spar-beds to flower-beds? I would do nothing of the kind just yet. It is much better as it is, for we can afford to bear it and the blame of it: therefore, it will be a sample of a kind of work which is yet too new in this country to be generally understood and for avoiding certain errors which are very likely to creep in until the people get better accustomed to this style of decoration. A fresh hand at such designing or a young beginner might easily fall into the error as readily as Mr. Nesfield and the Council who adopted his ideas; but by seeing this example he will know how not to repeat the same error; and, therefore, the thing as it is is much more likely to teach the natives what to do, and what to avoid than the most perfect design.

The south-east frieze, or the lower one on the east side of the terrace, may be said to be a long oval not much short of 100 feet and of a proportionate width, and the planting to be done in three lines of beds, one set of beds along the centre of the oval all laid down in or on a light-coloured ground or gravel, and different-formed beds in duplicates along each side of the great oval in another kind of ground colour in gravel, all most exquisite both in the design and in the planting; but then comes the error in principle of having parts or centres of parts of beds in spar instead of flowers. Neither the Romans nor their successors in Italy did attempt to colour parts of a pattern with flowers, and other parts of

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the same pattern with coloured spar, gravel, or sand, as is here exemplified. When they used flowers, as far as I have seen in ancient authors, they made them as frames to a picture—the frames or borders in plants with or without flowers, and the patterns or pictures inside the frames—just like the glaciers, fancy figures in fancy-coloured gravels. But in the two fans even the frames of the pictures are, as it were, an allegory—so much of clay, so much of brass, gold, silver, and so on, as I shall show when we come to them.

The run of centre beds in this frieze are five groups or lobed beds, and lobes of Box in the angles, or as a four-petalled flower, and the Box to be the calyx; then the centre, where the seed-pod should come, is a diamond of coloured gravel, as low as the ground-colour gravel, and as stupid as anything any mortal ever put on paper, board, or bank. There is no meaning in it—no sort of contrast either; and as to harmony, you might just as well put a carp in a flower-pot out of the basin beyond, and set it up by a bright Scarlet Geranium. No one will ever copy such geologic polychromes, and, therefore, they had better remain as they are, like the hand-sign on Hungerford Bridge, to tell the way to the right or to the left, but never to the thing as it is.

Well, the four-lobed groups are five in number, up the centre of the big oval, planted with *Tropæolum elegans*, and in the same run are four circles of yellow *Calceolarias*. Then on each side of the oval, and opposite the *Calceolarias*, come half-circles of Scarlet Geraniums, with gravel for ground colour between the beds; but without a plan of the beds the mode can hardly be sufficiently explained. The upper frieze on this side is very differently planted. There is a bed at each end of the oval, which is three parts of a circle, enclosing a space of gravel. These are in Scarlet Geraniums and Purple King in the very highest perfection, then seven circles of yellow *Calceolarias*, and six diamond-beds alternating, in Scarlet Geraniums; and the beds on each side of the oval are in half-circles, in scarlet also and Purple King, or what you might call a blaze of scarlet, yellow, and purple; then the top with three beds only across, along the top walk, two of them being with Rose Queen Geranium, and one of *Tropæolum elegans*. Rose Queen is edged with Flower of the Day, and *Tropæolum elegans* with the Golden Chain.

Then the upper terrace on each side of the conservatory, where on the east side a big tree which had escaped the revolution puts the symmetry of the beds on either side out of joint—on the west side especially—the beds, indeed, are most perfect specimens of the highest style of our art, save the edge next the grass; and all over the garden, owing to the backward season, the edging plants do not yet fill up the space to the very edge of the grass, as all good and true edgings ought to do always and in all places and patterns whatever. And whether it be grass, Box, or the line of an architectural edging, no more room is allowed between the edging plant and the line it follows than just enough to make the two lines visible—the line of grass or Box, and the line of plants.

Next the conservatory, on either side, comes an oblong bed of the best variegated Geranium of the season; then, also, a pair of Lady Middleton Geranium, which is preferred to Tenthram Rose for its more close and more dwarf habit, as Rose Queen is preferred here to Christine for the opposite qualities—bigger and stronger in all respects. Here is a circular-bed of Lady Plymouth Geranium and variegated Alyssum, with *Coleus Verschaffelti*, all mixed, and all looking as comfortable as if they were inside the grand conservatory.

Another circle is of *Agathæa coleatis variegata*. Not so far amiss after all; but that plant was certainly not worth a first or a second class certificate, as we of the Floral Committee had given it. My ownself, as Sam would say, was hand and glove with the majority in giving the first-class prize. But "Once bit twice shy" is the saying; and I can never bring myself to believe the truth from a man who once told me a deliberate falsehood—for a man did tell me a direct falsehood with respect to that plant being a good or thoroughly good variegated plant, when I myself could not know anything of it but from seeing six little plants of it before us.

The next bed is another oblong of the new scarlet *Tropæolum* called *Eclipsæ*, which was raised last year by Mr. Headley, of Cambridge, one of the then Floral Committee. From him it passed into the hands of Mr. Turner, of Slough, who provided that bed to prove the fact: and the plant does indeed prove it to the very letter—proves *Eclipse* to be the highest-coloured of the race of *Lobbianum*, and equal to *elegans* in habit and flushness of bloom. It is a splendid bed; and indeed all about the con-

servatory are so, inside and out—vases, borders, beds, and music, and thousands of visitors from out of the International to hear and see it all, and enjoy it most thoroughly. But to be in the fashion the Society, too, must show off "an exotic bed" of fine-foliaged plants; and there it is—west side of the conservatory. The centre with *Wigandia caracasana*; Indian corn; Castor-oil plants; a row of *Selinum decipiens*, an *Aralia*-looking, softwooded, palmiferous-like plant (if there is such a word), which, in fact, is one of the great foreign umbel-plants—that is, related to our own *Angelicas* and *Archangelicas*—a very pretty plant, however, for this kind of work. The outer row is of *Perilla* and of *Coleus Verschaffelti* plant for plant; then extra beds and beds of *Dahlias* and *Hollyhocks* to the two grand friezes of the western terrace. The top frieze has six-feet-wide circles of white spar down the centre of the oval; and there are six beds of flowers embracing the circles in the form of the schoolboy's pothooks, with the points of the hooks cut off short—very pretty beds, and all exquisitely planted and flourishing, thus:—two rows of Flower of the Day in the centre of the pothook-fashion bed; two rows of Purple King *Verbena* on each side of the variegated Geranium; and two rows of *Tropæolum elegans* on the two outsides. The gravel under the pothooks, as it were, is of cream colour, and that of the centre circles is white—one of the most telling combinations in the whole garden. The last or lowest frieze is in this wise:—six beds across the oval diagonally, and six spar divisions between them; and two end beds in the lobed shape, and filled with another fine new seedling *Tropæolum* of their own raising, after the look of *Triomphe de Hyris*, and very good indeed.

The six diagonal beds are planted with the Nosegay Lord Palmerston—an immense trusser, of good habit, but, like some others of the delicate tints over the garden, the flowers get sunburnt this cold summer. This was one of my seedlings, which I sent to be proved, and they put it in the place of honour instead of in a large bed for trial. And with it I sent one plant of Nosegay *Cybister*, or the Tumbler—perhaps the very best bedder of all the race and a new style of truss. The back of the truss comes up first, and the first flowers open downwards; the truss then rolls round to put the flowers upright, or is tumbled round, from which the classic name is derived. As for the Tumbler bulb, *Sprekelia cybister*, Mr. Eyles and all the judges who have seen the Tumbler believe it to be the best bedding sort, and I hope it is; but a whole mass of it must be tried there another year, and if any other breeder can tumble in a rival to it that would please us all.

The three pairs of oblong beds below the frieze are thus:—Two pairs with *Attraction Geranium*, and the centre pair with *Punch*, all edged with *Mint* and all very good. Then the two grand pairs in the centre of the garden are bordered all round with oblong beds 6 feet wide and 22 feet in length, and circular beds between them—all quite grand. The oblong beds are thus:—three rows of the *Crystal Palace Scarlet* in the centre, and on each side a deep band of Purple King *Verbena* edged with *Mangles*. The circles are in pairs and in variegated Geraniums of sorts; and a top circle is of the new Lady Mary Scott *Verbena* from Dalkeith Palace—a fine dark crimson sort. The patterns inside these frames are very intricate, but the planting is much better than last year. The finest masses are of *Brilliant*, and they are brilliant. Mrs. Vernon Nosegay, *Aurea floribunda Calceolaria*, *Tropæolum elegans*, and the old crimson Nosegay, with smaller beds of *Mimulus cuprens*, a new and more scarlet *Orach*, the *Amaranthus melancholicus*, which promises fair, and several others, complete the patterns of the fans without an axis.

Then the two side grass ovals with pedestals and vases bordered round with four oblong beds, and as many circles. A pair of the oblongs are planted with Rose Queen instead of Christine, and a pair of *Scarlets* to match the circles in *Calceolarias*, all gayer than last year. Then the grandest composition in this or any country is the great middle circle, divided into eight circles in scrollwork, and all planted to the very letter of the law in opposite match pairs, with different accompaniments of scrollwork-beds to each pair, and a centre raised vase-bed on a platform of grass—a magnificent arrangement in the most artistic forms imaginable. The centre raised bed has a *Pampas Grass* plant in the centre, then a mass of the *Cottage Maid Geranium* edged with three kinds of Ivy-leaf Geraniums—the Golden-leaved sort, the lilac, and the old white; all too light, however, for resting against the white curve of the vase-like frame for the bed. The eight main scroll circles around are thus in opposite pairs:—one pair of *Crystal Palace Scarlet*; one of

Purple King Verbena; one of yellow Calceolaria; and one of *Tropæolum elegans*. And in the outer circle and between these come eight batwing-shaped beds, and all of them are in variegated Geraniums, edged with deep bands of *Lobelia speciosa*. Then eight pairs of small scroll-beds, as grace-notes to the larger circles; one in Golden Chain, Lady Plymouth, Burning Bush, and other variegated Geraniums, all nestling in blue Lobelias, and all in the most perfect order of high feeding, high training, and lowest training. They are all watered three times a-week, and occasionally with liquid manure, so that every plant in the vast polychrome is just done as if for a competition at a flower show; and nothing of the kind has ever been attempted which could excel all this in one single instance, as far as I have seen or heard.

D. BEATON.

### WINDOW GARDENING, BALCONIES, &c.

MR. FISH, in all his proposed arrangements for window gardening, presupposes more room than people in towns have generally, and his little book is much more for inside gardening than for balconies. I have six boxes outside my windows, 9 inches deep, 11 inches broad, and 4 feet long. Four have a south aspect, two a north; there is besides a large balcony with Ivy and Virginian Creeper in ornamental pots. My boxes are filled with shrubby Calceolarias, Scarlet Geraniums, *Tropæolums*, &c.; all the plants were from Messrs. A. Henderson & Co., Pine Apple Nursery, and planted not in pots but in the boxes. What am I to do with the plants in the winter? I have no garden, no open rear to my house. Of course, I shall have my boxes filled for spring with Crocus, Tulips, &c., and for next summer must I buy fresh plants? Mr. Fish says, "Put your pots, &c.," but my plants must be first potted, and repotting would not tend to keep plants quiet. I believe the Geraniums would do without pots. All these books take it for granted that there is previous knowledge. A few papers for beginners, I mean genuine beginners and townspeople, would be of use. Mr. Fish gives plants in his list as fit for town, which will only produce disappointment if tried—*Ericas*, for instance.—A CONSTANT READER.

[There has been so much commendation of the little manual on "Window Gardening," that it is almost refreshing to meet with something like grumbling criticism. Things go on all the better for a little grumbling, only the grumbling must be to the point, and no over-statement made. It would be thoroughly impossible in a pamphlet of a few pages to meet the case of every person. The aim of the book was not only to give the simplest details, the necessary culture, and short lists of suitable plants, but to get the cultivator to think and generalise for himself, so as to become something more than a mere routine gardener. The first objection is, that the plants are too numerous, and room could not be found for them in the generality of cases. Well, all that we can urge is, that not a plant has been mentioned that has not been seen successfully treated in windows. If our friend fancies Geraniums and Calceolarias only, if he gets not only general but specific directions about them, why grumble because his next-door neighbour likes a totally different tribe of plants? Such grumbling is much of a piece with the conduct of a man who bought a cookery book to find out the best mode of managing pork, and then pitched it aside, because it also spoke of beef and mutton, about which he felt no interest.

The second objection is, that the manual treats more of inside gardening in windows than gardening on balconies. The very title would just presuppose this, and, therefore, furnishes no ground of complaint. Besides, the person who could manage the plants named inside of a window in winter and spring would surely find little difficulty in growing the same things out of doors on the window-sill, or in balconies in summer. A paragraph or more is given on the arrangements, &c., on balconies, and specific directions not only as to sowing one of the plants mentioned, but also how to treat the two others, Geraniums and Calceolarias. Instead of finding it impossible to supply balconies from windows, what would our correspondent think of not only balconies but a few free beds in a flower garden being filled every year, and filled in first-rate style, too, from plants kept in three windows, with the assistance of an old store-room that has a small window?

Again, no instructions in a book, however ample, will ever make up for want of thought—want of generalising in the reader. Our correspondent has no garden, no open rear to his house;

but all the operations described, even to the minutiae of sowing and potting, may as well be done in a room as out of doors. Plants will even propagate as well under a bell-glass, or a cracked tumbler inside of a room, when the suitable conditions as to coolness, warmth, shade, &c., are secured, as they would do in a frame or a hand-light out of doors. The man who thinks about what he is doing, will soon find a means to suit his purpose.

Lastly, we are told the lists given in "Window Gardening" will, if tried in towns, only produce disappointment—*Ericas* for instance. Well, it was not intended that the work should be confined to towns. *Ericas* are never alluded to in the cultural notes. The word is only mentioned once among the shrubby plants that might be sown in spring by those who had plenty of room. We know that the raising of plants from seed imparts a pleasure that tending a purchased plant never can give. We have known hardy Heaths raised under a square of glass in a window, and the plants used for planting all round a stand of bee-hives. Thousands and thousands of the hardier Cape Heaths, as *Wilmoreana*, *hyemalis*, &c., are sold every year for windows and balconies in London, and generally are well tended so long as they remain in bloom. We have seen them kept in houses in the country, and tolerably healthy where there was no greenhouse—in fact, in a spare room, where little fire was used in winter, and air could be given pretty freely, there would be little difficulty in keeping such kinds healthy. The word *Erica*, however, is only once mentioned in a list of seeds that might be sown, and they occupy no place in the cultural directions because we were aware that beginners might find a difficulty with them—in fact, though extended lists are given to suit those with many windows, or who might make a sort of greenhouse of a room it is also broadly stated that where there is only a window or two, "I would confine the selection chiefly to *Pelargoniums*, *Fuchsias*, shrubby *Calceolarias*, and *Balsams*." That is no reason, however, why other people that liked other forms of beauty should not have an *Acacia*, a *Camellia*, a *Cytisus*, or a *Daphne*. One of the noblest plants of *Daphne odora* we ever saw was in the parlour of a lady in April in full bloom. When its beauty was gone it was placed outside of a window in a north-west aspect during summer, and into a sort of storehouse-room in winter, close to the glass, and in which room there was never above a degree or two of frost. The same lady had some Heaths and Camellias. The Heaths stood in winter in a room little used, near the window, and had plenty of air in mild weather; and instead of using fire heat, the shutters were kept shut in severe weather. When our correspondent has seen more of window gardening, he will not only limit his ideas of the impossible and the disappointing, but he may come the length of owning, as I here most unreservedly and gratefully do, that some of the most valuable ideas that have come in my way have been derived from enthusiastic window-gardeners, who, beside their window-sills inside and out, had no ground they could call their own.

Convinced that in "Window Gardening" there are many over-sights, and, perhaps, some errors, and cheerfully granting that if rewritten there might be many omissions and additions, I must still say that few will be led much astray that get imbued with the spirit in which it is written. When people, however, complain of want of succinctness, we expect them surely to avoid a similar error. Now, with the exception of our correspondent's six boxes and their size, and their being filled with *Tropæolums*, shrubby *Calceolarias*, and *Scarlet Geraniums*, we have no information whatever. Are these boxes mixed, or are they filled with one thing separately? Filled either way, there would be little difficulty as to their summer treatment; but the winter treatment would be very different if the proprietor chose to keep the plants for another season. Even in summer the treatment should be different. Coolness and moisture for *Calceolarias*; heat and not too much moisture for *Scarlet Geraniums*. When *Tropæolums* are established they need little moisture to cause them to bloom freely. If the proprietor chooses to purchase a fresh lot for a summer display, the best thing he can do is to let them all die with the frost, and plant with Tulips, &c., for spring. If he wants to save his plants he must proceed according to circumstances. If the *Calceolarias* and the *Geraniums* are mixed, it would be best to separate them either by potting each plant separately, or putting each kind separately into a larger pot or a box, so that each can get the requisite treatment. For instance: in the case of *Calceolarias* we would cut the plants pretty freely back—say in October, lift them a

week afterwards with all their roots and a good portion of soil, pack them close together, water them, place them near the glass in a cool room in winter, keep them as much from fire heat as possible, keep the soil rather moist all winter, and give more room to the plants by turning them out in boxes in April.

Now for Geraniums thus mixed. We would also take them up, and either pot or pack closely in a box, water to settle the earth about the roots, and about the end of October we would strip off the whole of the leaves and the very soft points of the shoots, allow the soil to become dryish, but not dust dry in winter, and we would keep such plants in a dryish place—say a dry cellar or a garret, being not at all particular as to much light before the old succulent stems began to break, which they would most likely do in March and April. In fact we like such old plants best, when they do not show a leaf larger than a sixpence before April. They will require more water and room after that, but they will bloom in balconies as no young plants will do, and require only a tithe of the trouble of young plants in winter.

If you ask if that is the best way of arranging them, we say, "No." We would keep the Calceolarias chiefly to one set of boxes, and the Geraniums to another, with appropriate and mere temporary edgings to each. Then we would have two sets of boxes for the balconies—one for bulbs, &c., in spring, and one for blooming plants in summer and autumn. With the last we have now to do. Well, about the middle of October we would prune back the Calceolarias pretty freely, so that we should have fresh shoots near the surface of the soil before winter. We would fresh surface the plants, and remove the boxes to a room where they could have a good portion of light, be kept moderately moist, and not exposed to more than a degree or two of frost during the winter. By April the boxes could go on the balcony during the day, with a little protection at night. These, with surface-dressings and manure waterings, would bloom early and well. If all this attention presupposes too much labour, that we cannot help; it is the only way under the circumstances by which the present plants can be made available.

If you ask me if that is the mode I would adopt, I would reply most likely in the negative, because I prefer young Calceolarias to old ones, and because the room that would be required for an old plant would hold something like a score or a dozen of cuttings up to March, and require no more trouble. A six-inch pot will hold about a score of cuttings about 2½ inches long, inserted from the middle of September to the middle of October, and these placed either inside or outside of the window will be sure to strike in a month or six weeks, if a bell-glass is placed over them, and a piece of paper to shade from bright sun, and a little air be given at night to prevent damping. If there are no bell-glasses, fill the six-inch pot half full with propagating, light, sandy soil, and place a square of glass over the top of the pot, shading and giving air as above. An improvement on the latter plan would be to use a 3½-inch pot, and set it when filled at the bottom of a six-inch one. When struck these young plants, so close together, would require little attention except watering and air-giving until March, when they would require more room before being finally planted out.

The advantages of such young plants are, that they require little room in winter, and generally bloom longer the following season, and are less liable to go off. Amongst the thousands I use, I never now plant out an old plant. The advantage of the old plants in your circumstances is, that there is less nicety required, but then more room is demanded in winter, and the plants are more apt to be exhausted early in summer. Again, we may say it is no fault of ours, if instead of this attention our friends prefer going to the nurserymen every spring. Without it, they must make up their minds to do so, and we do not expect that they will succeed thoroughly to their satisfaction at the first trial. Just as an instance as to young Calceolarias, we may mention we put out many thousand cuttings in a rather open cold pit last October, with less attention to minutiae than could be given in a pot with a bell-glass or a square of glass laid over the rim, and we did not lose a cutting in a thousand. They stood about 1½ inch apart, and stood there until thinned in the middle of March, and no plants could have done better.

Then as to the Scarlet Geraniums in boxes by themselves. Give little water after September, remove larger leaves gradually until the middle of October, clear all the leaves away by the end of it. The soil will be quite wet enough all the winter, if not dust dry. The stems will be like a succulent plant, and will hold quite enough of moisture to keep them pretty well, if the plants are not exposed to any drying heat. The best place for

them is a store-room or garret, and much light is no great object provided they are kept cool enough not to grow, and airy enough not to damp, and frost kept out by the covering of a cloth, or a little hay used to prevent the stems freezing. When such plants, about March, begin to break and show leaves the size of half a sixpence, the boxes should be brought near a window, and in a sunny day the stems should be dusted or sponged with water. Ere long a little water about 70° should be given the soil, not all over at first, but poured into holes made with skewers a few inches apart. In a few days repeat the process if the weather is at all bright. When the leaves get between the size of a sixpence and a new halfpenny, all risk is over. Scrape away then a portion of the surface soil—say from half an inch to an inch deep, without injuring the roots, and fill up with rich compost, of which soil may form one part and rotten dung another, and then water as needed. These boxes may be expected to bloom most splendidly during the summer, and to go on from year to year far exceeding in brilliancy, and with a tithe of the trouble involved in keeping young plants over the winter. Every year, for some time past, we have four fine plants of Tom Thumb Geranium in the flower garden. They are in largish pots, plunged. About the end of October the pots are generally raised, and plants and pots together go into a shed until we get time to pick the most of the leaves off. The plants then generally stand in a shed secure from frost all the winter. In spring a few withered points will want removing, and the plants are placed first in a cool house, just as inside the window of a room. When growth commences they get a little water and then are fresh surfaced, and so rich is the mass of flowers in general that but for the trouble and expense I would keep Scarlet Geraniums in pots, and plunge them in beds and boxes instead of planting them out.

One thing more our correspondent has omitted—namely, the kind of Tropæolums used, and we have omitted stating how to secure a fresh supply. If of the Elegans or Triomphe de Hyrie kinds we would place little dependance on the old plants. If taken up if the boxes must be changed, or if left alone in boxes of Calceolarias or Geraniums;—in the first case, they would have too much moisture in winter, and in the other case they would be too dry even for such succulent plants. The best way with them is to keep a supply of young plants from cuttings, and let the rest die. In the case of the common Tropæolums, and even the Tom Thumb scarlets and yellows, which are very beautiful, the best plan is to sow seeds at the sides of the boxes in April, or, what is better, sow in a pot inside the window at the end of March. Pot-off into small three-inch pots as soon as the plants are 2 inches high, and then in May turn out the nice-established plants in the sides of the boxes on the balcony.

We fear that even now we have not been minute enough to please our Dublin friend; but if he would tell us where the deficiency lay, we would be glad to remedy it, or get some one better qualified to attend to it. Meanwhile we can have no hope to meet every case until that is clearly stated, and to these in general short replies can only be given. There is no doubt much truth in what a nurseryman told us years ago. "Until 'Window Gardening' appeared I furnished many windows and balconies every year. At first I thought my trade would suffer, there was such a demand for pots in the autumn; but these, too, helped to bring grist to the mill. Many found that there was more difficulty in keeping the plants than they thought there would be from your representations, and of course there have been numerous failures, though also many successes. In both cases my orders have largely increased, so that to these people, in addition to what they carefully save, I regularly sell from three to five times the amount I used to do." Our own experience testifies to the same fact, and hence we wish to see people trying to keep their window and balcony plants over the winter.—R. FISH.]

#### NOTES WHILST RESTING.

BRAINS will not go on for ever without resting any more than legs will; so, having become brain-weary, I resolved in this present month of August to be turned out for a summer's run like our old coach horses. Now, if you need rest, take my word for it that there is nothing like resting earnestly and totally; it is of no use doing it as the Bristol merchants are said to sleep, with one eye open and at work. Don't go to Brighton, or to the Isle of Wight, or to the Highlands—for in every one of those places railways now bring against you some of the Browns,

Joneses, and Robinsons, or the Johnsons or the Smiths of your acquaintance, and rest is at an end when you look upon those Lombard-Street faces, and hear those Camden-Town voices. Avoid those *rencontres* as you value your rest; get to some place where their shadows fall not, and which is as free from the possibility of some ogre of a partner or client being able to write, "You can come up by the 9.30 to-morrow morning."

Resolved to be secure from all those rest-annihilators, I east about for a place of refuge, and some cunning cousins suggested Guernsey; conviction followed close on the heels of the suggestion—for do not sea commotions deter those Joneses and all the rest from seeking that island of fair girls, Parsnips, and milch cows?

But where to go to in that isle of quiet was the next query for solution, and again those cunning consins were my good geniuses. There is, quoth they, in a precipitate gorge of the rocks leading down to a little sunny bay called Moulin Huet—the very name is soothing—a certain widow resident; her cottage clean in the superlative, the scenery grand, and no neighbours but fishermen, who afford an unailing supply of crustaceae for breakfast. No more need be said. I supplicated successfully for the hospitality of the widow Falaise, and the 5th of this present August at midnight I was on the velvet cushions of the "Southampton," as she steamed out on her voyage; intent for St. Peter's Port.

Records of the voyage shall not be made public by me; let no more be my revelations than that there were a head wind and tumbling sea—disturbers, as usual, of the human system, and destructives of all regard for personal appearances. One face must long remain in my remembrance, so piteous and so reproachful that a smile *could* be permitted by me, whilst basins were being placed by that stoical steward preparatory for events foreshadowed on so many misery-stamped faces.

The harbour of St. Peter's Port is reached; that strange conglomeration of wood, the landing-place, is passed up, the luggage is stowed in one of the carts without ends, two miles are passed over, and I am under the thatched roof of La Fosse, the very unique residence of the widow Falaise.

That no unwarrantable suggestions may cross the imagination, even of the most uncharitable, let me premise that the said widow, having lived and thrived for some fifty years, is not now so well entitled as she may once have been to compete with Venus as to personal attractions, but that she is far superior to that goddess in honesty—honesty in its largest and most comprehensive acceptation.

But that there may be still less imaginable ground for alander against this vigorous and worthy widow, be it known, O reader, that I retain three dormitories, not for the eccentric purpose of sleeping with my head in one room, my body in a second, and my legs in a third, but because it has been wisely and benignantly ordained that I am united to a fruitful vine, and that the said vine and the fruits thereof are not discovered from me.

Let no one expect a continuance of this my chronicle, for I have no purpose to be historiographer of small events: henceforth my paragraphs must be beads without a connecting string—beads picked up, worth keeping, but unsorted.

I know the sea-coasts of England and Scotland, have searched them sedulously for their fossils, their plants, and their picturesque features, yet not one of those coasts has a rock-valley more wildly beautiful than La Fosse—no little rock-enclosed bay superior to that of Moulin. The valley is a chasm between gneiss rocks, with a narrow steep roadway descending one side, with recesses of varied extent, in which are established fishermen's cottages with their little gardens and orchards, whilst below a little stream steals along, but every now and then is seen sparkling and leaping along as if glad to be getting back to its ocean-parent.

And what an ocean is that! Nowhere on the British coast is sea-water intensely blue like this to be looked upon. I have seen such before between the tropics, and in some other latitudes far away from any land, and the bright blue of which was held as evidence of a depth almost unfathomable. It is not so here; for the peaked and spired masses of rocks, upheaved and confused mid the waters, and even fringed with white surf, or lashed by breakers which they dash into still whiter clouds of foam, tell and warn mariners of shallows and dangers not to be approached. What is the cause of this exceptional blueness? I would gladly have my ignorance enlightened on this.

The roadside gardens surprise the unaccustomed visitor by

the size and kind of some of their plants. The *Fuchsias*, all of the commoner red sorts, such as *Biccartoni*, are standard shrubs, reaching to 6 feet or 8 feet high, and those against a wall to more than 11 feet, profuse of flower, and evidencing that the winters do not damage even one of their annual shoots. *Veronica Andersoni* is entitled to a similar report. It is quite a common garden shrub, and 4 feet or 5 feet high, and now blooming abundantly. In one cottage garden, filling a corner formed by a wall at right angles with the cottage side, is a *Hydrangea*, full 6 feet high, and about the same in diameter, and it must now be bearing two hundred of its globular heads of bloom, clothing it from the very uppermost point down to the bed's surface—bloom of bright light blue, so unlike the sickly flowers partly pale pink and greenish-white we are accustomed to see on this plant in England.

The steepness of the rock-sides, against which the roads and gardens are established, rendered some ingenuity needful in adapting to them the carriages and implements in use. The soil being light, formed for the most part of disintegrated gneiss and other siliceous rocks, rendered it necessary to have the tines of the forks used in digging flattened, so as to prevent the soil passing between them. They are also small, for the labour would be great if the digger had to lift a forkful of earth such as is contained on the four and five-pronged implements used in England. The accompanying sketch is of one now using in the garden before my window. "We have them bigger," says the workman, "but they be't so handy." It has a handle 27 inches long; the tines are 8 inches long, and 2 inches broad at the spoon-shaped end; the entire width of the head of the three prongs is 7 inches. The soil is so light that the fork is thrust into it without using the foot.

The wheelbarrows we have in England are too large for use here; the labour of impelling them when loaded would be too great up the universal inclines; so the back, or body, of the barrow is very small, the arms long, and the diameter of the wheel large—all adaptations conducive to diminishing the force required in using these carriages. The wheel of a very small barrow used in Mrs. Falaise's garden is 2 feet in diameter.—*QUIS.*  
(To be continued.)



## CULTURE OF THE RASPBERRY.

THIS hardy fruit is a native of Britain, found in moist woods. In its wild state the fruit is red and very small; yet it is pleasantly sweet, and where it abounds is gathered by cottagers' children. It produces shoots one year, which bear fruit the year following and then die; but as the roots do not die, they send up annually other young shoots to supply fruit every year in succession. When removed to and grown in gardens the fruit is greatly improved both in size, juiciness, flavour, and quantity.

I have, however, observed in many gardens, both public and private, that the best mode of culture is either not understood or neglected. The difference between well-managed and ill-managed plantations is so great, that it has been a matter of great surprise to me that all cultivators do not pay more attention to and adopt the best mode of culture. I am certain that even the growers for the market would find the large crops they would obtain of superior fruit would abundantly repay them by bestowing proper attention to this fruit, which is always in demand.

Another mode of improving the fruit is to raise new varieties from seed. To some extent this has been done, and our list of sorts really improved is now increased considerably. From these improved kinds seeds should be saved, and still better sorts would no doubt be the result. From the success already achieved we are led to anticipate that the next generation will have fruits of this shrub as large as those of a kindred fruit—namely, the Gooseberry. To effect this equal pains must be bestowed as our Lancashire growers have bestowed upon that favourite fruit. They not only raise new kinds, but cultivate them so as to bring them to the highest degree of perfection.

As some of our readers may intend forming new plantations of the Raspberry, or may be desirous of improving their old ones, I purpose drawing up a code of instructions for their benefit; and as there is nothing like order in giving directions, I shall divide the subject into the following sections:—Situation, Soil,

Planting, Pruning, Training, Summer Treatment, Winter Treatment, Propagating, and lastly a selected list of the best varieties now in culture.

*Situation.*—The position of a plantation of Raspberries should be one fully exposed to the sun, but at the same time sheltered from high winds. This exposure is necessary both to ripen the wood and the fruit. If grown under the shade of tall fruit trees the fruit will be not so high in colour nor so fine in flavour, neither will the yearling shoots become ripened at the extremities: therefore plant your Raspberries in such a situation that the sun may shine upon them all the day.

*Soil.*—The best soil for them is a deep sound loam on a clay subsoil; but if the soil is a good loam and from a foot to 18 inches in depth, the kind of subsoil is not so very important. A good dressing of rotten dung should be added.

*Planting.*—The best season for this operation is November, as soon as the leaves are fallen. Choose the strongest young suckers you can get, and also from a healthy stock. In taking them up, keep as much soil to each plant as possible, and plant them immediately. Should the weather and soil happen to be dry, give them a good watering when the planting is completed. Plant three or four together to form what gardeners call "a hill." Place them in rows 6 feet apart, and 5 feet from hill to hill in the rows. Let the hills stand exactly opposite to each other for a reason that I shall give under the head "Training." Then tie the canes together loosely to prevent them from rubbing against each other with the wind. Fasten the soil well to the roots by treading with the foot; and then place a mulching of short dung around every hill or stool. That completes the planting.

*Pruning.*—It is not advisable to prune immediately after planting. Supposing the planting is completed in December, let them remain as they are till the end of January. If the weather has been moderately mild the root action will by that time have commenced; then the pruning may be done with safety. All that will be needed the first year is to cut off the ends of the shoots about 4 inches or 5 inches. The after-pruning will be described under "Summer and Winter Treatment."

*Training.*—The common method is to twine the canes round each other and tie them to a stake. The objection to this is that the lower buds do not break; and even the top buds of each cane that do break are so crowded together that there is a great waste of fruit for want of a due share of light and air, especially in wet seasons. There is a plan of putting in three or more stakes, and having a wide rim at the top to spread them open. This is a better method. But there is another objection to both ways—and that is, that the young shoots that spring up from the bottom must necessarily crowd the bearing-shoots, thus robbing each other of light and air. To avoid this, I recommend the training of them on the arching system, which is by far the best method. I have seen it in work, and finer Raspberries and a better crop I never witnessed anywhere. The stools being planted opposite to each other, and 5 feet apart, the shoots ready for bearing are, in the autumn after being pruned, bent down and tied together just at the points of the shoots. Thus the shoots form arches right across the plot occupied with the Raspberries. During summer the sun-beams are admitted, not only to the fruit, but also to the ground, in at least two directions; and the space between the arches is left open for the young shoots made during the current year to grow up in. There they will have their due share of light, and will not shade the fruit-bearing shoots. The buds on these last-named shoots break nearly down to the ground, and each lateral rises upright, bearing its blossoms and fruit separate, and clear from its neighbours. So managed and trained the plantation is even highly ornamental; and, besides that, the fruit is very easily gathered, as every one, when ripe, is exposed to the eye of the gatherer. Let any one try this method, and I feel confident he will be pleased with the result.—T. APPLEBY.

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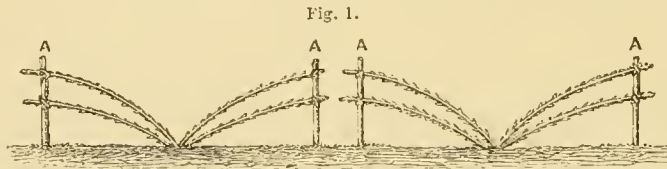
[The accompanying engravings represent a modification of the above system, which is also found to answer well. The Raspberries are planted as above, 5 feet apart; and during summer

only four new canes are allowed to be developed by each plant, choice being made of the most vigorous, and those which are placed nearest to the original stock; the others are removed when they are about a foot high. In the spring following the old canes are removed, and the four new ones are shortened, so as to leave them 2½ feet in length. They are then tied-down to two stakes, as represented in fig. 1, A A.

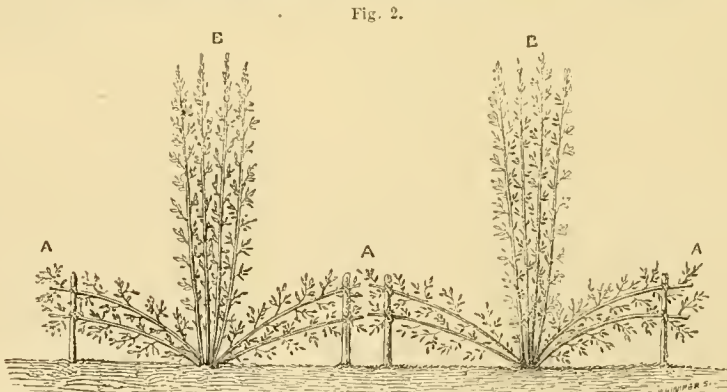
During summer the canes A A A, fig. 2, which were pruned and tied-down in the spring, bear fruit, and four new canes, B B, are produced from each stock. At the winter pruning following the canes A, fig. 2, which have borne fruit, are cut

away, and the new canes produced from B B are shortened back to 2½ feet, and tied-down to the place occupied by the fruit-bearing canes the year previously.]

(To be continued.)



Raspberries after the winter pruning.



Raspberries during their growth.

### LARGE FLOWER-BED AT EAST SUTTON PLACE.

FLOWER-BEDS are about their best at this time, and there are few greater attractions than a well-arranged flower garden. From the great number of such to which the general public have easy access, people are becoming daily more and more fastidious, and that which gave universal satisfaction a dozen years ago, or less, fails to do so now. The inquiry to be met with at every corner is, Have you anything fresh? anything new in the bedding line? This laudable desire to introduce fresh features, or new, or but little understood plants, has certainly very much altered the character of flower-gardening, and new and novel designs are as largely sought after as rare or valuable plants.

Flower-gardening has also its fashions, although the reigning one may not always be so implicitly followed by all, as in the equally variable article of dress; for we now and then meet with an elderly florist admiring and fondling his Ranunculuses, Auriculas, Tulips, and similar plants, that were fashionable before Roses, Dahlias, or even Pinks. This class is, however, fast wearing out, but now and then there is a revival of old customs, and these plants will, doubtless, have their turn again, though in a different form to what they held before.

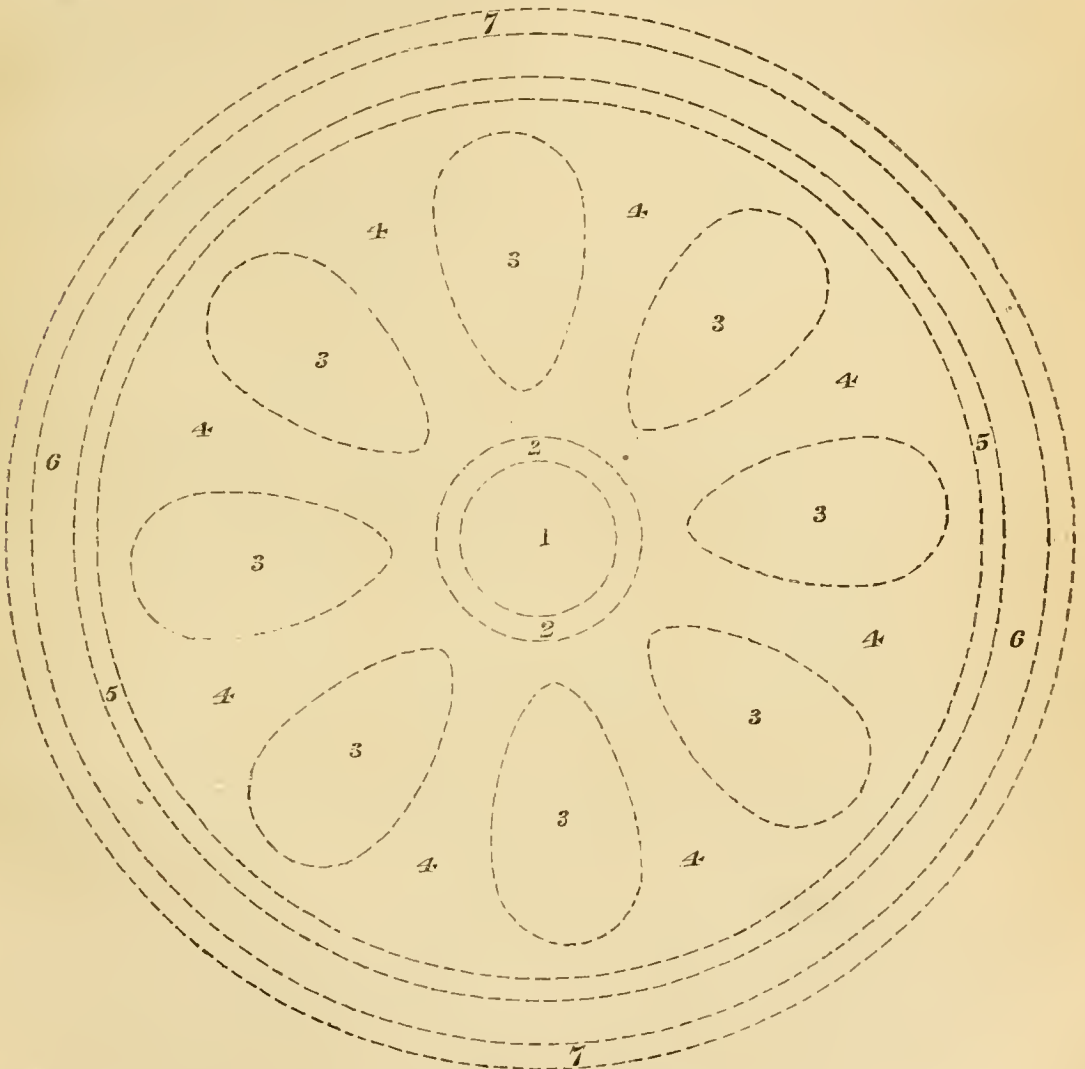
It is unnecessary to give any opinion on the respective merits of the geometric or the picturesque arrangement of flower-beds,

as both styles have their admirers, and to a certain extent either may be right, as the other features of the place usually determine these matters. But there is another mode of giving a great mass of floral beauty to a flower garden, which I have on more than one occasion urged on the readers of THE JOURNAL OF HORTICULTURE as deserving of notice, and which hitherto has not, so far as I know, received any specific name yet. Perhaps, however, some one will give it a high-sounding title. Be this as it may, the term "massed panel system" will convey as much information to the general reader as most names usually do. In further explanation of this term, I may say that it is intended to imply a large plot of ground entirely planted with flowers in such a way as to present a coloured pattern or design. This method of giving a display to the flower garden we have adopted at Linton for several years, and on more than one occasion it has been explained in this Journal. I now give an example from another place where it has been successfully adopted; and it would be difficult to conceive anything more beautiful than the large bed presents, when seen from the eminence by which it is commanded on one side, every plant having performed its allotted duty to a nicety, and the whole being well-flowered.

East Sutton Place, the seat of Sir Edmund Filmer, Bart., M.P., in whose grounds the flower-bed to be described forms a feature, is delightfully situated on the southern side of a ridge of hills which overlook the extensive plain known as the Weald of Kent.

The mansion is a good example of what is called the Tudor style, and what additions have been made since the original (which is very ancient) was erected, have been in strict conformity with the features of the primitive building, and it presents a large and imposing aspect. The park also bears the same stamp of antiquity, being well, if not profusely timbered, many of the trees having attained an unusually large and healthy growth, while the age of others may be counted by centuries. Some very steep declivities, water, and other features of interest give it the true character of a park; and extending up to the front door of the mansion, the visitor sees before him the true features of a residence of the period it represents.

The dressed ground being on the opposite side, and enclosing the mansion on its west, north, and east sides, presents several objects of interest, in addition to the massed panel here represented, which is a circle of 45 feet in diameter, planted as detailed below.



- 1. Central circle, yellow *Calceolaria*.
- 2. Ring of *Perilla nankinensis*.
- 3. *Verbena Purple King*, in eight panels, each edged with *Alyssum variegatum*.

- 4. Ground of *Geraonium Tom Thumb*.
- 5. Ring of *Perilla nankioensis*.
- 6. Bank about 2½ feet wide, *Geraonium Mangles' Variegated*.
- 7. Outer edge of *Lobelia speciosa*.

The bed is surrounded by turf, which on two sides rises by suitable slopes to a position high enough to command the whole bed, which, as already stated, looks remarkably well. The easy simplicity of the figuring is clearly defined, and the plants used

are such as require but little after-care to keep them right, and their uniformity will continue to the last.

The same bed looked equally well last year, many of the same kinds of plants being used, but the pattern was different. In

fact, this style of flower-gardening gives scope for continual change, and those who have seen it never fail to admire it as a style, although its execution gives rise to many criticisms; but in the case described above, I confess that I am unable to suggest a single alteration.

This large circular bed is not the only example of the style of gardening it represents at East Sutton. A border facing the east side of the mansion is planted very effectively in what is usually called the "chain pattern" style, *Cerastium tomentosum*, *Lobelia speciosa*, and another plant, the name of which I have forgotten, being the plants used for that purpose, and it looked remarkably well. Some other large beds were also planted in two or three colours; but this was more in the usual way, and none of them looked so attractive as the one of which the figure is given. The other flower gardens, of which there were more than one, were remarkably well filled and judiciously arranged as to colour, being in beds of a full medium size arranged in a geometric figure, and surrounded by turf. The whole, being in excellent keeping, reflected the greatest credit on Mr. Skinner, the gardener, who, to the other attractions of the grounds, has recently added a fernery, of which I will possibly speak hereafter.

In winter Mr. Skinner marks out the large bed in the embroidered style, colouring it with two or three substances of widely different hues, and in a highly elaborate pattern, which at the time I saw it looked as well as the same style of ornament when done in a more permanent way as at the Royal Horticultural Garden and other places. The ensuing autumn, I have no doubt, will witness it transformed into something of the kind again, but of a different pattern, as the devices for such things are endless, both for winter and summer, so that there is no necessity to copy what has previously been done. The winter is quite as important a period as the summer at many country places, and unless something of the kind be adopted large breadths of naked ground, which look badly, must be left in the dressed ground; but with the above mode of winter-trimming the appearance is scarcely less attractive in the dull winter days than when the flowers are out in August.

At such places as East Sutton, where choice shrubs and Conifers meet you at every corner, and a noble belt of high Walnut and other trees forms the background, shelter and clothing are already provided for. The figured-embroidery-like picture of a large space when neatly done in a pretty design adds materially to the charm of the place, and especially if, as at East Sutton, both the summer and winter management are equally well executed.

J. ROBSON.

## ROYAL HORTICULTURAL SOCIETY.

AUGUST 12TH.

**FLORAL COMMITTEE.**—The subjects brought forward at this Meeting began with an interesting collection of seedling hybrid Lilies from Buckingham Palace. They were between the white *Lilium lancifolium* and the scarlet *Martagon* (*L. chalcedonicum*), and were decided crosses; but like *Gladiolus blandus* in the first crosses, the scarlet had not much effect on such a body of white as there is in *lancifolium*; and this will be another instance of how crossing, or breeding in-and-in, as against hybridising, or breeding by species, will effect the improvement of a new race of subjects. The next was a *Fuchsia*, the only one we have seen which took after *Riccartoni*, on which it is only an improvement.

A collection of striped *Petunias*, not so good as Mrs. Ferguson, were the next lot. Then a collection of fine *Hollyhocks* from Mr. Chater, of Saffron Walden. Of these, one called *Gem of Yellows*, and another splendid crimson kind named *Glory of Walden*, had First-class Certificates awarded by the unanimous assent of the Committee. Another called *Imperator*, a clouded salmon colour, had a First-class Certificate by one vote of majority; and one called *Hesperis*, a true "cottage *Hollyhock*" pattern, and the best of that race known to any of the members, had also a First-class Certificate by the casting vote of the Chairman—the one-half of the Committee considering that the associations of the cottage race of dark grey *Hollyhocks* and this improvement in that strain deserved such award; therefore, *Hesperis* must be taken to be only a first-class flower in the cottage *Hollyhock* strain. *Gloxinias*, *Tropæolums*, and *Lobelias* followed in succession, with some *Verbenas*, none of which were considered superior to predecessors.

Mr. Pope was so good as to send a bloom of his Lord Derby *Dahlia*, for which he had a first-class award already, to gratify those of us who delight in splendid colours; Lord Derby being in our eye the most splendid crimson scarlet yet obtained in *Dahlia*s. Then came Mr. Holland's strain of richly marked *Petunias*, which are neither striped nor blotched in the usual way; but the front is one rich purple blotch with a white edging, and the back part of the flowers one-half white and one-half purple in distinct markings. These *Petunias* are very handsome. *Butterfly* had a Second-class Certificate. Mr. Holland also sent his evergreen *Cyclamen europæum* in flower and in seed.

A weeping tree-like *Lycopod* from the Messrs. Veitch had a unanimous vote for a First-class Certificate. You train it up like a weeping *Ash*, then let the shoots take their way, and they grow down perpendicularly; and from the end of each a tassel of the spore-cases or cones hangs down in a cluster—one of the most interesting examples we have seen of the form of fructification in this the order of *Club Mosses*. The powdery matter in the fruiting cones of *Lycopods* is highly inflammable; if dusted against a candle it gives an instant flash of lightning. That of *clavatum* and *Selago* is gathered in Switzerland, and is used in pharmacy and in the manufacture of fireworks under the name of *Lycopod*; but whether this powder is pollen or spores is yet a question in botany. The name of this plant from the Exotic Nursery is *Lycopodium phlegmarium*. From the same firm was an *Oxalis*, very like a well-grown *Oxalis Bowlesna* but higher coloured. It was brought from Japan by Mr. J. G. Veitch; yet it was about in England and in Jersey for the last five years according to information from some of the members, and it was requested to be sent to be seen again, probably for comparison. A white *Lily* with a greenish inside and a long tube from Messrs. Veitch, and called *Nillgherii*, was considered a nice botanical *Lily*. The great *Lilium auratum* from Japan was there also and still in bloom.

There were several *Dahlia*s, but none of first-class merit, save one called *Caractacus* from Mr. Turner, of Slough. It is a rich creamy buff, deeply tipped and elegantly edged in the same tint—a lady's flower, and it had a First-class Certificate. There was a bunch of *Spiræa callosa* with variegated leaves from Mr. Tillery, and some nice plants from the Society's garden, sent by Mr. Weir, their collector in Brazil; of which the best and the best-known was *Hippeastrum reticulatum striatifolium*, in excellent condition, and much paler than the species.

**FRUIT COMMITTEE.**—Thomas Rivers, Esq., in the chair. In Classes A and B, for Peaches and Nectarines respectively, there were no competitors. In Class C, for the three best dishes of Apricots, distinct kinds, Mr. Cunningham, gardener to the Bishop of London, Fulham Palace, was the only exhibitor. He showed *Hemskerck*, *Moorpark*, and *Breda*; the two former were very similar in appearance, but the *Hemskerck* was very much riper and better flavoured than the others. To these a First-class Prize was awarded. In Classes D and E, for Pums and Cherries, there were no entries. In Class F, for the best three dishes of Apples, Richard Webb, Esq., of Calcot, Reading, exhibited very fine specimens of *White Astrachan*, *Red Astrachan*, and *Early Julian*; they were quite ripe, and beautifully coloured. To these a First Prize was awarded. The only other exhibitor in this class was Mr. D. Cunningham, of the Palace Gardens, Fulham, who sent four sorts, of which *Margaret* was the only one ripe. In Classes G and H, Pears and Raspberries, there were no entries.

Mr. Rivers, of Sawbridgeworth, exhibited fruit of his *Peach Early Victoria*, of which the Committee retains the high opinion formed of it last year as an early *Peach*. *Beaugé Apricot* was pretty well flavoured, but being hardly ripe its merit could not fairly be tested. *Beurré Giffard Pear* was quite ripe, very fine, and delicious in flavour.

Mr. Thomson, gardener to his Grace the Duke of Buccleuch, Dalkeith, again sent a bunch of his seedling *Grape*. It was now quite ripe, and was possessed of the richest and most delicious flavour, combining all the properties of its parents—*Muscad of Alexandria* and *Chasselas Musqué*. It was remarked by the Committee that the juice had a peculiarly honied character, and a flavour that remained long on the palate. Unfortunately the bunch had suffered considerably in the carriage from ill usage on the way, and many of the berries had been shaken off, while others were so loosened as to have become discoloured round the stalk. In consequence of this misfortune the Committee did not make any award; but, at the same time, stated that in their opinion the *Grape* was one of great merit and of first-rate excellence.

Mr. Melville, of Dalmeny Park Gardens, Edinburgh, sent

two bunches of his Champion Hamburgh Muscat. This also was exhibited last year, when the colour was of a grizzly appearance. As now shown the skin is almost as dark as that of a Black Hamburgh, and there is no doubt but that when the fruit is better grown and more pains have been bestowed on the cultivation of the Vine than Mr. Melville has been able to give it, the colour will be quite black. The flavour was excellent, of a decided Hamburgh character, and with a marked Muscat aroma. As Mr. Melville intimated that he would send a better bunch to the September Meeting, the Committee suspended final judgment till then; but meanwhile expressed the opinion that this is a first-rate Grape even as exhibited.

A collection of Melons was received from the garden at Chiswick, none of which had much flavour except Fleming's Hybrid and Turner's Scarlet Flesh. There were also Apricot Angoumois du Bar, a sort of Moorpark, and Standard of England Plum, both grown in the orchard-house in good condition.

Mr. Webb, of Calcut, Reading, exhibited splendid specimens of his Imperial Kidney Potato, which when cooked were found to be very fine.

Mr. Jennings, of Shipston-on-Stour, sent stalks of a Seedling Rhubarb, which has the flavour of green Gooseberries. This is a decided improvement on the old Gooseberry Rhubarb, being much larger. When cooked it was found to possess the flavour of green Gooseberries, and to have a fine piquancy.

### SCROPHULARIA NODOSA VARIEGATA.

"WELL," said a friend of mine the other day, "have you got this new *Scrophularia*—*nodosa variegata* they call it?" Now, in case I should have more friends in the world than one labouring under this belief, allow me to state that I have not yet seen *Scrophularia nodosa variegata*; still I can fancy it might be something good. When I heard of Mr. B. Williams having it, I ordered six plants of it through my nurseryman, which I received; I need not say they were small, everybody knows what to expect when they order a new plant. However, I was not long before I could see an old curiosity, *S. aquatica variegata*, a plant which I have with some difficulty managed to keep for a considerable time. I could not say how long; but if the late Dr. Neill, who lived at Canonmills, near Edinburgh, had been alive, I believe he could have thrown a little light on the subject. Be that as it may, I think it too bad to send out for new an old plant with a new name. There is a wide difference between *S. nodosa* and *S. aquatica*; one does not require much practical botany to decide between the two species. If well rooted, especially in pots, the granulated roots of *S. nodosa* settle all disputes at once.—AN OLD SHOWMAN.

### NOTES FROM PARIS, JULY, 1862.

In a comic album by Cham (the John Leech of Paris), entitled "The London Exhibition," we are treated to the adventures of a Frenchman who visits our great metropolis. He sees the Exhibition, makes all sorts of wonderful mistakes, and has a good laugh at some of our eccentricities, and at last returns to the land of his nativity, and is met with open arms by his "*cara sposa*." Joy at his arrival is also mixed with curiosity to know what bijou he has purchased for her. She eagerly inquires, "What have you brought me back?" "Le spleen," is the only reply that the knight of the rueful countenance makes. One could almost fancy that a recent writer in the *Revue Horticole* had been the hero of it, and that the very moment of his return he had sat down to pen the article in question, a translation of which appeared in a contemporary two or three weeks ago. In it he abuses the gardening of his countrymen in good, round, set terms; their flowers are worse than they were; Roses! poor in comparison with old times; their fruits bad; Carnations completely vanished. But the chief vials of his wrath are poured out on the public gardens—they are unmeaning and ugly, and display a deteriorated taste. The alterations in the Champs Elysées he especially deplores, and altogether the tone of his remarks is of the most deprecatory character. As I made a few notes on the same subject, and am, I hope, neither inclined to adopt everything French as good, nor abuse it as bad, the observations I now make may be erroneous, but I trust, at any rate, they are unprejudiced.

There is a great deal of difference between being fond of flowers and being a lover of gardening. The fair maiden, whose

delicate fingers so exquisitely arrange the vase for the drawing-room or boudoir, would, perhaps, think it a horrible nuisance to have to take any pains about growing them. Now, it seems to me that the French are very fond of flowers but not very fond of gardening. All round Paris one looks in vain for the villas which so surround London, with their elegant and often costly gardens. Nothing seems to strike a Frenchman more than this, and frequent are the exclamations one may hear this year on every side at the appearance of these proofs of real love of flowers. The little regard that a Frenchman, especially a Parisian, has for home, the constant out-of-door life that he leads, must unquestionably tend to diminish any interest that he might have in gardening; but, at the same time, there is not a people who are more enamoured with flowers for decorative purposes. The flower markets of Paris, held as they are every day in some portion of the city, are generally cleared of their contents, and hundreds of small nurserymen are engaged in producing plants for these markets. But then they are, for the most part, very common and cheap. Heliotropes, Mignonette, Roses, Verbenas, Fuchsias, and such like form the staple of their supply, and are purchased for the decoration of their houses; and the consequence is, that plants of rarity and high price are but little sought after. As one of the French nurserymen said to me, "Ah! sir, it is *rarity* you want, we require *cheapness*." "I have," he said, "all the newer varieties of *Rhododendrons*, but what I am most asked for are plants at half a franc or a franc each." This must seriously interfere with the advancement of horticulture; and I rather opine that "perfidious Albion" is the best customer for novelties that the French have.

There is another matter which I hinted at in my last paper which has to be taken into consideration—viz., the lack of verdure in and about Paris. This combined with the constant glare renders, I rather fancy, their taste in the matter of gardening somewhat different from ours, or rather from the prevailing one at present. The impossibility of keeping their grass fresh has led to the change in the style of the Champs Elysées, of which the writer I have alluded to complains, and to the filling of the beds with large masses of *Cannas*, *Caladiums*, and other fine-foliated plants. And I believe that the large masses of yellows, reds, blues, &c., which now form the staple of a well-arranged parterre would be offensive to them. And if any one will just call to mind what the Crystal Palace Garden was during some of the hot days of last summer when the grass was as brown well nigh as the walks, they will at once see that there is some probability that this does affect their taste, and that hence to their eye the duller colours on the bright verdure are more grateful. I can quite understand it by my own experience, living as I do on the seacoast, with the "white cliffs of old England" constantly in view, combined with the bright glare of the sea: nothing is more refreshing than to get a day's run into the country, and amidst the foliage of the woods have nothing but green to rest the eye upon.

We, as they, have two classes of public gardens—those which are completely so, open gratuitously, such as our parks, Kensington Gardens, &c., and those to which admission is to be had on payment, such as the Royal Horticultural Society's at Kensington, and the Crystal Palace. In both of these I do not hesitate to say we are immeasurably in advance. Compare with the first series the Bois de Boulogne, Jardin des Tuileries, the Champs Elysées, and the Parc de Montceaux, and I think even Frenchmen will acknowledge our superiority; while it would be simply absurd to place the Jardin d'Acclimatation, the only one in the same category, with either Kensington or Sydenham. The greatest advance that has been made in public gardens in Paris is in the Parc de Montceaux; and of this I would say a few words, as it seemed to me to be under careful management, and to be regulated with great taste.

The Parc de Montceaux was a private appanage of the Orleans family, and on the confiscation of their estates was made over to the use of the public by the present Emperor; it is on a line with the Champs Elysées, and from the Arc de Triomphe a handsome boulevard leads to it. Owing to there being a number of trees of some considerable age, there is much more shade than usual in the public gardens of Paris; and this will probably account for the greater freshness of the plants and flowers. And as the climate of Paris enables them to bed-out plants that must inevitably fail with us, the effect is very different and striking: *Caladiums*, especially *esculentum*, *Cannas*, *Wigandias*, different varieties of the Castor-oil Plant (*Ricinus*), *Ferdinandia*, *Begonias*, and *Bignonias* are largely used; while still more exotic-looking

things, such as the Indiarubber Plant, Banana, Palms, &c., were plunged in pots in various places on the turf; while in the grotto some fine specimens of tree Ferns were used in the same manner. There were also some beds of Erythrina; but floribunda had been used, and this was a mistake, as though flowering in a very small state it is apt not to flower at all. One large clump was planted with various species of Ricinus, African Marigolds, and some considerable number of Acer negundo variegata, which made a very pleasing contrast. Then, again, there were several ribbon-borders, although I do not think there was much to learn. Standard Fuchsias and Bignonias were oftentimes used in a background, and Cupheas, Ageratums, and Anthemis were

much more used than with us. A pretty effect was produced in one instance by a broad, flat border of Box kept in a dwarf state, and great care was evidenced in keeping every part well watered and clean. Altogether it struck me as by far the best of all the public gardens. The Jardin du Roi at Versailles I thought poor, very poor; and, indeed, altogether I was not a little comforted by the manifestly leading position we hold as horticulturists. It is said that the Emperor is about to erect an immense Crystal Palace at Passy, and perhaps then a further attempt at inducing a taste for our style of gardening may be made, although I question very much if it will take in France generally.—D., Deal.

### HORTICULTURAL EXHIBITIONS—THEIR INFLUENCE UPON CULTIVATION AND TASTE.

If the question was put to us—what, within the last several years has contributed the most to the promotion of first-class cultivation among gardeners?—we could have no hesitation in answering the public exhibitions of plants; for, though there may be many who may profess not to have been so influenced, there can be no question that the first great cause of improvements has been the noble examples of skill periodically brought together under the auspices of various societies; which examples, being to a very great extent particularly described, and sometimes pictorially represented by means of engravings, have through the medium of the horticultural press been sent through the length and breadth of the land—thus penetrating and eradicating prejudices in the craniums of some of our would-be-wise countrymen, which could not have been eradicated by any other means. Again, the employers of gardeners have witnessed what could be accomplished by proper management; and hence, where the means were allowed, the gardener had nothing but his own want of skill to blame, if he did not accomplish that which others had done before him. Apart, however, from the influence of these *fêtes* upon cultivation, there can be no doubt they have effected much good in guiding the artist, and in improving and correcting the taste of the

middle and higher classes of society, and of this we need no stronger proof than the fact that manufacturers look to nature and not to art for patterns to beautify the varied productions of the silk loom, &c.; whilst artists in wax and in artificial flowers imitate nature so very closely, as to render it difficult, in some specimens which we have recently seen, to tell whether they were real or not.

Our object, however, in this paper, is not so much to point out the benefits accruing from these exhibitions, as to call the attention of the managers of the exhibitions themselves to the necessity of infusing a little more artistic effect into the arrangements of the exhibition-tents, for we feel convinced there is yet much room for improvement. The best exemplification of artistic arrangement was seen at the exhibitions of American Plants in the Regent's Park Garden, where, by diversifying the surface of the ground, and grouping the plants with considerable taste, a very effective *tout ensemble* was produced.

Seeing, then, that improvements are to be made, and with the fact before us that the artistic arrangement of the plants in plant-houses, is a matter of considerable interest among persons of taste at the present time, we venture to recommend two stands for the exhibition of Orchids, from the designs of H. Noel Humphreys, Esq.; and



of considerable interest among persons of taste at the present time, we venture to recommend two stands for the exhibition of Orchids, from the designs of H. Noel Humphreys, Esq.; and

we venture further to assert that if these stands were as tastefully filled as the designs are appropriate, a very pleasing and highly gratifying result would be achieved. The large stand is supposed to be executed in rustic work, stands 4 feet in height, to the first tier of plants, and is proportionately large in circumference. The second stand is nearly of the same dimensions, but to render it more artistic, and at the same time durable, it is executed in "terra cotta." These stands tastefully filled and introduced into an Orchid-tent—say the rustic stand in the centre, between the tables, and a terra cotta stand at each end of the tent, thus forming a group with a centre and two sides—we are quite sure would be much admired, and would impart an entirely new feature to our exhibitions. Grouped artistically with mixed plants, some remarkable for their flowers, others for their noble foliage, and a third section as the Ferns, for their graceful habit, a very striking effect might be produced; and, introduced upon the same principle into a conservatory or ball-room, we cannot see that they would be out of place. To keep up the interest of an exhibition-tent, it is necessary that the plants should not all be seen on first entering the tent, for though the first effect may be very pleasing, the eye gets restless,

and seeks a change long before one can be met with; but if plants of an opposite and striking character were introduced in these or similar stands, we are quite sure the appearance of the tents would be greatly improved, and visitors would not fail to appreciate the improvement. — (*Gardeners' Magazine of Botany.*)



[We introduce these elegant designs not merely on account of the beautiful and graceful arrangement which they display as adapted for relieving the monotony of long lines of plants in horticultural exhibitions, for the decoration of architectural conservatories, or even when filled with hardier plants for placing in the centre of circles where several walks meet; but more particularly as being likely to suggest ideas for the tasteful grouping of dinner-table decorations.

For this purpose the vases if executed on a smaller scale, either in terra cotta or other more costly material, would be peculiarly suitable.

The prizes which have been offered at the exhibitions of the Royal Horticultural Society, have excited such an amount of interest in this subject on the part of the public, and so much emulation on that of the competi-

tors, that examples of correct taste and beautiful arrangement cannot fail to become more frequent than they have hitherto been.]

### A SELECTION OF GOOD OLD HERBACEOUS PLANTS.

IN the brief sketch given below of a few old favourites of the herbaceous border, I wish to bring what I consider a small selection of beautiful or singular plants (which, if better known would be far more frequently grown), under the notice of your readers fond of this class of plants.

*Lychnis fulgens.*—From its exceeding brightness this is undoubtedly the most gorgeous of an exceedingly pretty class. The flowers are in colour a beautiful crimson scarlet, from 1 inch to 2 inches in diameter. It is not well cultivated without a little special care in winter. Its habit is tolerably compact, and its usual time of flowering is June and July. Introduced originally from Siberia. This plant when kept in a cool pit during winter, cuttings being struck in early spring and grown in a nice warm atmosphere, I have seen flower when 3 inches high, looking very pretty when four or five cuttings were in a 32-pot.

*Rudbeckia pinnata.*—One of the most singular species of this genus, having but eight long broad florets in the ray, separated from each other, and falling back reflexed to the upright stem. The elongated or conc-like disk stands high and prominent, and is of a dark velvety colour, contrasting admirably with the long

yellow florets of the ray. It is quite hardy, being very fond of a dry garden soil. Flowers from June to October. Native of Carolina.

*Leptostelma maximo.*—Another most singular, and one of those not gny but very striking plants so admired for their singular flowers and stately forms. The leaf at first sight would cause one to pronounce it a Thistle; as such it is a magnificent object when full grown, its average height being about 7 feet, and covered with large masses of flowers. It has one drawback, which good gardeners seldom find fault with—requiring a little care, with slight protection in winter. A native of Mexico. Flowering from September to November.

*Scabiosa caucasica.*—A very distinct species, having broad, semi-silvery leaves, and a tall upright stem, its flower being composed of beautiful blue florets in the ray. Native of Mount Caucasus. Time of flowering, July and August.

*Potentilla atrosanguinea.*—A splendid flower of very dark rich crimson, enhanced manifold by its freedom of growth and flowering in almost any situation. Upon rockeries, old blocks, stony soil, in peat as an edging to Rhododendrons, Azaleas, &c., or wherever fancy can direct its being placed, it invariably

does well. It is of a decumbent habit. Introduced from Nepal. Flowering in profusion from early in July.

*Lathyrus magellanicus*.—It is strange that this Pea with its beautifully tinted blue flowers, and abundant green foliage, is not more sought after and more extensively grown for being hardy, more especially when trained against a wall. It is well suited to fill a vacant space upon a wall in summer, as it has the merit of retaining the beautiful green of its evergreen-like foliage to the base. Being a native of the Straits of Magellan, it has a great liking to an occasional watering with salt water, average strength of 2 ozs. to the gallon.

*Melianthus major*.—This attractive plant, even when not flowering, is a very stately object with its glaucous leaves. The flowers are also exceedingly handsome, though, unlike many, the calyx, which is coloured, is the beautiful part. If healthy, the flowers when shaken give out a sweet liquid, which the natives of the Cape, where it is found, highly prize as an enjoyable drink, supposed to have a very fine aroma. To flower this plant it should be planted on the sunny side of a wall, taking care, by protection from frost, to retain the young topmost shoots of last summer through winter, as if they are lost so is also the flower for the succeeding spring, for it always flowers upon the late mid-summer's shoots. Strong, rich soil induces it to grow to strong shoots. As a rule, to withstand the winter, I would recommend poor soil when it is planted out.

*Agrostemma coronaria*.—As regards merit, this, I am forced to confess, is behind each of the others yet enumerated; but as a free bloomer, singular foliage plant, &c., I give it a place. The following is one of my earliest notes taken of the same—"Rather a pretty plant, with upright habit, having very woolly leaves covered with an apparent mass of white hairs, distinct in winter from its greener companions; a profuse flowerer, with flowers an inch in diameter." Found among other places upon the mountains of Switzerland. Flowers from June to August.

*Silene compacta*.—This beautiful plant is strictly a biennial. It is a very showy plant, growing some 2 feet high, when well manured, &c.; and when starved upon rockwork or so, it is a dwarf, compact, free-blooming plant, and a very useful one, being perfectly hardy. It is propagated by seeds sown in the beginning of April, to be eventually transplanted where to flower in August. Native of Mount Caucasus.

*Argemone grandiflora*.—This is one of those exceedingly showy plants, easily grown, and is deserving of a place in the back row. Generally flowering in July. It has rather singular foliage, and is a native of Mexico.

*Aquilegia glandulosa*.—When properly grown I do not hesitate to express a belief that this is one of the most showy plants a garden can be possessed of. The flowers are large, of a deep blue, and what gardeners would call in their vernacular, "a self." It likes a dry situation, with sandy loam and leaf mould. Flowers between May and July.

*Dianthus libanotis*.—Though not a new Pink, yet I think it will vie in beauty and singularity with many of the more recently-introduced Chinese kinds. It grows some 3 feet or 4 feet high; likes a warm, dryish locality, and moderately good garden soil. Flowers in August and September very beautifully.

*Hesperis grandiflora*.—A showy plant, growing some 2½ feet high. To grow it properly it requires more care than many of its class, as it requires to be transplanted by means of dividing the young shoots from the old flowering-stem, placing in a cold frame during winter, to be turned out in the spring to a good place in the border.

*Corydalis nobilis*.—This is one of those beautiful objects which push through the earth in spring as do our Crocuses, Snowdrops, &c., of which we are quite unconscious until we behold them. From its sweet scent I have supposed this to be Primrose-scented. It is not exceedingly pretty or curious, but as suited to the front row, rockwork, or so, I give it a place. The green of its foliage is of a very pleasing tint; flowers, golden with dark velvety spots. Flowers in May and June.

*Anemone narcissiflora*.—A pretty, free-flowering variety, cream-coloured, fond of chalky soil. Flowers about May. Introduced from Canada.

*Leontice altaica*.—A very useful plant for front row or rockwork. Producing yellow flowers in spikes, from a tuberous root like the two above. It is a tolerably free bloomer. From the Altai Mountains.

*Epimedium macranthum*.—I believe this is called large-flowered, though possessed of very small ones. Very singular, and exceedingly pretty, taking the plant as a whole; about a foot

high, having leaves, in form triternate, of a lively green. The flowers upon the points of the young shoots giving it a very light, artistic appearance. Native of Japan. Flowers in May and June.—W. EARLEY, *Digswell*.

## SCHOOL OF AGRICULTURE.

WILL some of our readers be good enough to furnish the following information?

"Can you recommend or name any school where the study of natural science is alternated with practical gardening or farming? I wish to place my son, fourteen years of age, where his strong inclination for a rural life may be fitly directed, and industrious habits acquired; but I am altogether ignorant of the whereabouts of any such institution.—DOCTOR."

## GAS-WATER DESTRUCTIVE TO GARDEN INSECTS.

THE almost universal complaint of the ravages made by slugs and caterpillars in gardens this season is a sufficient apology for taking notice of any remedy, however simple, which promises in the slightest degree to alleviate the evil. Among other remedies which have been applied with beneficial results this year is gas-water—that is, water from a gas-tank. It has been applied in various ways, and to different kinds of insects, and, if not a panacea for all the ills that gardens are heir to, its effects have been such as are worth chronicling. A gentleman has favoured us with his experiments on an Apricot tree which had been seized by the vermin. Being anxious to secure the fruit, he had the tree protected by a covering of pretty close gauze-work. On removing the covering one day to inspect the progress of the fruit, he found that the caterpillar had got about halfway up the tree, and was devouring every leaf in its progress. He applied the gas-water by means of a common watering-pan, and after a pretty liberal application of the fluid at intervals during a space of four days, he found that he had completely destroyed the caterpillar, and saved his crop of Apricots. The same plan was followed with Currant bushes, and the same beneficial results followed. It was also applied to vegetables which were attacked by the worm at the root. Where the plants exhibited signs of being attacked, a hole was made in a slanting direction, so as to command access to the root, into which the water was poured. This plan, we are assured, seldom failed in destroying the insect, without endangering the plant. Those in the neighbourhood of towns will have little difficulty in obtaining a quantity sufficient for a few applications; and, as but few applications are necessary, the remedy can be easily tested.—(*Scottish Farmer*.)

## GREEN'S MOWING MACHINES.

I NOTE a paragraph in your Journal (dated August 5th), headed "Ornamental Gardening," in which "R. F." expresses his confidence in my machines, having two in use, but complains that they make a great noise when drawn backwards. If "R. F." will just lift up the machines so that the large drums will clear the ground, he will find that he can easily run the machines about on the front rollers, and avoid all the unpleasant noise he complains of. This is only necessary with my light single-handed machines, 10 inches, 12 inches, 14 inches, and 16 inches. All above that size being heavier, have a lever for withdrawing the catches.—THOS. GREEN.

ASPARAGUS TOPS.—Asparagus stems cut now half-way down and dried in the sun make a light shade for fruit blossom in the early spring. Cut now it is not so brittle as later, keeps the Asparagus erect, does not weaken the stools, and allows the beds to be cleared of surface weeds which are otherwise hidden. This may not be new, but it is very useful.—J. R. A. DOUGLAS.

STEPHENS' TOBACCO FUMIGATOR.—Having received many inquiries from your readers requesting information as to where they can purchase my new Tobacco Fumigator, I beg to state in an answer to them all that it is made by Messrs. Shillito and Shorland, 95, Stratford Road, Manchester.—JAMES STEPHENS, *Barlowmoor, Didsbury, Manchester*.

## OSIERS.

SEEING an answer in the last Number of your periodical about Osier-beds, it occurred to me that you would be able to furnish me with information as to the mode of preparing the land, the variety of Osier, the distance from plant to plant, whether cuttings or rooted plants are used, and where obtained?—P. B.

[The varieties are numerous, and in a very confused state, innumerable intermediate forms existing among the species. The selection of any particular variety for cultivation will be dependent, in a great measure, on the soil of the locality, and the purpose for which the rods are required.

The best variety of the common Osier, *Salix viminalis*, is the Speckled or Blotched, known also by several other names, which is good for basket-making. Most of the other varieties are coarse, brittle, and worthless. Of the Long-leaved Willow, *Salix triandra*, there are likewise several varieties, the best being the Black-budded Spaniard, which is much used for the handles, bottoms, and rims of baskets. The Basket Osier, *Salix Forbyana*, and Hollander, are very strong, and much esteemed for the finer kinds of basket-work. The French, or real French, and the Stone Osier, are excellent for fine work. The Green-leaved Osier or Ornard, *Salix rubra*, is very tough, and is preferred for carboy baskets; and the Bitter Ornard, *Salix purpurea*, and Golden Osier, *Salix vitellina*, being slender and tough are very useful for the finer kinds of baskets, as well as for tying and binding. The Silver Osier, the Bastard French, the Blunt-leaved Ornard, and some others, are used for coarse work, hampers, &c.

Some kinds will do very well in light soil, where there is an abundant supply of moisture; but rich, loamy ground, with a retentive subsoil is that in which the Osier attains the greatest perfection. The growth is always most luxuriant in the alluvial grounds by the banks of rivers, which are frequently flooded, and where the surface consequently receives a rich top-dressing of mud.

Prepare the ground by trenching 15 inches deep, and plant any time after the fall of the leaf; but best in the end of February or early in March. Take cuttings 15 inches in length from the lower ends of the well-ripened shoots, and insert them at least half their length in the ground. In rich soil where the Osier grows luxuriantly the rows may be 2 feet to 3 feet apart, according to the kind, and the sets 18 inches from each other in the row; but in light land 18 inches by 16 inches will be sufficient. We can give you no idea where the sets can be obtained. The basket-makers are the most likely persons to know.]

## WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 376.)

## CRUSTACEA—(concluded).

**NIKA EDULIS.**—This little creature is, according to Professor Bell, one of the rarest of our British species. It is found, however, occasionally on the southern coast of Devon. Its length is from two inches to two inches and a half; the colour a flesh red, more or less spotted with yellow and white, and marked along the back with spots of these colours. One particular singularity of the *Nika edulis* is, that the body is stated to be so transparent that the viscera may be seen through the integument. The whole of the shell is smooth; the upper portion, or carapace, slightly rounded, and terminating in a short, pointed rostrum. The external antennæ are remarkably long. The first pair of feet are different, one being two-toed, the other one-toed. Another inequality is observable in the second pair of feet, the right being considerably longer than the left. The fourth pair again are longer than the third or fifth, the fifth being the shortest.

**ATHANAS NITESCENS.**—This minute Crustacean, which measures but little more than half an inch, is not very common, although it is stated by Dr. Leach to be "occasionally found in pools left by the tide among the rocks on the coasts of Devon and Cornwall." The carapace is quite smooth, and narrowed towards the point, where it terminates in a pointed rostrum, about half the length of the carapace itself. The anterior legs are stout and strong, compared to the size of the animal; the second pair are very slender; the remaining pairs simple and slender. There would seem to be a doubt as to its colour, but light buff is that suggested by Professor Bell.

**THE VARYING HIPPOLYTE (*Hippolyte varians*).**—This is a

beautiful little species, measuring about three-quarters of an inch in length. Its ordinary colour is a bright, clear green, although Dr. Leach states that "it is very variable in colour, occurring with every shade of green, and of every tint between reddish and liver brown." The carapace is smooth, terminating anteriorly in a long, straight rostrum, which has a tooth near the base on the upper side, and another very much smaller near the apex. The first pair of feet are short and thick, the second pair are shorter than the third.

"This," says Professor Bell, "is the most abundant of all our species of Hippolyte, though probably not the most extensively distributed." "It is found," says Dr. Leach, "in profusion in pools amongst the rocks on the south-western coast of Devon and Cornwall. It is common all along that coast, and as far as Poole Harbour in Dorsetshire. It has been found extensively round the Irish coast." Mr. W. Thompson says, "It has been taken commonly by Mr. Hyndman and myself in the rock pools accessible at low water throughout the Down coast, and has been dredged by us in deep water on the north-east coast, and in Killery Bay, Connemara. Mr. R. Ball has specimens from the shores about Dublin. It is a beautiful and elegant species, but loses its lovely green colour soon after death."

**PAUDALUS ANNULICORNIS.**—"At first sight," says Professor Bell, "this species may be readily mistaken for a common Prawn; but a closer examination will show that its structural relations are much nearer to *Hippolyte* than to *Palaemon*." The carapace is smooth, terminating in a rostrum as long as itself. This rostrum is turned upwards towards its extremity, and for about half its length from the base furnished with teeth; it also has five teeth beneath. The eyes are remarkably large; the external antennæ are extremely long, and are marked with rings alternately dark and light throughout their entire length. The fore feet are simple, and slightly curved; the second pair very unequal both in size and length, one being very long and slender, the other short and thick; both, however, are two-toed. The rest of the feet are simple, and nearly of equal length, the end joint having on the under surface a row of spines. The ordinary length is from two inches to two inches and a half. The colour is a reddish-grey, curiously marked, and spotted with deeper red. "It is used," says Dr. Leach, "at Yarmouth as an article of food, and is at that place so much esteemed for the table as to afford constant employment during the summer season to several fishermen, who take it in abundance at a considerable distance from the shore, and name it from that circumstance the Sea Shrimp." It is found commonly on the southern coasts of England, and Professor Bell adds, "I have occasionally known it brought to the London markets, where, however, it is usually seen of small size."

**MYTIS CHAMELEON.**—The carapace of this small but very common species is slender, terminating in a very short rostrum. The eyes are large, and placed on a short, thick peduncle or stalk. The antennæ are also placed on stalks. Its length is about an inch and a quarter. With regard to its colour, which, as its name implies, varies, we will make use of some remarks of Mr. Vaughan Thompson. "Nothing," this gentleman remarks, "can show the fallacy of colour in distinguishing the species more clearly than the variety of tints which *Mytis Chamaleon* assumes as it occurs here in the river Lee and the Harbour of Cove, and which have suggested its trivial name. In the upper part of the river, below the city of Cork, it occurs of different shades of grey, inclining at times to black, having invariably the greater part of the anterior scales, inner branch of the inferior antennæ and joints of the outer laminae of the tail, black, and the fringe of the scales tinged with pink; lower down amongst the littoral fucæ it takes various tints of brown, and those obtained from sites abounding in *Zostera* and *Ulva* present us with green colours of greater or less intensity." "This is perhaps," says Professor Bell, "the most common and the most widely distributed of our native species. I have received it from various parts of the coast, both of England and Ireland, but from no place in such numbers as from Weymouth, where it sometimes swarms."

**SQUILLA DESMARESTII.**—This is a strange and beautiful species. The carapace is narrowed anteriorly, slightly marked and grooved. The claws are long and stout; the prehensile finger armed with five sharp teeth. The length is about three inches.

The *Squilla Desmarestii* is taken off Cornwall, and "I am informed," says Professor Bell, "by Mr. A. G. More, of Bem-

bridge, Isle of Wight, and of Trinity College, Cambridge, that it has also been taken repeatedly off Bembridge, by the fishermen of that place, on a muddy bottom grown over with 'grass' (*Zostera*); and from a sketch with which that gentleman has favoured me, and the testimony of the fishermen, it would appear that it has there attained nearly the size of those taken in the Mediterranean, whilst those found on the coast of Cornwall have not exceeded two inches and a quarter." "It abounds, Professor Bell proceeds to state, "amongst the rocks near the coast, in company with various Palemonidæ; and Roux informs us that it is commonly eaten fried with such smaller *Macroura*. Its habits are wholly nocturnal, as it hides itself always during the day. The colours of this species are described as very pleasing; the general tint is a yellowish-brown, the pincers white with a slight hue of rose. The scales of the antennæ and those of the tail are fringed with long, rose-coloured cilia. Two remarkable varieties are mentioned—one of a delicate rose colour, and the other a deep yellow, slightly varied with brown."

With this creature we conclude our notice of the Crustacea; some few species have been omitted, but such only whose rarity renders it improbable that they would come under the notice of the ordinary tourist. We shall now proceed to the next and last division of our subject—the *Mollusca*.—W.

(To be continued.)

## EXTRACTS FROM A TOO-MUCH NEGLECTED BOOK.

**PUMPKINS.**—*Saturday, September 16.*—Pleasant soft weather. The farmers are ploughing and sowing grain, and have been doing so for some days; they are earlier than they used to be with their autumn seed-time. The Buckwheat fields are turning red, and will soon be cut. The Maize-stalks are drying and withering as the ears ripen; on some farms they are harvesting both crops—red Buckwheat-sheaves, and withered corn-stalks, are standing about the fields. All through the summer months the Maize fields are beautiful with their long glossy leaves; but when ripe, dry, and colourless, they will not compare with the waving lawns of other grains. The golden ears, however, after the husk has been taken off, are perhaps the noblest heads of grain in the world; the rich piles now lying about the fields are a sight to rejoice the farmer's heart.

The great Pumpkins, always grown with Maize, are also lying ripening in the sun; as we have had no frost yet, the vines are still green. When they are harvested and gathered in heaps the Pumpkins rival the yellow corn in richness; and a farm-wagon carrying a load of husked corn and Pumpkins, bears as handsome a load of produce as the country yields. It is a precious one, too, for the farmer and his flocks.

Cattle are very fond of Pumpkins; it is pleasant to see what a feast the honest creatures make of them in the barnyard; they evidently consider them a great dainty, far superior to common provender. But in this part of the world, not only the cattle, but men, women, and children—we all eat Pumpkins. Yesterday, the first pumpkin-pie of the season made its appearance on table. It seems rather strange, at a first glance, that in a country where Apples, and Plums, and Peaches, and Cranberries abound, the Pumpkin should be held in high favour for pies. But this is a taste which may probably be traced back to the early colonists; the first housewives of New England found no Apples or Quinces in the wilderness; but Pumpkins may have been raised the first summer after they landed at Plymouth. At any rate, we know that they were soon turned to account in this way.

The old Hollander, Van der Donck, in his account of the New Netherlands, published in 1656, mentions the Pumpkin as being held in high favour in New Amsterdam, and adds, that the English colonists—meaning those of New England—"use it also for pastry." This is probably the first printed allusion to the pumpkin-pie in our annals. Even at the present day, in new Western settlements where the supply of fruit is necessarily small at first, Pumpkins were made into preserves, and as such pains are taken in preparing them as though they were the finest Peaches from the markets of Philadelphia and Baltimore.

When it is once proved that pumpkin-pies were provided for the children of the first colonists by their worthy mothers, the fact that a partiality for them continued long after other good things were provided, is not at all surprising, since the grown man will very generally be found to cherish an exalted opinion

of the pies of his childhood. What bread-and-milk, what rice-puddings, can possibly equal the bread-and-milk, the rice-puddings of the schoolboy?

The noble sex, especially, are much given to these tender memories of youthful dainties, and it generally happens, too, that the pie or pudding so affectionately remembered, was home-made; you will not often find the confectioner's tart, bought with sixpence of pocket-money, so indelibly stamped in recollections of the past.

There is at all times a peculiar sort of interest about a simple home-made meal, not felt where a *cordon-bleu* presides; there is a touch of anxiety in the breast of the housekeeper as to the fate of the boiled and roast, the bread and paste, preserves and other eates, which now changes to the depression of a failure, now to the triumph of brilliant success, emotions which are of course shared, in a greater or less degree, by all who partake of the viands, according to the state of the different appetites and sensibilities.

But this ghost of the schoolboy pie, this spectral plum-pudding, sitting in judgment upon the present generation of pies and puddings, when it takes possession of husband, brother, or father, has often proved the despair of a housekeeper. In such a case, no painstaking labours, no nice mixing of ingredients, no careful injunctions to cook or baker, are of any use whatever; that the pie of to-day can equal the pie of five-and-twenty years since, is a pure impossibility.

The pudding is tolerable, perhaps—it does pretty well—they are much obliged to you for the pains you have taken—yea, they will take a little more—another spoonful, if you please—still, if they must speak with perfect frankness, the rice-pudding, the plum-tart, the apple-pie they are now eating, will no more compare with the puddings, and tarts, and pies eaten every day in past times at their good mother's table, than—language fails to express the breadth of the comparison!

Such being man's nature, *apropos* of pies and puddings, it follows, of course, that the pumpkin-pies eaten by the first tribe of little Yankee boys were never equalled by those made of Peaches and Plums in later years, and the pumpkin-pie was accordingly promoted from that period to the first place in pastry, among all good Yankees. Probably the first of the kind were simple enough; eggs, cream, brandy, rose-water, nutmegs, ginger, and cinnamon, are all used now to flavour them, but some of these ingredients must have been very precious to the early colonists, too valuable to be thrown into pies.

Probably, there was also another reason why the pumpkin-pie was so much in favour in New England; it had never made part of Christmas cheer; it was not in the least like the mince-pie, that abomination of their stern old fathers. We hardly know whether to laugh or to cry when we remember the fierce attacks made upon the roasted boar's head, the mince-pies, and other good things of that kind, by the early Puritans; but when we recollect the reason of this enmity, we mourn over the evils that prejudice brings about in this world.

Strange, indeed, that men endowed with many Christian virtues should have ever thought it a duty to oppose so bitterly the celebration of a festival in honour of the nativity of Christ! Happily, Time, the great ally of Truth has worked a change in this respect; Christmas is kept throughout the country, and mince-pies are eaten with a quiet conscience and very good appetite by everybody. And what is vastly to the credit of the community, while all have returned to the mince-pie, all are quite capable of doing justice to a good pumpkin-pie also, and by a very happy state of things, the rival pastries are found on the same tables from Thanksgiving to Ash-Wednesday.

Mince-pies are even more in favour in this country than in England; some people eat them all the year round; I have been offered a slice on the eve of the 4th of July. Those made by the farmer's wives about the country are, however, very coarse imitations of the real thing; their paste is made with lard, and always heavy; coarsely-hashed meat, and apples, and suet, with a little spice, are the chief ingredients, and a dish more favourable to dyspepsia could not easily be put together.—(*Miss Cooper's Journal of a Naturalist in the United States.*)

**A LARGE ONION-GROWER.**—Mr. Circuit, a farmer at East Ham, Essex, employs upwards of six hundred people (men, boys, and women) in pulling, carting, and peeling Onions for pickling, and they are thus engaged for two months. He pays wages to the amount of £200 weekly, and the cost of each acre of Onions

averages £100. This includes preparing the ground, seed, weeding, gathering, and peeling. He has sowed nearly a ton of Onion seed. The Onions are pulled by women, by the rod, and skinned by the gallow.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

It may be useful to repeat that the destruction of weeds should always be considered an obligation due to the crops as well as to the soil, and that its efficient performance is weakened by delay. As the wet weather which has prevailed lately will probably cause a very general activity amongst annual weeds, corresponding exertions should be made for their extirpation. Within a day or two of the 21st of the month make the main sowings of Cauliflower, Bath Cos, Cabbage Lettuces, and Red Cabbage, to stand through the winter. As luxuriant growth is not desirable, the soil should not be too rich. Sow thin, and prick-out in time before they become leggy. *Cabbage*, another sowing may be made to stand in the seed-bed through the winter. A late sowing sometimes comes in very useful. *Dwarf Kidney Beans*, keep the crop closely gathered; if they are allowed to remain until they are too old for use they discontinue to bear as they otherwise would. *Endive*, a late sowing may be made. Keep up successional plantings from former sowings. *Onions*, the main crops to be pulled up, and the roots exposed to the sun: this is the more necessary, because as soon as the bulbs have attained their full growth, they will in a very short time begin either to decay at the root, or else strike root again into the earth, which is detrimental to their keeping. *Radishes*, make another sowing of Black and White Spanish, and also of the Turnip-rooted sorts. *Turnips*, it is not yet too late to sow for winter and spring use, for which purpose the ground where Potatoes have been lifted is very suitable. *Tomatoes* to be kept thinned, the shoots fastened to the wall or fence, and the fruit to be well exposed. *Vegetable Marrows*, see that they do not want for water.

### FLOWER GARDEN.

Continue to prick-out biennial and perennial plants in succession into nursery-beds. Give waterings in dry weather until they get good hold of the soil. Encourage those already pricked-out by frequent surface-stirring between the rows. Continue to plant-out the Pinks as soon as they are struck. The propagation of herbaceous plants, if the stock is deficient in any respect, should be attended to; the division of the old plants, in many instances, will be the preferable mode. Those who can find time may pick off the seed-pods from Rhododendrons and Azaleas: this will add much to the strength of the blossoms next year.

### FRUIT GARDEN.

As solar light is diminishing, particular attention should now be given to fruit trees. All the tender sorts of trained fruit trees will now be benefited by a constant stopping of the growing shoots. In looking over Peach and Nectarine trees it will be found that many of the shoots which were considered necessary and nailed-in for succeeding crops, will begin to overlap each other; a number of these should be stopped at this time. Any superfluous shoots of Pears that may have been retained, with the idea of preventing the blossom-buds of next year from "breaking," should now be well shortened-back to admit light and air to the shoots: thus cut back to form "spurs," and each carrying three or four leaves, they will assist in producing elaborated matter, both to nourish the fruit and to invigorate the embryo blossom-buds now actively engaged in depositing food for a healthy development in the ensuing spring. Keep the lateral growth of Vines removed, and the shoots spread out as openly as possible. Figs to have their principal shoots nailed-in, and the remainder taken off. Suckers of the same to be constantly removed. The sooner the new beds of Strawberries are finished the better. Raspberry canes to be stopped, and all small and spurious shoots cleared away.

### GREENHOUSE AND CONSERVATORY.

Attention should be directed to the stock of Chrysanthemums, Veronicas, late Fuchsias, Achimenes, Scarlet and other Pelargoniums, Verbenas, and Ageratum. Salvias, although not rare, will withstand the gloom of autumn, and greatly assist in keeping up a gay appearance to a late period. The continuance of unfavourable weather will render a further introduction of tender plants advisable. Those allowed to remain outside in the open air should

be carefully examined, and the assurance obtained that they are receiving no injury from defects of drainage or the presence of worms. Pelargoniums which have been cut down as advised, and have commenced to grow, to be shaken out of their pots and repotted into others of smaller size. Sow Mignonette for blooming late in the season. Keep climbers free from decayed leaves and faded blooms; remove any straggling shoots. Plants in pots that have not been placed out of doors should now be shifted if they are likely to require it before the spring, so as to make fresh roots before cold and damp weather sets in.

### PITS AND FRAMES.

Make all necessary preparations here for propagating plants for next year's decoration of the flower garden. See that all the structures are in good repair; all lights that require it to be glazed and painted, and the interior of the pots smartened-up by applying the whitewash-brush. Turf-pits, too, if damaged to be repaired. W. KEANE.

## DOINGS OF THE LAST WEEK.

VERY little difference from last week. The rain that we desired so much came, and gave us a good supply of water in our tanks, and made everything grow just as we wished it to do, though the weather has been cloudy and cold since. Of the "everything," however, I must except Prince's Feather in the flower garden—a great favourite with me, and a gorgeous affair in a hot season, without which it will rise to no height. I sowed the seed carefully from a beautiful bushy variety that was from 3½ feet to 4 feet in height last season, and this season it has not got to 18 inches yet—just a foot too low at least for what I wanted. Love-lies-bleeding, another grand old plant, has done better, showing that it does not require so high a temperature. These plants were carefully pricked-out, and then planted out. Those sown in the open air are not above half the height. I have long noticed that the plants grow little until the warm nights come in, and as yet we have known little of the heats of summer.

### KITCHEN GARDEN.

Weeding, surface-stirring, Pea-staking, and walk-rolling after the rains, have been the principal operations; looking after seed ling. Turnips and Radishes to keep the birds and slugs from them; throwing a little soot, lime, and burnt ashes over them when damp in a morning.

### FRUIT GARDEN.

Proceeded with regulating fruit trees, planting Strawberries, potting Strawberries for forcing that were laid in small 60-pots, and taking some up and potting in 60's at once. This is late enough, but we could not help ourselves, having so much just now to attend to in the flower garden, &c. These potted into 60's will have a little help from a slight hotbed of grass and rotten leaves, just to fill the pots with roots, when they will be potted as the layered ones. A good lot will also be pricked-out on a rich border some 6 inches apart, and these we can raise and force if needed after March. I have no faith in forcing plants before that time that were not potted and had well filled the pots with roots, as well as had the buds well ripened the previous autumn. The sorts we are now potting are chiefly Keens' and Queens, and mostly one in a six or seven-inch pot. The small plants in the 60-pots are brought to the temporary potting-bench, shaken out of the pot, and placed well up in the larger pot, the main bud being only a little below the rim. The soil is pressed firm in the bottom of the larger pot to prevent much sinking, the roots gently disentangled, and rich loam placed as firmly as possible round the balls, and then the pots placed in an open position full in the sun, and on a hard bottom. Water is given; but if the sun should be powerful a slight shading may be given, or, what is better, frequent dewings from a syringe, so that a leaf shall never be seen to flag. Many people treat their Strawberry plants as they do cuttings of various plants—allow the leaves to hang down and flag that they may have the pleasure of seeing how water will revive them. We think it is better never to allow a leaf to flag in either case. We know that plants as well as animals may survive much bad treatment—that they may have too much one day, and death may come as the remedy; and at any rate, it is such an unpleasant thing to see plant or animal endure suffering which a little attention would avoid.

In fruit-houses much the same as last week.

### HOUSES AND PLEASURE GROUNDS.

Much the same as last week, having had much to do to get all

the lawn and flower-beds up to the mark in tidiness for one day. A friend tells me I should try moss in the beds to keep them moist. Well, here, as I stated last week, if I did not fasten the moss down it would soon be over all the place by the winds and birds, and in a dry season I should never get water to keep it green, and brown moss has little of the attractive about it. It is used largely in the flower-beds at Woodstock, in Ireland, but then there is more of a dripping climate there, I believe. In general the plants conceal the earth pretty well, but I think that many beds that this season show a rim of earth between the foliage and the grass, would have been better if carpeted with some low plant that would make a nice border as well. I know some artists prefer to see a rim of earth between the plants and the grass or gravel, though I would prefer seeing no earth at all. I certainly should prefer the moss to the earth if it could be kept at all green and firm in its place. Commenced with preparations for cuttings. Will take a few Verbenas first, and as a precaution draw the cuttings, except their base, through weak tobacco water. This is sure to leave thrips, &c., behind if there should be such things, and in this as well as in most similar matters, prevention is better than cure. As a whole, Verbenas here have not been up to the mark this season.—R. F.

### TRADE CATALOGUES RECEIVED.

*A Catalogue of Stove, Greenhouse, and Hardy Plants, Hyacinths, and other Bulbous Roots, by Robert Parker, Exotic Nursery, Tooting, Surrey, S.*

*Wm. Cutbush & Son's Descriptive Catalogue of Bulbs for 1863. Highgate, London, N.*

*B. S. Williams' Descriptive Catalogue of Hyacinths and other Bulbous Roots. 1862. Holloway, London, N.*

*Catalogue of Dutch Flower-Roots, &c., by Edward Taylor, Malton, Yorkshire. 1862.*

*Richard Smith's List of Evergreen and Deciduous Shrubs, Rhododendrons, &c. Worcester, 1862.*

### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We cannot reply privately to any communication unless under very special circumstances.

**CERASTIUMS (M. H.).**—You are just in time to remind Mr. Beaton, that with all his sayings about Cerastiums to-day, that he has not said one word on their cultivation. But the truth is, any garden or soil that will grow a Snowdrop or a Crocus, will grow both the Cerastiums to perfection. All that they require to be done to them is merely to plant them, in any way you choose, any day in the year; and they will take care of themselves for years and years to come, if you take care they do not overrun their bounds, and smother things near them. And in April, if you will it, they will do to be planted by cuttings where they are to remain, and all the cuttings want is to be put in right and straight in rows, or round about in circles and bends—in short, the only difficulty about these two Cerastiums is, that they require no care, no forethought, no nothing, but room to grow in, and to be let alone without any bother about gardening and all that sort of thing; but, of course, people must see they do not grow much out of bounds.

**LETTUCE (Idem).**—Our Lettuce never runs to seed, because we never plant any, and yet we have a full supply the whole season. We sow them every third Monday from February to May, and every other Monday from May to August. We sow very thin indeed, and thin when we see two within 10 inches of each other. We learned the plan in 1826 from Mr. N. Niven, of Drumcondra, and in 1846 we proved the superiority of it over all other methods; for then Lettuces round about us did little else but seed, while ours did better than in colder seasons.

**FRUIT GARDEN (M. B.).**—You cannot safely move Raspberry and Currant bushes before the beginning or middle of October, and then it is too late to sow grass seeds. You had better take time and do it well. You will be just as forward with the grass if sown in the spring.

**PLUM TREE PRUNING (J. H.).**—Frost is doubtless the cause of your Plums not bearing, particularly if the blossom was strong. You should cover with tiffany in spring, and keep it on till after the fruit has well set. Do not cut back the spurs of last year. You did quite right in shortening last year's wood.

**VEGETABLES AND EVERGREENS (W. D. Paine).**—Dress your Asparagus with a quarter of a pound of salt to the square yard in winter, and again in summer. At the latter period let it be done in showery weather, and in both cases rake it in. You may cut out the old wood from evergreens at any time; but undoubtedly the best time to do so is in spring if the parts to be removed are large, because the wounds made will be more speedily covered by the new growth that then begins.

**VINES IN POTS (W. R. J.).**—Shift the Vines into larger pots when they have gone to rest. Drain the pots thoroughly; there is no fear of the roots, as they will be sure to find their way into the border.

**ROSES AND AZALEAS (H. W. Down).**—Repeat and cut down your Roses in autumn after the leaves have fallen. If you want them to flower in February you must begin forcing in January; if in March, in February. Pot Azaleas whenever they have made their growth.

**FLOWER GARDEN ARRANGEMENTS (Tyro).**—Your three ribbon-borders are particularly well planted, and your promenade-beds are even better done. Thus, No. 1 ribbon, Lady Middleton Geranium next the shrubs, *Calceolaria amplexicaulis* to be trained down in front of it, then Christina, then Purple King, and then Variegated Mint. No. 2, in front of a wall, Rose of England Geranium at the back, Purple King next, and then the Golden Chain and Box edging. No. 3, also in front of a wall 70 feet long, Christina next the wall, *Coleus Verschaffeltii* next, and Lady Plymouth in front. All very good. As Lady Plymouth is the best, if not the only variegated Geranium with which *Alyssum variegatum* will agree perfectly, we should be tempted to put every third plant in the Lady's row of that *Alyssum*, if only to deepen the perfect contrast between the front and second rows, and we could not just now name three rows more telling for contrast. Your promenade-beds, a circle and an oblong bed alternately—not "panel bed" which is quite a different arrangement. The circles are 9 feet across, the oblongs the same, and 25 feet in length—that is, 2 feet short of three times the width, which is about the rule to go by. The centre of the circles in Scarlet Geranium, then a band of Purple King Verbena, then another band of *Triomphe de l'Élyris*, and the edge of *Cerastium tomentosum*; but of course you will get *Biebersteini* for next year. The oblong beds are on the ridge-and-furrow or span-roof system. The double white "Everfew" in the centre (not *Ageratum*), *Calceolaria anrea floribunda* on each side, Christina on the same plan, *Lobelia speciosa* ditto, and *Cerastium tomentosum* all round the whole. Of all our labours nothing gives us more real pleasure than to see how well and how soon the right principles of planting flowers take root.

**VINERY (Notice, Manchester).**—There is not the slightest objection to the form of vinery you refer to in your communication. Our reply was given upon the belief that you had not made any beginning in its construction.

**STRATHMORE HERO TEA (J. Divers).**—This is the same as Tall Green Mammoth, and several other names. It is a first-rate sort. The wet season has no doubt affected it.

**FLOWER GARDEN (Claude Rouget).**—Your three arrangements are without a fault. No. 1 is the best; No. 3 the next best; and if you adopt No. 2, all the alteration needed is to put Royal Dwarf Geranium where you have Tom Thumb now, and put up Tom in the centre of the circle No. 5. If you adopt No. 1, you must replace Kingsbury Pet in 5 and 6 by Christina, for it will not stand the sun there; or if it did, your successful attempt at shading the three Geraniums would be lost. Thus, Cottage Maid, Trentham Rose, Cerise Unique, and Christina give the soft tint in front, and Cottage Maid the hard tint on the off side of the shaded pinks. The Pet would muddle your shading. All the rest most capitally done.

**CLETHRA ARBOREA (W. R. S.).**—Your five-year-old *Clethra arborea* will be a young plant, comparatively, when it is fifteen years of age, at thirty-five it will be getting into manhood, and at forty-five it will be at its prime. Do not throw it away if it do not flower for two or three years yet; it will certainly not flower this autumn. It is one of the very best pot or tub plants in England, or in all Europe, only the people of this improved generation, or most of them, are not yet aware of that fact. Out of a hundred thousand people who thronged the new garden of the Royal Horticultural Society on the occasion of the distribution of the prizes for the grand International Exhibition, twenty thousand were knowing garden people, and every one of the number confessed and acknowledged that Mr. Eyles' *Clethra arborea*, then in full bloom in the great conservatory, was the best flowered pot-evergreen they had ever seen; and well they might. But Mr. Eyles gives a touch of the Chatsworth school to such plants as he thinks are worthy of it, and *Clethra arborea*, being what we have just said, has been done on that model, and the result is now before you; nevertheless, as your plant will not bloom this year, if you must part with it, pray send it to Mr. Eyles.

**FUCHSIAS (M. F.).**—You may put in Fuchsia cuttings now, but spring is the best time. Plant slips of Lemon Thyme in spring.

**CROSSING PELARGONIUMS (C. P.).**—We believe that Sweet's *Pelargonium grandiflorum* (*Geraniaceae* 29) from the Cape, is the original parent of all the white that is now in the plants of the florists, all the other white kinds having been discarded by the early breeders; that *Cucullatum* rules the leaf of the best of the race to this day; that the dark blotches are due to *Cucullatum*'s purple having been eradicated, or confined to a speck, as in *Ignescens minor*, by the superior power of the scarlet of *Fulgidum*. Then if any practical result is sought by "C. D.'s" crossing, there are three distinct species represented by *Alba multiflora* and Queen of the Scarlet according to this genealogy. About 1820 there were nine or ten original white *Pelargoniums*, and doubt that number of pale purple, pink, and streaky ones in Sir Richard Hoare's collections near Bath, and in Lady Cumming Gordon's collection at Aitrye, near Forres, in Scotland. About that time the breeders discarded the whole except *Grandiflorum* for white, *Cucullatum* for purple, leaf, and stature, and the strain from *Fulgidum* was then barren, after reducing the purple of *Cucullatum* to a brown speck—the origin of the present blotch.

**CROCUS BULBS (T. C.).**—Mr. Beaton requests us to thank you for him, and say the rare Crocuses and other bulbs came safe to hand, and were put into damp cocoa refuse stuff to sprout roots before potting. Also to remind our readers that this is the most safe way with all far-travelled bulbs, for tender ones, and for all those from foreign countries out of Europe. Pot none of them till the roots have sprouted. They will keep quite safe for months or years in the cocoa-nut stuff, even if they did not push a root, and the stuff is preferable to sand to put round bulbs at planting or potting time.

**SCARLET GERANIUM (R. R., Berks).**—As far as we can judge from a cut flower, your seedling must be a good bedder. The horse-shoe mark is very large, but not nearly so deep and distinct as that in Baron Ricassoli.

**FASTOLF RASPBERRIES (M. F.).**—They want to be renewed. Make a new plantation on another piece of ground, and, when it comes into bearing, destroy your present one. You might in the meantime try a good manuring.

**MINIATURE POTS (A Notice).**—Some of the seedlings will answer well for this purpose—such as some *Mammillarias*, *Cereus*, *Euphorbias*, *Sedums*, *Crasulads*, or any plants, in fact, that do not require much pot-room.

**HARDY EXOTIC FERNS** (*Angus*).—The work you refer to will not be ready before next spring. There has been no edition of *London's Hortus Britannicus* since the large supplement was added in 1850, and there has not been any other work similar to it published since that we are aware of.

**FLOWER-GARDEN PLAN** (*W. E., Herbs*).—We are very much obliged to you for your offer of the plans, but we do not intend to publish any more at present. If we should determine to do so we shall communicate with you.

**RHUBARB** (*B. K.*).—By your question we presume that you refer to the stalks of the leaves of Rhubarb. If so, they are no more entitled to be called fruit than the stalks of Sea Kale, or the shoots of Asparagus.

**FUCHSIAS AND GERANIUMS** (*Anna Craigie*).—You will find full information on the culture of both in our "Florists' Flowers," which you may obtain post free from our office for 5d.

**MYRTLE TREE** (*H. R. B.*).—Your Myrtle is infested with scale, which if not checked will ultimately completely cover and destroy the plant. Wash it well with a strong solution of soap and water, scrubbing it with an old plate-brush or some such instrument, then syringe well with water at the temperature of 100°, or apply a dressing of Gishurst Compound, eight ounces dissolved in a gallon of water.

**APRICOT TREES** (*Dorset*).—Shaw's Tiffany is by far the best thing for the purpose, as it neither abstracts the light nor the air.

**MELONS** (*A. L. M.*).—Turner's Scarlet Gem is a first-rate Melon, and has frequently been the first at the exhibitions this and last season. Bromham Hall is also first-rate.

**LOBELIA SPECIOSA AT THE CRYSTAL PALACE** (*A. L. M.*).—The gardeners there save their own seeds, as do those of the Royal Horticultural Society, and in both places they avoid gathering seeds from any of the plants which show the least tendency to vary from the type. But many do not follow that rule, and the consequence is, speciosa is fast degenerating. Get two or three good tufts and evenly-growing plants early this autumn, propagate your stock from them in the spring, and save your own seeds in future from the very best sample of your plants.

**EMIGRATION** (*J. G.*).—Apply at the office of the Government Emigration Commissioners, 3, Park Street, Westminster. We cannot recommend one colony in preference to another, but should imagine that Victoria would afford the greatest encouragement to a gardener.

**NAME OF FRUIT** (*Handsworth*).—The Grape you sent is Trentham Black.

**NAMES OF PLANTS** (*R. P., Shrewsbury*).—1, *Potentilla fruticosa*; 2, *Veratrum nigrum*. (*C. J.*).—This is the Purple Orach, which is now so much used in flower-garden decoration. (*D. C.*).—1, *Vinca major* fol. reticulata; 2, *Taxodium distichum*. (*A. Subscriber, Waterhampton*).—*Sphenogyne speciosa*, a well-known handsome garden annual. (*Wm. Legg*).—*Sedum papilionifolium*. (*A. B.*).—*Spiraea japonica*. (*J. G.*).—1, *Medicago lupulina*; 2, *Trifolium agrarium*, usually called *T. procumbens*. (*Old Subscriber, Dublin*).—*Juniperus virginiana* penula, or Weeping Red Cedar. Very different from *Juniperus Sabina*, certainly. (*Scipio*).—The plant is *Lycopodium denticulatum*, and it has not any flower. *Lobellias*, *Tropaeolums*, *Verbenas*, scarlet *Pelargoniums*, and such-like plants, will do for hanging-baskets. (*J. Todd*).—*Campanula Vidalii*. (*J. L.*).—*Filix-mas* certainly, but whether accidentally deperanated or a fixed variety there is, no evidence to show.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

AUGUST 25th, 26th, 27th, and 28th. CRYSTAL PALACE. *Secs.*, W. Houghton. Entries close July 26th.  
 AUGUST 27th. COTTINGHAM. *Sec.*, Mr. J. Brittain. Entries close Aug. 20th.  
 AUGUST 30th. HALIFAX and CALDER VALE. *Sec.*, Mr. W. Irvine, Holmsfield. Entries close August 16th.  
 SEPTEMBER 2nd. POCKLINGTON, Yorkshire. *Sec.*, Mr. T. Grant. Entries close August 25th.  
 SEPTEMBER 4th. WAKEFIELD AND WEST RIDING. *Sec.*, Mr. J. Crosland, jun., Entries close August 23rd.  
 SEPTEMBER 9th. WORSLEY and ARMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.  
 SEPTEMBER 9th and 10th. CALNE. *Secs.*, A. Heath and F. Baily. Entries close August 28th.  
 SEPTEMBER 10th and 11th. MANCHESTER and LIVERPOOL. *Sec.*, Mr. T. B. Ryder, Church Street, Liverpool. Entries close August 11th.  
 SEPTEMBER 25th. STAFFORDSHIRE. *Sec.*, Mr. W. Tomkinson, Newcastle. Entries close August 25th.  
 DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### FATTENING YOUNG FOWLS.

(Continued from page 383.)

"THIS sum of 81*l.* 7*s.* would be but a poor remuneration for the feeder, if we did not take into consideration the difference which exists between the wages allowed to him in this table of expenses and the value of his time if employed on ordinary work in the country, at which in the winter time he would earn but 1*s.* per day. It becomes then necessary in order to make out a reasonable account, to deduct two-thirds of the labour, which is put at 3*s.* per day, and to add them to the profit of feeding. Then for forty days we shall have 80*l.* to add to the 81*l.* 7*s.* result of the previous account, which will in reality give us 161*l.* 7*s.* profit on fattening fifty poulardes.

"It must, nevertheless, be admitted, this would not be very encouraging if the labour were confined to that number of fowls; but during the five months that these labours last, an active poulterer can not only fatten a larger number of birds at a time,

but he can keep replacing constantly those he has taken out or sold by fresh birds.

"All who follow this trade are well off, and some have made small fortunes. As the foregoing is the result of careful and patient investigation made by consulting and listening to many different breeders and feeders, who all agreed exactly in the answers they gave to my various questions, I do not think I have been deceived in any particular as to the method of fattening, which, after all, as I have already said, is no secret for any one in the country."

We will add to the information supplied by M. Letrove, that the La Flèche fowls, like all others, may be fattened by means of the funnel. It is probable that by this process the growth and weight may not be so great as those made by cramming. We think, however, the flesh must be more delicate and have a higher flavour.

### "FATTENING BY MEANS OF A FUNNEL. (From the Same Author.)"

"There are three sorts of fattening. The first, natural, consists in the food given to animals that are at liberty, in the voluntary absorption of food calculated to produce the result, as cooked Indian corn, rice, buckwheat, &c. The animal should be in perfect health and fit for the process, both by nature and age, for with young poultry nearly all the food turns to bone and muscle. The exceptions from this rule will be adult birds, and breeds like the Crève Cœur, Dorking, Houdan, &c. To fatten even these certain food must be given, and there must be no limit.

"We have described the second method, that of cramming, in our article La Flèche.

"The third sort is funnelling—forced introduction, by means of a funnel, of farinaceous food in a liquid state. Sooner or later this method must prevail everywhere, because it is simple, easy, and quick.

"It is practised in the following manner:—Get some oat flour, not ground oats, for there must be no bran in it—on the contrary, it should be carefully sifted at the mill. Mix a quantity of it with milk and water in equal parts. It should be as liquid as broth or clear soup, and, I must repeat, the milk and water should be in equal parts. Experience has proved that where there was more than half milk, fattening has stopped at the end of a few days, and the fowl has wasted and died."

(To be continued.)

### POULTRY FARM IN CONNECTION WITH A TEN-ROOMED HOUSE.

I SHALL feel obliged if you will inform me through the columns of your useful Journal, what kind and size of a farm, or quantity of land attached to a ten-roomed house, would be sufficient to yield profit enough to pay the rent of the same? Would poultry alone, with grass land as a run for them, yield enough? having business connections sufficient to supply with almost any quantity of eggs or chickens, Pigeons, Ducks, or anything of the kind. Although anxious upon the poultry subject, I am doubtful that they are not all profit by a very long way. Having kept them in London (rather confined), some time, and having been very successful with them for home uses, I am in doubt about their return in a business view upon an extended plan.—A NOVICE AT FARMING.

[It would be difficult to say what sized farm would yield sufficient profit to pay the rent of a ten-roomed house, so much depends on the locality, description of land, and its produce. Good land in the suburbs of large towns not unfrequently lets for £10 an acre, and in certain cases much more than that; but this is too much for ordinary farming, and it would be better to consult some one well versed in the farming of the locality whom you could depend on not giving a prejudiced opinion. But as a rough guess we may say, that if you hired as much land at the fair rental of the district as would pay £100 a-year, you ought to receive as much profit out of it as would pay for the house, assuming at the same time that the land is farmed judiciously, and a fair per-centage on all outgoings is charged for; but unless you have some knowledge of the matter you must depend in a great measure on the man who manages it for you, and if he does his duty it ought to pay. It is needless here entering into the character of the crops, as the local demand or other circumstances determine them; but in regard to the keeping of poultry on a large scale, it is best done when there is a great

breadth of grass land. In that case poultry-houses may be erected at distances of half a mile or less from each other, and quantities kept at each place with the run over the whole. Poultry are sad enemies to tillage, and confining them is an expensive and unsatisfactory way, for they are more liable to disease than when they have a good extensive run, and they often pick up so much on grass land as to care very little about hand-feeding. The sides of a wood or any rough ground is an excellent place for them, and as we are promised an article on poultry management in this way from a known correspondent, you will learn what more is to be gained on this matter.]

### TO MAKE FOWLS PROLIFIC.

A GREAT amount of the Californian farmer's success in obtaining the large number of eggs, as stated at page 385 of last week's *JOURNAL OF HORTICULTURE*, must be attributed to climate, with which good feeding is easily understood; but the long, cold winters of this country in a great measure, even with March pullets, stop the supply—so much so, that for weeks in the depth of winter, with so many hens, we have scarcely got one egg. Acting upon some hints I had from a Canadian gentleman, three years ago, when the cold weather commences, the quantity of barley we feed with each time is put in a tin on purpose, and put in the oven, or on the fire, and half roasted, with a small quantity of dripping, or fat, boiled down. It is then given to the fowls in as hot a state as it can well be handled; when given too hot it causes the yolk of the egg when cooked to have a black, unwholesome appearance. I have no doubt any party taking the trouble to have this done each time, will be as successful as we have been in getting a good supply all through the winter.—J. F., *Cliveden*.

### BIRDS—THE CROW FAMILY.

THE birds to which I would direct attention in this article are of considerable importance. The first or head of the family is that ominous bird the Raven, now, however, comparatively scarce. He is a carrion feeder, picking the bones of any poor animal whose body remains unburied; but as dead animals are mostly buried for manure and not allowed to rot above ground, as formerly was too often the case, his avocation is nearly gone. He has been accused of pecking out the eyes of sick sheep, and no doubt he appropriates any wounded or helpless bird or small animal which may come within his reach, be it game or not; nor would he go hungry to bed were reptiles or insects to be had. As, however, his chief good is as a scavenger, he is now but little required.

Next comes the Saddle-backed Crow, mostly found on the mountain, heath, or moor. He is a sad thief, and exceedingly audacious. Eggs and young birds, and animals, insect, or, in winter, shell fish, make up his bill of fare. He is the great enemy of the grouse-shooter, and indeed of all sportsmen, as he commits sad havoc with the eggs and young of game.

The Black or Carrion Crow is a rather solitary bird, usually living in woods and shrubberies. Cunning as he is knavish, he leaves no corner unsearched for eggs, of which he destroys immense quantities as well as young game and poultry. He may, when eggs run short and other game has grown wary, do a little good by eating grubs; still the injury he does is so very great that he is much persecuted, and, consequently, is becoming scarce.

The Rook, that sable fellow, who, in a business-like manner, visits the fields in excursion parties, bent on picking up a living, will not refuse an egg or callow bird should he meet with it on his march; but such things are merely stray fish; his occupation and employment is to search out and destroy the grubs and larvæ of numerous insects that prey on the crops. Sooner than starve he would swallow a few grains of corn or pulse; but these, to him indigestible fare, are not to his liking; though, when the ground is bound hard with frost and snow, or baked dry by a hot sun, he would be thankful for anything to fill his craw. But take him all in all, he is an honest fellow; and the immense numbers of the grubs or larvæ of insects he devours—such as the black grubs, the wireworms, the larvæ of the cockchafer, dorbeetle, gaddies, caterpillars, and many others, as well as the full-grown insects, is of exceedingly great benefit to the farmer and grazier, and through them to the country at large. It can not be reckoned what in a few years would be the produce of this army of insect pests yearly devoured by the plodding in-

dustrious Rooks—each insect laying many hundred eggs, and the larvæ burrowing in the ground, feeding on the roots of corn, grass, and other crops they would, in a few generations, reduce our smiling fields to a barren waste. On this account the Rook should be venerated and protected. There is no fear of his becoming too numerous while insects breed so fast; but should he succeed in reducing their numbers one year, he will himself have to starve his young for want of food the next, so that nature will hold the balance.

The Jackdaw, though rather more mischievous than the Rook, yet, like him, is a very useful bird, and generally accompanies him on his picnic parties, when he assists in the destruction of the ever-devouring multitude.

The Magpie is a very mischievous fellow—bold, daring, sly, and thievish. He is very amusing in confinement, and will learn to talk, whistle, or call the cat; but it she comes too close he will peck her nose, and he will brain any luckless chick that comes within his reach. In a wild state he is the country gentleman's pest. Eggs and young birds are his favourite food, then fruit; and, when these are scarce, he will look for the insects, which would have been much sooner destroyed by those he had either robbed of their eggs or young. I read in the papers that some one had let out some Magpies in Tasmania. I fear, a very foolish act, as they will do far more harm in destroying game, poultry, and useful small birds, than can be compensated by their very small destruction of insects.

The Jay, though less courageous than the Magpie, is equally destructive to eggs and small birds, and even more so to fruit.

Of the Red-legged Crow, or Cornish Chough, I can say nothing, not being acquainted with its habits.

The Hooded or Saddle-backed Crow, and the Carrion Crow, the Magpie, and the Jay, constitute among birds the regular banditti or guerilla bands, marauding, plundering, and destroying, with scarcely a good trait. Where they are numerous, game is scarce, small birds gradually disappear, and crops fail; but the Rook is a useful industrious member of the community, with even fewer faults than the others have good qualities.—B. P. BRENT.

### CAN THE WORKING BEE MAKE A QUEEN FROM A WORKING BEE'S EGG?

THE following communication from Mr. A. Shearer, Yester Gardens, is copied from *The Haddingtonshire Courier*:—

"Notwithstanding the many apiarists who have investigated and answered the heading to this communication in the affirmative, there are still, I believe, many old bee-keepers who would answer it in the negative, and, though asked for the proof of their doubts, give but very unsatisfactory ones. Having read a good deal myself on the subject, and the means which had been taken to prove that the working bee can make a queen from a worker's egg, I never had any doubt on the matter; but I have now put it to the test, and will, with your permission, give the details of the process, which may not be uninteresting to some of your readers.

"Having learned that the Ligurian or Italian Alp bees were superior as breeders and honey-gatherers, I was determined to give them a trial, and procured one from Mr. Woodbury, of Exeter, the original introducer of them into this country. They arrived here on the 7th May in a Woodbury bar-frame-hive. This hive is a 14½-inch square box, and 9 inches deep, having ten frames suspended for the bees to work the combs on. These frames are 13 inches long, by 7 inches wide, having a space of half an inch between them and the box. The combs, being wrought in these frames, can be taken out and examined at pleasure, and the combs are not liable to be broken in any way. This being perhaps the worst season for bees which the oldest bee-keeper has experienced, the Ligurians had not a good chance; still they did better than the common bee, and I determined to try artificial swarming. On the 4th July I took out from the Ligurians nine frames full of comb and honey, and brood in all stages, leaving only one frame with the old queen and all her bees, with nine empty bars for her to fill and breed in, and putting the nine frames into another box the same size in all respects. I put this box on a stand where I had just lifted a good strong stall of the common bee. Carrying the latter away 10 yards from its stand, I turned it upside down and shook almost all the bees out of it on a white sheet, that we might see that the queen did not go back. We got hold of her

majesty, and of course kept her until we had as many bees out as would bring out the young brood in the box-hive, and rear a new queen. The common bees naturally went back to their old stand, and though finding a change in a square wooden box from their own straw hive, they went into the box and began their work of queen-rearing. The hive of common bees was then placed about 30 yards from its old stand. But now comes the most interesting part, which we looked anxiously for. On the 11th July, seven days after the operation described, we examined every frame in what we shall now call the new hive, and found on one of the combs no less than eight queen-cells in process of forming, and one or two with the young brood of a good size. Again, on the 14th July, we looked, and found only two queen-cells with brood in them; the other cells had disappeared. We looked again on the 20th, and found one of the cells still sealed up; and it was twenty-five days since the combs had been put in. This we did not expect, as the bees should have been out. Still, the bees were working well, and they manifested no signs of being in want of a queen, but the reverse, and we thought we would give her a few days more. On the 1st of August we looked, and found the queen-cell in the same state. We broke it up and found her dead, and all our expectations blasted; but, to our great surprise, in the same frame we found a number of new-laid eggs, sometimes four in a cell. Here, then, was proof that a queen had been reared, had been impregnated, and had laid eggs of the same size as she had been herself exactly twenty-nine days previous. We examined all the other frames, and found brood laid in almost every empty cell, and also found the cell where she had been reared, and which had escaped us before, as we looked always at the one described as being prominent.

"Such, then, is a plain account of our doings in artificial swarming. The result has been complete success, and has proved that the working bee can produce a queen bee from a worker egg, if that egg is not too old.

"I must now state how the old Ligurian-hive has succeeded after being deprived of all her comb except one piece. We examined her on the 14th July, eleven days after, and found she had again filled all the bars with comb and brood, or made in all 5 square feet of comb in eleven days, and all full of brood and honey. On the 26th July we again took eight frames out of it and placed them in another box, and in the same manner as the first one, and on the 1st August we examined it and found two queen-cells sealed up, and all progressing as favourably as we could wish; and now we have two artificial hives from the Ligurians in good order, and the old one still better than any of the common ones. I have no doubt they bear out their character of being great breeders, and of course honey-gatherers. They work earlier and later than the common bee, and are more active.

"I may state that the two stalls of the common bees, from which I took the bees to rear a Ligurian queen and bring out the brood, have swarmed well also. The first one is again full of bees and brood, so that now I would never wait on bees swarming themselves, but do it artificially whenever I saw them ready."

### FUMIGATING BEES.

BEFORE I received your answer to my communication respecting the effects of fumigation on unsealed brood, the top swarm (whose hive I wished to give to the bees of the second swarm) threw off a swarm; and as soon as the bees were settled in a hive, I removed the stock from its stand and put the new swarm in its place. I then fumigated the bees that could not be persuaded to leave their hive, placed them in the sun on the top of the hive containing the swarm, and put the hive containing the combs and brood under the hive of the second swarm. The queen soon descended, for on the third day the royal cells, four in number, were torn open.

Now, I believe fumigating the bees to insensibility did not in the least injure the unsealed brood, as no grubs were brought out, only some drone nymphs. I used puff-ball.

Is it usual for bees, when prevented by the weather from swarming, and after the royal cells have been destroyed, to raise more young queens when the weather improves, and swarm after all, which was the case with this hive? I had been watching the progress of five royal cells through the windows, the bees trying to swarm when the sun shone (which indeed was very seldom). Three queens were sealed over, and two progressing; when one morning I found the royal cells torn open, and con-

cluded that all intention of swarming was given up. To my surprise, two days after the death of the princesses I discovered that two other royal cells were tenanted; and in a few days after two more. The day after the first was sealed over the swarm came off.—J. L.

[Your bees acted very much as we should have expected them to do under the circumstances, but we have had little practical experience on this particular point. Perhaps some of our correspondents may be able to reply more fully to your inquiry.]

### HINTS FOR PRACTICAL BEE-KEEPERS.

(Concluded from page 386.)

ARTIFICIAL swarm-making is only valuable to those who multiply Italian queens. For this purpose they want a large number of weak hives, which are united again to larger stocks in autumn. He who strengthens a second swarm by inserting brood-combs will make of it a strong populous stock in the first year. Such swarms prosper, of course, very much, and do not want a second apitory.

Further: It is in most cases disadvantageous to give to a stock which has done swarming either supers or nadirs. I do not myself practise it unless the second swarm has issued whilst the acacia is in bloom, and not even then unless the stock is heavy, and the bees hang out at the entrance. After swarming the number of bees in a straw hive is much diminished, whilst its store of honey is decreased and sometimes exhausted by the departing swarms. As it is known that the old queen leads off the first swarm, and the young queen does not usually become impregnated till eighteen or twenty days afterwards, it is nearly three weeks before breeding commences. The combs which become empty by degrees as the brood of the old queen hatches, must first be provided with a store of honey for feeding the brood, and for sustenance during winter; but this is neglected if supers and nadirs are used. When supers are put on, one obtains honey to be sure, but this is done to the injury of the stock, which can seldom keep its footing. When nadirs are used the bees make combs in them, which become filled with brood, by which all honey that is collected is consumed. In both cases such stocks will die of starvation, if not in winter certainly the following spring.

With regard to the swarming of bees which are kept in boxes, I have this to say—I think it a very great fault. Boxes are designed for obtaining honey. If I aim at swarms I do not want boxes which are known to be expensive. Straw hives, which are much cheaper, are used by me for swarming. The great superiority of the Dzierzon-boxes is that by their means one doubles the profit of the honey harvest. A stock in a box which gives two good swarms would without swarming give at least thirty, or even fifty pounds of honey. If I reckon one pound to be worth eight siber groschen (9½d.), this would be a profit of eight to thirteen thalers (£1 3s. to £1 18s.), leaving me a very populous stock, the value of which has much increased. On the other hand, two swarms, if they do not issue too late are worth, perhaps, five thalers (nearly 15s.), and the parent hive is destitute of honey, and weak in population. Whilst, therefore, it is foolish to spur a box-hive to swarm, it is a sign, if not of a bad, certainly of an inattentive bee-keeper, if he be not able to prevent swarming. In my apiary a Dzierzon-box has never swarmed. You will ask, "How is this to be effected?" Nothing easier. When the store of honey increases in May is the time to give the bees ample room. My box colonies fill the brood-room (which is enlarged, perhaps, by eight or ten new guide-combs) during the time when the trees are in blossom. The honey-rooms of a good populous stock will generally be filled before this kind of bee-pasture is at an end. Now, delay not to empty it immediately, and fill it up with new guide-combs. These perpetual operations and changes will certainly do away with all inclination for swarming, and the bees will apply themselves with increased diligence to honey-gathering. Many bee-keepers will, doubtless, reply, "I, too, have opened the honey-rooms, and my bees swarmed before they were filled." Certainly in this case they have been opened too late; the bees had already made preparations for swarming, and had begun queen-cells. When this has taken place the opening is, of course, useless, the inclination for swarming has been awakened, and can no longer be suppressed.

A few words now on the placing of stocks. I must declare myself beforehand decidedly against putting bee-boxes in the

open air. Not only are they continually exposed to the sun and rain, whilst the great heat induces them to swarm; but it is also very unpleasant to the bee-keeper to be compelled to encounter a burning sun whenever he examines his bees through the windows, and still more disagreeable if he has to perform operations upon them. When emptying the honey-rooms, as there are generally flight-holes on every side, the bees become wilder and more inclined to sting. How pleasant, on the other hand, to be able to observe bees in a bee-house sheltered against both sun and rain. If it is very difficult to bring boxes through the winter in the open air so much, I think it quite unsuitable for them to be altogether kept from the warmth of the sun. In a bee-house they are sheltered from the cold by leaves of trees, or better still, by pine-needles outside the hives. The objection that they mistake their hives when placed too near each other does not hold good. If the entrances are 18 inches to 20 inches apart a bee will seldom mistake her hive; and if it does happen, a weak colony is soon strengthened by some brood-combs. The rational apiarian will, therefore, put his hives in a bee-house as the most suitable place.

What aspect, then, is it best to choose for the prosperity of the bees? North, south, and west are decidedly prejudicial. North, because the bees have too little sun; south, because they are then annoyed by the intense heat; and lastly, west, because from thence comes the most rain. The morning sun is advantageous so long as it does not become oppressive—say till about nine o'clock. The best and most suitable aspect would, therefore, be north-east. I have two apiaries, one faces north-east, the other south-east. The straw hives in the former swarmed first, and the boxes have given the most honey. It cannot, therefore, be recommended that bees fly out from the pavilions in three or four directions. Cold, heat, and rain are all very injurious to bees. It may be replied to this, that from the north-east come cold winds and showers; but this happens mostly in winter when they are sheltered against them.

It has been recommended by many, and, if I mistake not, even by our teachers, to feed with lumps of sugar-candy. I have examined it closely, and find this mode of feeding extremely unpractical. That this way of feeding is a piece of cruelty to animals every one will admit who has observed what trouble and exertion it costs the little creatures to obtain a scanty meal.

From the continual fatiguing exertion, and from the quantity of water which it takes to dissolve the candy, the bees become so feeble that they get dysentery, and are not strong enough in spring to defend themselves against robbers. So that this innovation is a new means of promoting dysentery, which has been so prevalent of late years.

Besides honey, I feed my bees only with dissolved sugar-candy, and find them always very healthy, and strong and diligent in the spring. The feeding with solid candy is generally practised during winter, but the apiarian who examines his bees carefully in autumn, and supplies what is wanting, will never be compelled to resort to this most irrational plan of winter-feeding. Among all artificial compounds for feeding bees, whether in the autumn or in spring, this dissolved sugar-candy is the cleanest, cheapest, and most suitable.

In conclusion, I may refer to the interior arrangement of the Dzierzon-hives. As you all know, bee-keepers are not yet agreed whether ledges or rabbets are the best to carry the comb-bars. I have tried both, and experience has taught me to give a decided preference to ledges. How difficult it is to get out a comb, especially in the front.\* Comb-tonga are, however, said to do good service, yet I know that with them many a beautiful honey-comb has been mutilated. But why have such an expensive tool, which with ledges is quite superfluous? The skilful and steady hand may be relied upon with much greater certainty. When boxes are made, the rabbets give much additional trouble, which must, of course, be paid for; added to which if they are not worked with accuracy it is very difficult to put empty combs into them. Ledges require only to be nailed on, whilst comb-bars can on them be easily pushed in, and when it is desired to take them out, can be raised with the comb-knife. When a guide-comb in a hive with a new swarm becomes detached from the bar by the weight of the bees, which not unfrequently happens, it is not necessary for me to remove all the combs, but I take it out of the midst and make it up immediately

\* Combs are, I believe, extracted either from the back or front of Dzierzon-hives, and not by removing the top, as is customary in England, but this would be impracticable where one colony is located over another, as is the case in Dzierzon twin stocks, vierbeutera and achtbeutera.—A DEVONSHIRE BEE-KEEPER.

with another comb. I am also able to put the covering-boards immediately on the comb-bars, by which means the most inconvenient second rabbit to push in the covering-boards is omitted.

These, gentlemen, are the results of my experience, which I express fearlessly, as they rest on many years' practice. I have already said that I will not steal the crown from the merit of the modern go-a-head theory; but this, I think, we should keep fast—that as theory exists only for practice, we only act according to that theory which is approved by practice, and for the rest leave theory to stand or fall by its own merits. For apart from this that theory sprung from practice as the former reduced to order the experience derived from the latter. Thus we see that as practice existed before theory, the latter must be made practical (since theory is nothing without practice), for which certain conditions must necessarily be presumed. To speak specially of bee-keeping, to be a good bee-keeper three qualifications are requisite, and these are—courage, skill, and patience; courage, to become master of his bees; skill, to do without many useless instruments; and patience, not to lose heart in bad times. If we follow these hints, which are the results of many years' experience, the sad misfortunes which have been so frequent will seldom happen, and our harvest will become a rich one.—VIEBEG, *Secretary of the Potsdam Central Society of Bee-keepers.*

At page 355, second paragraph, read "resolution" for "revolution;" and at page 356, last paragraph, read "swarms should issue during a fall pasture" instead of "a fall pasture."

### GESTATION OF GUINEA PIGS.

IN fulfilment of my promise to send you the result of my second experiment to determine the period of gestation in Guinea Pigs, and whether warmth had any influence in shortening the time, I have to inform you that the sow mentioned as the first in my last year's account, and which was kept out of doors exposed to a north aspect, after a gestation of ten weeks and a few hours produced four young ones.

This year she went to the boar on the afternoon of Friday, May 2nd; I placed her in a hutch, and kept her by the side of the kitchen fire. Saturday morning, July 12th, I found she had two young ones, being exactly the same time as last year when exposed to the inclemency of a north aspect.

The other sow has not bred this year; but I consider this and last year's experiment to prove conclusively that their period of gestation is ten weeks, and also to disprove the assertion that warmth would hasten parturition.

Having bred only once a-year does not speak much for their rapid increase. Probably if the boar had run with the sows they might have bred oftener, but that would not have suited my experiments, as I required exact data. The numbers of the young have been on two occasions two, once four, and twice five.—B. P. BRENT, *Dalvington, near Robertsbridge, Sussex.*

### OUR LETTER BOX.

POULTRY MIS-SENT.—The following communication has been forwarded to us:—"I have received a pen of poultry which has been sent me with my address. I have written to many of my friends, and cannot ascertain from whom they have come. They may have been sent in mistake from some show or other. I shall be glad to return them to their proper owner, if properly described to me. I have had them nearly a fortnight, and have not yet had any application. The cock bird is not so healthy, but I shall attend to them as if they were my own."—FRED. HARDY, *Quarry Gate, Bradford, Yorkshire.*

COLOUR OF SPANISH COCKS (*Amateur*).—Spanish cocks are often white-faced when chickens. They should always be so when from six to eight months old. We should have little hope of a cock chicken, if at three months he showed no sign of white face. Pullets are much later, but they should show partial white at three months. You deserve your success, and you have made choice of a hardy breed well adapted for the neighbourhood of towns and confined spots; but we fear from your description they are not first-class birds. Bally's is the best book.

BREED OF FOWLS (*Francesca*).—We have no doubt you have received some of the offshoots from the Hanburgh, of which there are many in the low countries, just as the Hamburgs were called in this country Bolton Bays and Greys, Everlasting Layers, Crecls, &c., so the crosses from them have been termed Siberian, Egyptian, &c. They cannot be Bredas, as they have only an apology for a comb, and their colours are black, white, and cuckoo. The white-neck, pencilled body, and accented feathering prove their origin. They are generally very useful table birds, but more approved as layers than table birds. Their blue legs are an objection for the latter purpose.

RABBITS (*W. D. Paine*).—The Patagonian is a very different variety from the Hare Rabbit. If there is no special class for the latter variety at a show they may be shown in Miscellaneous. But in our opinion the schedules for Rabbits want great revision, as they are often positively absurd.

PARROTS (*M. F.*).—Give him plenty of well-sopped bread, and occasionally nuts, fruit, or, in fact, anything but salt. A little bit of meat occasionally will not hurt him; but, above all, a bath and as much water as he likes to drink.

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	AUGUST 26—SEPT. 1, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.	Sun Sets.	Moon Rises and Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.						
26	Tu	PRINCE CONSORT BONN, 1819.	30.169—30.153	80—42	W.	—	m. h.	m. b.	m. h.	1	m. a.	238
27	W	Streptocarpus Gardenii.	30.225—30.141	87—44	W.	—	4 a 5	vt	51 a 6	2	1 41	239
28	Th	Hoya coriacea.	30.080—29.824	83—45	S.W.	—	6 5 57 a 6	10 7	2	1 24	1 7	240
29	F	Erythrina launifolia.	29.963—29.809	78—50	W.	—	7 5 55 6	33 7	3	1 7	0 49	241
30	S	Hermannia cuneifolia.	30.170—30.120	74—38	W.	—	9 5 53 6	57 7	4	0 31	0 13	242
31	Sun	11 SUNDAY AFTER TRINITY.	30.327—30.079	84—35	W.	—	11 5 51 6	29 8	5	0 13	0 a 5.	243
1	M	Abelia triflora.	30.061—29.898	83—42	S.W.	—	12 5 48 6	9 9	6	0 13	244	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 71.7° and 48.7° respectively. The greatest heat, 85°, occurred on the 1st, in 1843; and the lowest cold, 32°, on the 29th, in 1850. During the period 152 days were fine, and on 93 rain fell.

SCROPHULARIA AQUATICA VARIEGATA—  
GOLDEN CHAIN GERANIUM.



On page 395, last week, "AN OLD SHOWMAN" confirmed the statement I made last May about there being two plants in cultivation under the name of *Scrophularia nodosa variegata*. I think I said that Mr. Williams exhibited both of them at the May Exhibition, and that I had seen one of them in this neighbourhood with Mr. Donald, the gardener at Hampton Court. I also said that Mr. Donald was the best practical British botanist of all our craft as far as I knew, and he told me last

September that he had this *nodosa variegata*, and that he could hardly get it to go ahead like the plant from Ireland, which is a very free-growing plant: therefore, I expect, or almost suspect, that some one had cut the draft of *Gazania splendens*, and sent the wrong plant to "AN OLD SHOWMAN" for the Irish one; and if that is so it cannot be an isolated fact. Others must have been caught in the same net; and thus, without knowing it, people may come to the point of discarding a valuable plant.

Mr. Williams offered to send me trial plants of his *nodosa variegata*; but since I lost the Experimental I cannot undertake such work. "AN OLD SHOWMAN" says "there is a wide difference between *S. nodosa* and *S. aquatica*;" and that may be so to show people and to botanists, but I confess that plain people like myself can see little difference at all between the two, only their different habits, the one being a dry customer, the other a thirsty soul, delighting in marshy beds. They are both nodose certainly—that is, knobby-rooted, and from their knobbed roots the name Figwort has been given to the order to which they belong. Medical and botanical doctors are just as far wrong in saying these Figwort roots are dangerous to eat, while stern necessity proved just the contrary; for it is on record that at the siege of Rochelle by Cardinal Richelieu, in 1628, "the garrison was reduced to the necessity of supporting life upon the roots of *Scrophularia aquatica*," and the French call it *Herbe du Siège* to this day on that foundation.

There are certainly two kinds of variegated plants called *nodosa variegata*, and one of them is just as certain to be more free of growth than the other, the one from Ireland being a very free grower, and its too-much-freedom of growth is the only thing I would object to. All that I have seen with my own eyes. But there is another turn to the like of these tales. Our correspondent says he "thinks it too bad to send out for new an old plant with a new name." Well, if I thought any one had done such a thing for the purpose of deceiving, I, too, would be wroth about it. But this plant was never "out" before, and all those who have had a hand in bringing it "out,"

myself among the rest, are above suspicion; we do not and never did play at black legs. I knew every plant, and pot, and pane of glass which Dr. Neill possessed at Canon Mills, and to my personal knowledge he had many plants which you could not then find in the botanic gardens of Edinburgh, London, or Liverpool; for within three years—that is to say, between 1829 and 1831, I watered plants for Dr. Neill, or rather for his gardener, Mr. A. Scott, now nurseryman at Chichester, lately of Leigh Park, Hants, and who was at Kew, and at the Liverpool, Manchester, and Birmingham Botanic Gardens. At that period plants might have been in all these public gardens, and also in Dr. Neill's garden, and never have been "out" before or since, according to our common commercial sense of the term. Therefore, with so much glass about us it is not at all safe to cast stones about in this fashion.

But I will give you another illustration—my own silver-frosted, ice-like, edging plant, *Aretotis* something to begin with. I told how it had been sent to me by Mr. Scott, of the Merriott Nurseries, under the name of *Aretotis melanoeycla*, and have since learned that it has been about London for the last five years or more under the same name, and has been catalogued in that name; but the character of my plant would not agree at all with the character I had of *A. melanoeycla*. I also said it might have been an old east-out plant from some of our great plant-stores; but I did not say that any one attempted to put off an old plant for a new one in this instance, yet the thing was done unknowingly. A seed-grower in Germany, probably at Erfurt, got hold of an old botanical plant from the Cape from some ancient botanic collection under a wrong name. He found that the plant seeded as freely as a Poppy, and he brought it into his seed trade, and sent it to all his customers as a new article of trade, but not as a new plant, for *A. melanoeycla* was older than this generation. I detected the name to be wrong without attempting it, and I have since traced it to its origin, and have a figure of it now on the table taken from the second volume of *Jacquin's Plantarum Rariorum Horti Cesarei Schönbrunnensis*. It is *Aretotis reptans*, and is the very best edging pot plant I know. It creeps on the ground, and roots as it goes, and is, in garden language, a silver ice plant; and if you saw it with the morning dew on it as I have it now every morning you would allow the truth of my story.

But I have a lark by the two wings for you in relation to this very plant. A gentleman, a friend of ours in the London nursery and seed trade, ordered seeds of this *Aretotis reptans* as soon as he saw it in the foreign seed list; sowed some in March, and planted some plants out on trial five or six years since, and seeing that it was of running growth like a Strawberry, instead of an upright *Gazania*-looking character, he ordered every one of them to be dug down, and he had no more to do with it till he saw specimens of it in my own hands. He recommends the seeds to be sown exactly as you would a selected sample of the seed of *Lobelia speciosa*, in every respect. Thus an old and forgotten plant will be restored just at the right time, for every one is now looking out

for such things. Surely people engaged in active business are not supposed to be musty bookworms, and know the names of all that was in books, nor be accused of underhand work for merely catering, like the rest of us, to the requirements of their customers. In fact, to bring out an old or never-known plant of the oldest school, except to the students thereof, is of just as much merit as to raise a first-class seedling.

Then there is that other most useful novelty of this season, the plant called *Gnaphalium lanatum*. I am almost certain that is not the right name, but no one out of a strait jacket would ever think of accusing people of strange things for heralding it before a willing public. We shall not know if this be a right or a wrong named plant till we can get one of it to bloom, probably next May. But we are not to hold back from the use of it, or from the use of any plant whatever, for want of the proper name just at the time; neither shall we submit to be bamboozled by old bagmen or "OLD SHOWMEN," because the name is not just on the tip of the tongue for the moment.

#### GOLDEN CHAIN GERANIUM.

But in the midst of it all there is comfort for the thankless as well as for the most grateful. Look here: The back pollen of the Golden Chain has been only announced to do wonders, and up come a host of letters from eye-witnesses to the fact. Now listen to the tale, and you may change your plain silver into gold, and your frosted silver into huge fleeces of the purest gold refined. "I have got a Golden-Chain-leaved *Christine*, of which more anon. Golden Chain pollen will produce Golden Chain seedlings! If this is your correspondent's secret, why hasn't he the pluck to come out with it?—R. T. C." This secret was mine, by the way; and I was to tell it to any one who could not see the difference between two certain flowerbeds, and I shall out with it the moment I hear of such a person. But to proceed. Another gentleman far down in the country writes, "I was very much pleased with your article on cross *Cyclamens* and *Geraniums*, and you were quite right in what you said about Golden Fleece; I find it the best parent to breed from I have ever tried. I have some very beautiful seedlings, which I shall most likely exhibit in the autumn, from seeds saved last year. One has just come into flower. It is a beautiful Golden *Trentham Rose*: the flower and leaf are really splendid. Then I have *Golden Boule de Neige*, *Golden Christine*, *Golden Little David*, *Golden Lucia Rosea*, *Golden Madame Vaucher* [hear, hear], *Golden Paul l'Abbé*, *Golden Kingsbury Pet*, and many others, including the new ones, *Woodwardianum* and *Magenta*, in gold leaf. And I have also the *Golden Fleece* crossed with some Cape species doing well. In the autumn I expect, *Suffolk-like*, to bring out a good scarlet bedding *Lobelia* in the style and habit of *Lobelia speciosa*." But I am out of breath already, and this is but a tithe of my crop for this harvest. All that I mean to add is this, that I was aware of the influence of the Golden Chain and Fleece only about this time last year, and that I do not intend to do anything in that line myself beyond stimulating the crosses of the English, the Irish, and the Scotch, up to the highest pitch of breeding in-and-in all the improved races of which we are cognisant, and, if I can, to suggest subjects for the derivation of new races to be so improved. To show you what I mean by that, I have only to point to the quotation which you have just read.

All the improvement in *Geraniums* and in *Pelargoniums* for the last forty or fifty years, indeed since 1810, has been effected by breeding in-and-in as the breeders term the process of cross-breeding; but in the instance under quotation this is changed to hybridising, which means breeding by species and not by acquired seedlings. Cape species of wild *Geraniums* have been put to hybridise with a peculiarly marked seedling of *Quinans*, and thus new blood will be infused into the seedlings if they come; but the question is not yet without an "if." There seem to be two opposite ways in which breeding in-and-in affects families of plants. The *Geranium* is a good one to show one of these ways, and the *Rhododendron* is about the best to exhibit the opposite tendency. You may go on, as it were, in a circle for ever improving the *Geranium* race without fresh blood, if you only retain such seedlings as exhibit the strain you indulge in. All this time there are two laws or principles affecting your operations in opposite directions. The one is the law under which the *Geraniums* sport by seedlings to an unlimited extent; the other, the law by which the pollen of one seedling affects the seedlings from a kindred plant: and the influence of the first law is as a thousand to one against the

influence of the second law—that is writing within the mark. But in the *Rhododendron* family, or at least in the true *Rhododendrons*, you cannot thus go on long in a circle, or in breeding in-and-in, without fresh blood. Mr. Lindsay, whom I succeeded as gardener at *Shrubland Park* in 1840, went there from *Highclere*, where he had the first and the then finest races of the *Rhododendron* family in the world. He left me a legacy of four thousand seedling *Rhododendrons*, which he intended for the woods, and about sixty plants of kinds, which he assured me he had carefully crossed with his own hands at *Highclere*, every one of which he was confident would be worth its weight in gold. But the whole sixty were not worth two farthings. The plants would neither die nor grow kindly; and when they bloomed, not one of the blooms would stand the sun or the least puff of wind.

Some years subsequently, Mr. Standish, of *Bagshot*, wrote just such another account of crossing *Rhododendrons* to extremity, in the *Journal of the Horticultural Society*, and only this current month Mr. Standish told me the tale was always the same ever since, if he attempted to cross them beyond a certain limit. Then, there are two well-established facts in the way of crossing without hybridising, and both are now well known to cross-breeders. The *Hyacinth* has gone on, in a circle, improving by breeding in-and-in, and by self-seeding, without a drop of fresh blood, for nobody knows how long; and the *Gladiolus* has been in the same mill since 1808, with only one new species to recruit the power of the ring in 1831, when *Natalensis* was got over.

As a practised breeder, I do not see the slightest improvement in *Pelargoniums* for the last twenty years, nothing more than a reproduction of former facts. What they call improvement, and what is a wonderful improvement, looking at it in that light, is entirely due to the high cultivation of the plants. The *Gladiolus* was in the same position for twenty-four years to my own knowledge, going round and round as if in a ring, reproducing the same tints in varied ways, but always the same tints, as in the *Pelargonium*.

Now, if we could obtain some Cape species to do for the *Geraniums* and *Pelargoniums* what the *Natal Gladiolus* did to that family, we should soon see as marked an improvement on the face of them as we do now on that of *Gladiolus*. But how soon? That is the question. If you got a hybrid seedling between *Pelargonium Fulgidum*, and *Pelargonium Sunset*, or from any of the strain freest from the black spots, a florist would tell you there was no improvement; on the contrary, that the seedling was not worth growing. But your seedling, if it was a true hybrid, would be a greater improvement in *Pelargoniums* than any seedling that was got for the last forty years. All you would have to do would be to follow up your success, as the florists did before you, breed in-and-in with your "not-worth-keeping" seedling, till you had a new race with flowers as big as the old one, and of as bright a scarlet as those of the *Crystal Palace Scarlet Geranium*. But such a seedling has been got, and I saw one; and if it had been mine I would send it and half a dozen of plants of *Fulgidum* to my *Sardinian* correspondent, with full particulars about how he was to carry on the crossing; and with his climate I imagine that he would get up the new race in one-half of the time it would be done in England; besides, the greater chances of avoiding the seedlings turning out barren, as a vast number of hybrid *Geraniums* have done formerly with us.

Now, I have been writing all this time in a circle myself, and I have just got right round to the point I was anxious to arrive at, and if you have conceived the point of my story, you will now see the aim of it to the bargain. We had a fine lot of plants of hybrid *Lilies* the other day, before the *Floral Committee*, from the gardener at *Buckingham Palace*. They were from *Lancifolium album*, the plain white *Japan Lily*, by the scarlet *Martagon Lily*, or *Lilium chalcidonicum*; but from the use, or misuse, which some have made of the labours of the *Floral Committee*, we were all in dread of giving a prize to those hybrids, and yet they ought to receive the highest award in the power of the *Royal Horticultural Society*, but not as trade plants, only as the beginning of a new race—and I pledge all my crossing, that that race will one day excel in colour and in brilliancy of tint all that is now seen in *Gladiolus*, and more to the purpose; but I shall not live to see it. All the materials for my anticipation are now in our own hands, and by a skilful working of the parts another reading might be given to the array of the *Lilies*, not of the field, but of the garden. By that time the *Lilies* of the low

countries will vie with the Rhododendrons of the hills and valleys, in all the colours, and in all the shades of colour in the chromatic scale.

D. BEATON.

## CULTURE OF THE RASPBERRY.

(Concluded from page 392.)

### SUMMER TREATMENT.

**Mulching.**—If fine well-swelled fruit is desired, the best way to obtain it is to cover the ground between the rows with short littery manure. In rainy weather the enriching salts will be washed down to the roots; and in dry weather the manure keeps the ground moist, and consequently prevents its cracking. This point is of importance; so much so that I have, when dung was scarce or wanted for other crops, used old tanner's bark, the refuse from the pineries—a substance which, though not enriching, answered the purpose of keeping the ground in a moist condition.

**Thinning the Young Shoots.**—As these spring up they should be reduced to four, or at most five in number; and to prevent them being broken with strong winds or injured by the gatherers of the fruit, it is a good plan to draw them up together, but not tightly; and if stakes can be had cheap, let the shoots be drawn towards a stake. The best way of doing this so as not to crowd them together is first to tie a piece of matting to a shoot, then bring the two ends together, and twine each round the other for about 14 inches or 18 inches; after that bring the two ends round the stake, and tie them fast together on the other side. When the first shoot is tied take the next in hand, and tie it similarly, and so proceed till the whole are secured. When the shoots have grown a foot or so higher, then place another circle of ties to each shoot. This second tying will be sufficient. By tying these shoots up more air and light will be given to the fruit-bearing spurs, and a neat tidy appearance given to the rows of plants. During the summer, as a matter of course, the ground should be kept clear of weeds.

**Cutting-down.**—As soon as the fruit is all gathered the last year's shoots are of no more use. They should, therefore, be all cut away close to the ground; and, unless increase of plants is wanted, all the suckers between the rows should be pulled up. The shoots that are to bear fruit the following year will thus have more air and light, and will, in consequence, ripen their wood perfectly to the very tops of the shoots. Towards the end of August the very tips of these shoots may be nipped off. That nipping will strengthen much, and will fill the buds with substance, so that they will break quite strong in the spring following. This completes the summer culture.

### WINTER TREATMENT.

This work commences as soon as the leaves have fallen. Rake them up, and carry them away to the rubbish-heap. Examine the shoots, and loose them from the stakes. Then cut them to the proper length to reach across the row, to meet the shoots from the opposite stool, as already described; tie them together, and then remove the prunings out of the way. The ground is then ready for a winter's dressing. Wheel on as much good rotten dung as will cover the ground 2 inches thick. Fork the ground slightly over, and leave it in that state through the winter to receive the benefit of the winter's frost. In the spring it will be in fine order, mellow and rich, and full of young vigorous roots, which will draw up largely nourishment for the plants during the following year. Then when warm weather sets in, commence as before with the summer treatment. Any cultivator bestowing the above pains with his Raspberries will be richly rewarded for his troubles. A plantation of Raspberries should be renewed every seventh year if the stools show signs of weakness.

**Propagation.—By Suckers.**—This is the most common method. When a new plantation is required a sufficient number of suckers should be allowed to grow near the old stool. Prepare a plot of ground for their reception, so as to be ready for planting early in October, and plant them in the way I have already described. Some plant the suckers out in nursery-rows for a year previous to planting them in their final position. When this plan is followed, cut down the shoots close to the ground early in spring; they will produce their strong canes with buds at their base to form shoots the next season. When trouble is not regarded this is a preferable method.

**By Seed.**—Those who have time and space may raise Rasp-

berries from seed, and may probably succeed in obtaining improved varieties. Choose the finest and ripest fruit; gather it, and crush the berries into a pulp; then wash away the pulp from the seeds, dry them in the sun, and, when thoroughly dry put the seed up in paper, and keep it in a dry room till spring. Make up a gentle hotbed, and when it is sweet sow the seed in shallow pans. It comes up quickly, and the plants when large enough should be pricked out singly in other boxes. By the time that the seedlings in these latter boxes have got some strength, warm weather will have set in. Then give plenty of air, and moderate supplies of water. Gradually inure them to bear full exposure. By the end of May the seedlings may be planted out in wide nursery-rows, and mulched there in the same way as established plants. There they may remain until they fruit, and then mark such as are improved, and throw the rest away.

On this subject of raising new sorts from seeds I have had some correspondence with Mr. Rivers of Sawbridgeworth. He has, I believe, the best assortment of Raspberries in the kingdom. In an interesting letter now lying before me he says, "The autumn Black Raspberry is quite a curiosity. Its great, great granddam was said to be a cross with the common Dewberry [Blackberry], and only bore fruit in summer. I have, by several generations, got it settled down to a sort that only bears in October a very fine black or purple fruit. But the most curious part of the experiment has been the following: In 1859 I had a row of selected seedlings, all alike in their shoots and habit, which bore a fine crop of fruit in October—large, fine, black-coloured berries. There was no other kind of autumnal Raspberry growing near them; and so I saved the seed and raised a crop of many hundreds, thinking I had fixed the sort. Last year they all bore fruit; and although the majority grew black berries like the parent stock with the same autumnal habit of bearing, there were some sorts among them that bore yellow and white berries, the plants being easily distinguished by the colour of the canes; and two or three bore the largest and finest orange-coloured Raspberries I ever saw—sorts that would make a little fortune were they not so obstinate, for they will not put out a single sucker. Layering is slow, and cuttings I have not tried. I can, however, tell you that my bed of seedling black Raspberries is a study for Darwin. I intend to keep on raising seedlings, and have seed of the large orange sort sown. I must tell you a fact of interest to you: the autumnal Raspberries will not do in the north—they want more heat. The heaviest crop I ever saw was in the garden of a friend at Guildford, last October, of both red and yellow autumn Raspberries. They bore the canes down with the fruit, and pecks were gathered from the two rows." The experience of my friend, Mr. Rivers, is quite encouraging to all who like Raspberries, and I am sure all our readers will heartily wish him success; but I and gardeners who live in the north would be very much gratified and thankful if Mr. Rivers would operate on summer-bearing Raspberries, and improve them equally as much as the autumnal sorts. Perhaps, if some of us northerners were to try our skill in our climate we might succeed in raising sorts, even autumnal ones, that would ripen in our colder climate.

In regard to propagating sorts that are shy from suckers, I see no reason why they might not be raised from eyes in the same way as we raise Vines—that is, by cutting a stem into lengths containing one eye each, and slightly covering the eyes in soil in pots plunged in a gentle hotbed. I trust Mr. Rivers will try that way with his golden Raspberry, and be successful.

### SELECT LIST OF SUMMER RASPBERRIES.

- Antwerp, Red.*—Large, flavour excellent.  
*Antwerp, Yellow.*—Large, yellow, sweet. Excellent for dessert.  
*Black (Rivers').*—Purple, acid. Useful to correct the dull sweetness of jam made from other sorts.  
*Brinckle's Orange.*—A new American golden Raspberry, rather acid.  
*Fillbasket.*—Large, abundant bearer; good.  
*Filly or Fastloff.*—Red, large, and excellent.  
*Knevett's Giant.*—Very good.  
*Prince of Wales (Cutbush's).*—Red, large, firm; very fine.  
*Prolific (Carter's).*—Red, large, and excellent.  
*Victoria (Cornwell's).*—Large and good.  
*Sweet Yellow Antwerp.*—Particularly sweet. Shoot very slender.

### AUTUMN RASPBERRIES.

- Autumn Black (Rivers').*—Large, dark purple. Juicy and good.

*Belle d'Orleans*.—Dwarf habit; fruit large and good.  
*October Red*, or *Merveille de Quatre Saisons*.—Large, bright red. A most abundant bearer.  
*October Yellow*, or *Merveille de Quatre Saisons à Fruits Jaunes*.—Yellow; fruit large. Prolific bearer.  
*Victoria* (Rogers').—Large, dark red, dwarf habit. Bears abundantly, and is excellent.

T. APPELBY.

## FLOWER SHOWS OF WINDOW PLANTS FOR THE WORKING CLASSES OF LONDON.

UNDER this title the Rev. S. Hadden Parkes, B.A., Curate of St. George's, Bloomsbury, has published a pamphlet on the advantages, both in a moral and physical point of view, with which shows of the above description are attended. As yet they have only been adopted as an experiment in a few of our densely populated metropolitan parishes, but the results have been most encouraging; and we hope to see them in course of time not only permanently established, but also more widely diffused. That they are calculated to effect a considerable amount of benefit we think no one will deny; the tending which the plants require affords an innocent recreation during hours which might otherwise be spent in a more questionable manner; habits of observation and foresight are induced, and a desire for information is awakened.

In passing through some of the most miserable quarters in London,—and they are miserable indeed—when we have seen pet plants in the windows growing in no matter what utensil, we could not help thinking that amidst all the surrounding poverty and crime there was still a green spot left that might tend to better things.

The mute voice of the flower and the warblings of the imprisoned songster speak in language more intelligible and more moving than the cold voice of reason, which may neither be listened to nor understood—they speak to the affections and tell there is something to love.

The credit of having first started flower shows in Bloomsbury is due to the author of the little pamphlet before us, the experiment having been first made in 1860; and in consequence of the success which it met with, a second show, which was noticed in our Number for April 20th, 1861, was held in the following year.

"The first experiment was made in one of the poorest localities of the metropolis, among alleys and courts in which live some of the most degraded of the London poor. Little Coram Street, the spot first selected, is a narrow street, with a number of courts stretching right and left, containing about 1700 persons. The inhabitants of these courts are persons who generally obtain their living by selling Water Cresses, fruits, and small toys in the streets, with a larger number who obtain their living no one knows how.

"Last year the exhibitors were divided into several classes, according to the district in which they lived, so that the inhabitants of the smaller courts and darker dens might not have to compete with those whose airier neighbourhood and better means gave them an overwhelming advantage in the contest. The district of Little Coram Street showed the good effect of the training of the first year; for though in point of airiness it is infinitely inferior to the other parts of Bloomsbury, yet, with the stock of experience it had gained, it was able to compete successfully with the more favoured localities."

Thus in a single year these humble cultivators had made a marked progress in skill; and though, according to Mr. Parkes' experience, such shows have been found nearly self-supporting, we trust that from their elevating influence they will not for want of encouragement be allowed to go down.

**PECULIARITY IN ORANGE TREES.**—Many of the trees in one garden were a hundred years old, still bearing plentifully a highly-prized, thin-skinned Orange, full of juice, and free from pips. The thinness of the rind of a St. Michael's Orange, and its freedom from pips, depend on the age of the tree. The young trees, when in full vigour, bear fruit with a thick pulpy rind, and an abundance of seeds; but, as the vigour of the plant declines, the peel becomes thinner and the seeds gradually diminish in number, until they disappear altogether. Thus the Oranges that we esteem the most are the produce of aged trees, and those which we consider least palatable come from trees in full vigour.—(*A Winter in the Azores*.)

## ON FUMIGATING.

ON looking over No. 70 of your valuable Journal, I happened to stumble on an article upon fumigating, with a remedy for burning the leaves of the tender plants. I for one am always glad to see improvements, especially in gardening, and am much gratified at the very liberal diffusion that these improvements meet with through your pages from week to week. As to the apparatus there sketched, I do not for one moment doubt its efficacy; but you must remember the very large number of amateurs who look up to you for instruction, and who cannot conveniently get such an apparatus as your correspondent describes, and still they wish to combine both efficacy and cheapness. I am induced to think that this is done equally well, if not better, by the old system of moss than by your correspondent's plan. It has stood the test of years, and will, undoubtedly, do so for many to come. I have used it myself for more than half a dozen years, and can boast that I never burnt a single leaf in all that time. As your correspondent seems to have lost sight of it altogether, I would invite him to give it a candid trial, and report progress for the sake of those, if there are any, who do not know the plan I speak of, which is simply to place about half an inch or three-quarters of an inch thick of well-damped moss upon the common fumigator, of whatever construction, and the smoke passing through that will be perfectly cool and harmless; and there is no expense incurred.—THOS. H—, *The Priory Gardens, Guisborough*.

## THE ROYAL HORTICULTURAL SOCIETY.

THE Council of the Royal Horticultural Society have issued a circular to the Fellows, informing them that in consequence of the very general desire expressed that one of the French fountains, which now forms so conspicuous an ornament in the garden, should be retained, they have opened a subscription for the purpose of providing a fund with which to purchase them or some of the minor bronzes, &c., exhibited in the garden. So much remains to be done to complete the garden otherwise, that the Council do not feel justified in expending any portion of the means of the Society on this object, and therefore have had recourse to a special subscription for the purpose. We heartily concur in the desire to see one at least of these beautiful fountains preserved for the garden, and trust the Council will be successful in their application. Among such a numerous body as the Fellows of the Royal Horticultural Society, there must be many who would be willing to subscribe largely for the acquisition of one or other of these fountains.

It will require large subscriptions to do so, for the smallest of the fountains is priced at no less than £1000, and the larger at £5000. Perhaps were the subscription to reach within a few hundred pounds of the sum required, the Council might feel justified in supplying the difference from the funds of the Society. But even supposing they were to do so, it could only be a comparatively small sum which they could so contribute. It is clear that upwards of £3000 must be subscribed. The number of Fellows is understood to be now about 3500, so that £1 from each would accomplish the matter.

In the original plan of the garden a fountain is laid down at the spot now occupied by Marochetti's statue. It would, therefore, probably be here that the fountain, if purchased, would be placed.

Wishing all success to the movement, we shall keep our readers acquainted with its progress and success.

## THE PROPAGATION OF CONIFERÆ.

DURING the last few years, Coniferæ have become somewhat popular among gardeners and amateurs, and it will, doubtless, be interesting to give a short description of the mode of propagating some of the more ornamental kinds, especially those which are often grown in pots or tubs, as ornamental objects for the conservatory or the terrace garden.

The modes of propagation here described, are those practised by an experienced gardener who has been for a long time exclusively occupied in the culture of this beautiful tribe of plants. It is well known among practical men, especially by propagators, that Coniferæ are not readily reared from cuttings, and that other means, such as the different processes of grafting, are much more successfully employed. It is not the less true

that different species of Coniferæ require to be grafted by different methods. Many species cannot be propagated by cuttings at all, owing, no doubt, to their resinous nature. Those who cultivate Coniferæ, and desire to propagate them extensively, should keep at hand a number of the stocks best suited to the different species. The following stocks are recommended for this purpose:—*Arsucaria imbricata*; the different species of *Pinus*; *Thuja orientalis*, and *occidentalis*; *Juniperus virginiana*; *Podocarpus elongatus*; *Taxus*; *Cupressus*; *Taxodium distichum*; and *Dacrydium spicatum*, or *Podocarpus spicatus*.

What is called side-grafting, is the mode most successfully adopted with many kinds that are required to be quickly grown into strong and vigorous plants. The best time for performing the operation is in the months of March and August. The stocks used ought not to be stronger than a common quill. Worsted or woollen thread is found to be the best tying material that can be used. As soon as the plants are grafted, they must be placed near the glass of a propagating-house, in an inclined position, so as to impede the circulation of the sap to the top of the stock, and to facilitate the adhesion of the graft. The management must be the same as that given to grafted plants in general; but care should be taken not to allow them to become too moist. They must also be frequently cleaned, and the stock must not be cut down before the graft has grown somewhat strong and vigorous.

The best time for taking cuttings is towards the latter part of the summer, and it is necessary to select them from the young shoots that have grown the same year: they should be cut close to the old wood. The cuttings should be planted in pots of silver sand, and kept in a warm greenhouse or propagating-house, and covered with a bell-glass or a hand-light. Those persons who have not the convenience of a house in which to place cuttings, may avail themselves of the mode of propagating called layering. For this purpose, when the young shoots have become sufficiently strong, it will be necessary to erect an artificial stage around the plant which it is desired to propagate. On this stage, pots of suitable soil must be fastened, by being tied to the boards, and in the position best adapted for the operation. The branches must then be gently bent over the pot, and properly secured in their place; the young shoots inserted in the soil of the pot, and secured with a small peg. This is the most successful mode of propagating such kinds as *Pinus longifolius*, *P. palustris*, and *P. Hartwegii*, which have a spongy bark.

Grafting upon roots has been found very successful with the different species of *Thuja* and *Juniperus*. This mode is performed as follows:—In February or March, the small roots of *Juniperus virginiana*, and *Thuja orientalis* or *occidentalis*, are taken off: they must not be stronger than the scion or shoot, which should be selected from last year's wood, near the summit of the plant. When the grafts are made, the roots must be potted in small pots and placed on a shelf in the greenhouse, being kept close, and shaded until established.

As regards the most suitable stocks for Coniferæ, it may be observed that they are most successfully raised from seed. It is not advisable to take young plants from a collection for this purpose; because they do not accommodate themselves to pot-culture so well as plants obtained from seeds. Good healthy seeds of the species named at the beginning of this article, should be procured for the purpose of raising plants to be kept as stocks. Such plants will be found most suitable for those engaged in the propagation of Coniferæ. The seeds should be sown in February, in wooden boxes of convenient size, and 3 inches or 4 inches in depth. The soil most suitable for sowing them in is sandy peat, mixed with a fourth part of loam. The boxes should be well drained, and, after the seeds are sown, placed in a temperate greenhouse. As soon as the seedlings appear, the boxes must be removed near the glass, in order to give the plants plenty of light. Before the first leaves appear, the young plants should be taken out and potted in two-inch pots, using a sandy peat soil, but no loam. This treatment is preferable to allowing the young plants to grow large in the box, and then shifting them into pots; as, when they are taken out of the box very young, with only one or two roots, they are less liable to be injured, and they soon adapt themselves to their new situation. When the seedlings have been potted, they should be removed to a cool frame, and placed on a bed of ashes or gravel, but quite near the grass. They will require to be shaded during bright, sunny weather, and care must be taken never to allow them to become either too dry or wet. The frame may be kept rather close till the end of May, or the beginning

of June, according to the state of the weather, when the lights may be taken off. As soon as very rainy and frosty weather sets in, the lights must be put on again, to remain on all the winter. Very little shelter will be necessary, except during severe frosts. Air must be admitted to the plants on all favourable occasions. In spring, they will require to be shifted into four-inch pots, and, if properly attended to, they will be ready to graft upon by the autumn.

Seeds of *Taxus*, *Thuja*, and *Juniperus virginiana* may be sown in the open ground, and pricked into pots three or four months before they are wanted to work on. They may be removed to a shelf in a temperate, moist stove, to remain for some time, the better to establish them in the pots.—M. COURTIN, Bordeaux.

## NOTES WHILST RESTING.

(Continued from page 391.)

STRONG winds from the south-west have brought ashore large quantities of Seaweed—*Vraic*, as it is here called. The precipitous roads and pathways down to the shore of some of the bays will not allow of carts to proceed thither, so the *Vraic* is imported in panniers on donkeys. It is the chief maure of the island, and mine hostess, when showing me some noble round Potatoes, said the soil on which they were grown had been vraised. They averaged three to the pound, and had not a speck upon them. I shall learn more about vraising.

In answer to my question whether there was much disease among the Potatoes this year, my landlady replied, "None among the Early," and as yet I have only heard of severe disease among Flukes. A market-woman was selling these as fast as they were taken up "because they would not keep."

The abundance of Borage in almost every cottage garden is forced upon the attention by its bright blue flowers, and the "why" was not answered until informed that it is a favourite flavour of the soup which is the prominent dish of every Guernsey cottager's daily bill of fare. Heaps of it are to be seen now drying by each cottage's wall, preparatory to storing it for winter's use.

This might be called most appropriately the "Island of Ferns," for not only do most of our native species grow here, but they attain a luxuriance and size very unusual. *Scolopendrium vulgare*, or common Hart's Tongue, may be called the Fern of the island, for you find it everywhere, and, which is most remarkable, among the thousands of plants and tens of thousands of fronds I have examined, not one varied from the normal form. Does not this show that the many varieties met with in England are caused by ungenial soil or climate, and that they are mere deformities? Sir W. Hooker speaks as of a rare occurrence, that in the moat of Kenilworth Castle he gathered fronds of this Fern more than 2 feet long. In England that is a rarity, but here I could gather hundreds of the fronds of that length, and have some now between blotting-paper for my herbarium.

There is but one locality in the island where the somewhat rare *Asplenium marinum*, or Sea Spleenwort, has been found, and I have just returned from it with some of the best specimens I ever saw, most luxuriant, and loaded with ripe spores. At the south-eastern corner of the island is Bay d'Icart, and one little cove of this, guarded by a Martello tower on the rocks above it, is Petit Bot. Near the bottom of this little cove, and on its western side, is a chasm in the rocks, which are here about 300 feet in perpendicular height; and down the sides of this chasm is a constant dripping of water. No direct sun's rays, except at its rising, penetrate here, so that the shelter, moisture, and shade, render it a very home for the *Asplenium*, and there, far above our heads, I and my companion saw it growing. The tufts are many and very luxuriant. He mounted upon some projections on the face of the rock, and by the aid of a stout walking-stick was able to uproot one fine eight-fronded plant.

There is a peculiar fragrance emitted from the pasturage as it is bruised by the hooves and teeth of the cows, but from what plants it is emitted I cannot discern. The mildness of the climate and siliceous nature of the soil are promotive of fragrance in plants, and the flowers here are very strongly odiferous. I have no doubt that flowers for the manufacture of perfumes might be cultivated here profitably, and the perfumes attain a celebrity for their power. At present the chief locality for such manufactories is Cannes and its vicinity, especially a

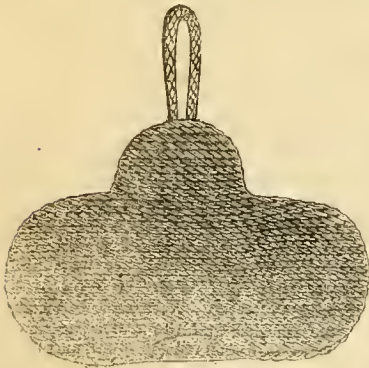
little town called Graese. One manufacturer there, M. Herman, uses in making perfumes 140,000 lbs. of Rose petals, and the same weight of Orange flowers, 32,000 lbs. of Jasmine flowers, 20,000 lbs. of the Violet, and 8000 lbs. of the Tuberose, with less quantities of other sweetly-scented blossoms. About fifty women are employed by him in separating the petals from the calices and other parts not required for distillation. Orange flowers, however, do not have their perfume extracted by distillation, but are mixed with oily matters, pressed, and gently heated. The Rose grown for perfumery purposes is the *Rosa centifolia*; and I may observe, in passing, that its name of the Provence Rose is corrupted from that of the place of its birth, Provins in Champagne; the department of Provence has no relationship to the name.

Every cottage on this south side of the island has an Apple orchard around it, among the tenants of which one immediately remarked the Quarronden and Hawthornden; but I have had no leisure for attempting to identify the many other kinds grown, nor will it be easy to do so until the fruit, which is abundant, approaches nearer to maturity. Much cider is made on the island, but the samples I have tasted are thin and flavourless, but with more than a satisfactory proportion of acidity.

The orchard-culture is not characterised by skilfulness. The trees are crowded and very mossy. Some of them must have outlived nearly a century. Round the stem of some young trees Seaweed is bound, and I am told that it promotes their health, and prevents moss and caterpillars. A reason for such effects may be discerned, and certainly the trees so cared-for are more healthy than their older and unseaweeded companions.

The Potato crop is abundant, but they are dilatory in taking advantage of this fine weather for digging them up and storing or exporting them. To take Potatoes up in the dry hard state they are now in is one of the best securities for their keeping well. I am told that about 120,000 bushels are annually exported to England; but from Lorraine, in France, comes our chief importation of these tubers. The French reporter of the *Times* says, that at Luneville, and in the Vosges, last year the purchases for the English market were estimated to amount to £240,000, and the farmers in that country expect that this year the sale of Potatoes will be still larger. They are stored here in dry sheds, and covered with dried Fern.

A very peculiar country saddle I have come in contact with, but am told that at every farm-house one or more of such saddles are kept. They are made of that rare relative of the Grasses, *Cyperus longus*, English Galingale. In its wild state it is not of very frequent occurrence here, but it does grow abundantly in some low situations, and is cultivated for economical purposes. The saddle is all flap, about 6 feet from tip to tip,



and when spread out, which it can be quite flat, it looks like a large, misshapen, rush doormat, with an appendage to fasten to a nail, for such the crupper looks, and, like the bit of a pommel, is made of the Cyperus plaited. How the stirrups are attached, and how the saddle is fixed upon the back of the steed I have not yet ascertained, but I should think by a girth passed over the saddle like that used in racing. This *Cyperus* is called *Han* by the Guernseyers, and its use is not confined to saddle-making; collars for horses, mats, footstools, and ropes are made of it. The rope is of considerable strength, and, I am told, is employed by fishermen, being less injured by salt water than rope made of hemp.

I must thrust in a little bit of botany here, just, as was once said, to show the shape of my wrinkles, but also because it is interesting to point out that this said *Cyperus* is one of the genera which very markedly show how plants withdraw by degrees from temperatures distasteful to them. Within the tropics there are nearly 240 known species, but they gradually

diminish in number in the more temperate zones of the earth until they are reduced to two species in England (*longus* and *fuscus*), and these shrink from proceeding north of St. David's.

The fruits now to be had in the market at St. Peter's Port are purple Figs, Peaches, Apricots, various Plums and Pears, Apples and Raspberries. Now, be it known to you, O reader, that these Raspberries are only 4*d.* a-pound, small-seeded and luscious, and be it also known to you as a lesson learned during pilgrimages in many lands that it is pleasant to taste of the peculiar coquinary compounds of those lands, so I committed my Raspberries to the discretion of the widow Falaise—and was I not rewarded thereby? For did she not place before us a *Gosh*? She did not know how to spell it, nor do I; but the merits of the composition are the same, however mistaken may be the orthography; and it is so phonetic, that when, O reader, you come to La Fosse and succeed in having before you one of the ample Goshes of the said widow Falaise, you will feel that your good genius has led you to pleasant pottage in a pleasant place.—QUITs.

(To be continued.)

### THE LAWTON BLACKBERRY.

You will oblige me if you can inform me on the two questions, How to train the Lawton Blackberry? Mine is two years old, throws up long, upright shoots and suckers, and bears an abundance of fruit from old branches about the ground. Should the uprights be stopped or only cut down close to the ground? In fact, I want to know how to work the bush, and whether it is worth the trouble. I have plenty of room.

I have a Hoya *carnea*, an old one. It bears long, slender pods 4 inches or 5 inches long. Shall I get any variety from the seed, or anything at all?—FLAX.

[The Lawton Blackberry bears its fruit on shoots of the preceding year, which, after bearing, in most soils die down to the ground. The young shoots of this season's growth should each be tied to a stake, so as to have sun and air, and be well ripened. When they have made a growth of 6 feet their tops may be pinched off, and the young side shoots be left their full length. The fruit is more pointed than the English Blackberry, but in this climate is neither larger nor better in flavour. The Dorchester Blackberry, also an American fruit, is said to be larger than the Lawton; but it has not yet borne fruit. It is not more robust in habit than the Lawton.—T. R.]

### OSIERS.

PLANTATIONS, or large beds of Osiers, might be very advantageously grown in almost any soil—such as banks of rivers, drained moors, &c., and, annually cut, would produce a sum of money that I have no doubt would largely remunerate the grower. And from land that cannot otherwise be made available for tillage, notwithstanding the vicissitudes of seasons, taking good and bad under view, the writer has experimentally ascertained that an acre of Willows or Osiers will often bring the grower a larger sum of money than an acre of Wheat; and likewise from land that would be almost useless for other kinds of crops. It is rather astonishing that the growth of them is not more attended to both in England and Scotland. As regards the nature of the soil and subsoil suitable for growing them in to the best perfection, Osiers delight in banks of rivers or drained moors, and are greatly invigorated by occasional floods or irrigations. Plantations of them may also be formed, and will succeed well, on low spongy bottoms along the margin of streams, in almost any lowland district of Britain.

In the great majority of farms are to be found level, marshy, wet spots, which, by drainage, cannot well be made available for tillage, and which might be planted with the Willow, and would afterwards recompense the proprietor or farmer in a twofold way. The land might be prepared in various ways for this crop, owing to the extent and nature of the soil. Where the land will admit of being ploughed and harrowed, and has formerly undergone cultivation, I find that, at the present prices of Willow-sets or plants, and the expense of labour, it would not cost more than £8 15*s.* per English acre, allowing the plants to be planted at a distance of 28 inches by 18 inches apart. But I find that for plantations of any considerable extent for Osiers, the ground should be formed by the spade

into beds of from 8 feet to 9 feet broad, with intervening furrows or narrow ditches to carry off the water. The plantation may be made at any time between the fall of the leaf and an advanced period in spring; but the two last weeks of February and first week of March are the most proper times for planting the Willows. Cuttings 15 inches long should be taken with the knife on an upward slope from well-ripened wood of either two or three years' growth; experimental trial convinces me they grow more luxuriantly when planted about two-thirds of their length in the ground, than when they are less deeply inserted.

I can learn from frequent trials that, where depth of soil can be obtained, Osiers succeed best in a deep, moist, free soil—ground to be dug to the depth of 24 inches, with a small quantity of dung and old lime rubbish put in the bottom of the trench. When Willows are planted in stiff tenacious soils, they are much more tardy in growth, and very liable to the ravages of a brown bug, which is accompanied by a black caterpillar, often making great ravages. The ground should be hoed and kept clean: the space will well admit of this, as Osiers should in no case be planted closer than 28 inches by 18 inches apart. The expense of preparing Osier plantations by spade-work in this way of course depends much on the nature and situation of the land; but in ordinary soils drains can be cleared out to the depth of 30 inches by 22 inches broad at surface, having a scarpment, leaving it 12 inches broad at bottom. This form of a ditch can be made at from 5½d. to 6d. per perch, and the ground of an English acre, trenched and prepared to the depth of 2 feet, for £6 10s. 6d., or nearly so, and planting performed at about 18s. per English acre. The Willow, for the use of the basket-maker, should be cut every year slopingly with the knife, within three buds of the point whence the shoot issued, and will admit of being cut back once in three years for the use of the cooper, exactly to the swell of the shoot of the three years' growth, thus compressing the plant back to its ancient dwarf form, at the same time realising a handsome return.

Moreover, by treating Osiers in this way, they will last and produce well for a great many years. The ground should be deeply stirred with the hoe and kept clear of weeds; but digging with a spade around the roots of Willows often proves very hurtful to the fibrous feeders, as we often meet with a great portion of such oozing and growing very near the surface of the soil. Plantations of Osiers thus treated, notwithstanding the vicissitudes of the seasons, will bring the grower at least the sum of £12 sterling for every year after they arrive at their full growth. This sum of £12, I have minutely tested, can be at the present time realised from an English acre of Willows, after all expenses of cleaning and cutting-down the crop are adopted.

*The Best Varieties and Most Profitable Applications.*—The kinds most approved of for pollarding, coppice-wood, fuel, poles, or bark, are the Huntingdon Willow (*Salix alba*), and a variety called the Red-twigged or Bedford (*S. Russelliana*).

The best sorts for Osier grounds are—1st, the common Osier (*S. viminalis*); 2nd, The Red Osier (*S. rubra*); 3rd, The fine basket Osier (*S. Forbyana*); 4th, The Velvet Osier (*S. mollissima*); 5th, The Long-leaved Willow (*S. triandra*); 6th, The Golden Willow (*S. vitellina*). These are the sorts most esteemed for the various purposes of the basket-maker, the cooper, and the turner. The way in which Willows are most commonly disposed of, after being cut, is—they are sorted into trusses and tied into bundles of 2 feet and sometimes 3 feet in circumference; and if intended to be stripped of their bark, they are set on their thick end, immersed a few inches in standing water, and left there until the latter part of the following month of May.

It has of late been asserted by various respectable parties that as high a sum as from £13 to £14 of nett profit, and sometimes more, could be derived at the present time from an English acre of Willows, under very ordinary treatment: they succeed best in northern exposures, provided they are not over-topped. Should the ground be at all suitable for the crop, each set will produce in the first year two good basket-rods, or 24,000—worth 6d. per 100 of 120. The second year, the sets being much stronger, will produce on an average six rods, one more or less being considered a very common number—one of which may be left on each stock for hoops, and the remaining 60,000 cut for baskets, which would be worth much about £24 sterling. By the third year there ought to be at least 12,000 hoops, worth 4s. per 100 of 120, and from 28,000 to 29,000 rods, worth at least £13 10s.

These results may be obtained even by fair cultivation under ordinary circumstances: of course, it may sometimes be difficult to obtain a ready market or sale for the basket-rods; the hoops

we find to be always such, and much sought after. The greater part of those used in Ireland are imported and much sought after also, with commonly a very scanty supply. No hoops should be left by the third year on the plants, as the rods which grow under the shade of the hoops are seldom or ever strong enough. Mr. Philips, of Ely, in England, one of the greatest cultivators of Osiers at the close of the eighteenth century and beginning of the present, says that he always obtained from £12 to £18 per acre, according to the fluctuation of prices, after deducting all costs of labour, &c.; the Red Welsh Willow (*S. purpurea*), and the White Welsh (*S. helix*), being at that time the two leading and favourite sorts, they being at that time disposed of in bunches an ell in circumference, after being peeled and whitened, by compressing them in an iron hoop to this size. If the plants be not in any way destroyed by insects, to which in some years they are subject, under good cultivation upwards of £10 could, at the present time, be realised of nett profit, after deducting all expenses of labour, from an English acre of Osiers. And although an old adage in Lincolnshire, it is nevertheless still true, that "a Willow will buy a horse before an Oak will buy a saddle." As to what towns and countries they are in most request, we find them in request in a great many large manufacturing towns and seaports, more especially in Dublin. The butter trade in Ireland causes a great consumption for hoops for butter firkins throughout the season. I have witnessed hoops of Hazel and Black Sally, as it is termed, sold at 12s. and 13s. per 1000, and the cooper cut them at his own cost; and in Dublin there is the Institution for the Blind, that requires to import a great many yearly to keep their hands employed. A much greater consumption for Willows might be relied upon, were they but more extensively cultivated. In almost every seaport town of Britain, an accurate calculation has of late been made that at least 6000 acres of Willows could readily be disposed of in Scotland and England, at prices that would very handsomely remunerate the grower.—J. FORBES, *Monymusk*, in the "Transactions of the Highland and Agricultural Society."

**THE STREET MANURE.**—At a meeting of the Society of Arts some years ago, a paper was read "On the means of cleansing daily the carriage and foot pavements of the metropolis, including about 170 parishes, extending over an area of 13 square miles, or 40,874,200 superficial yards." The whole extent of carriage way included in the metropolitan districts, proposed to be cleansed daily, embraces an area of 6,246,902 superficial yards; and as one machine is capable of sweeping 19,280 yards in eight hours (say from midnight till eight in the morning), it would require 323 machines to perform the whole work daily. The price of sweeping and transporting the soil to the dépôts, or lay-stalls, would be, on an average, about 1s. 6d. per 1000 yards swept, so that the daily cost would be £468, or £170,820 per annum. The ashes from the 65,910 houses in the districts included would realise something like £100,000 a-year, so that the nett cost would be reduced to £70,820, or rather more than 20s. per house. If manual labour were employed to clean the same extent of surface, it would require 3,120 men to do the work daily. The foot pavements in the same districts extend over 1,041,150 superficial yards, which, at 1s. 3d. per 100 yards cleansed, would cost annually £23,725; and taking the whole of the carriage and foot pavements to be swept daily, the cost per house would on an average not exceed 28s. 6d. By experiment it was found, that the sale of the manure nearly compensated for the labour employed. The deposits of manure on the pavement of Oxford Street and Regent Street, on a Saturday, from seven in the morning till twelve at night, weighed, altogether, 3 tons 3 cwt. 2 qrs. and 8 lbs.

**SANDWICH.**—The English, who are profound thinkers, violent in their desires, and who carry all their passions to excess, are altogether extravagant in the article of gaming. Several rich noblemen are said to have ruined themselves by it; others devote their whole time to it, at the expense of their business, their repose, and their health. A minister of state (Earl of Sandwich), passed four and twenty hours at a public gaming-table, so absorbed in play, that, during the whole time he had no subsistence but a bit of beef between two slices of toasted bread, which he ate without ever quitting the game. This new dish grew highly in vogue during my residence in London; it was called by the name of the minister who invented it.—(*London by a Frenchman a Century ago.*)

**DICTYANTHUS CAMPANULATUS (BELL-FLOWERED DICTYANTH).**

This fine and very singular-flowered climbing plant has been said to grow in Mexico, at the foot of the Sierra Madre, near Durango, but Professor Morren, who figures it in "La Belgique Horticole," states, on the authority of M. Baumann, that it is a native of Brazil. The base of the stem is woody, with white lines or fissures in the bark, which probably becomes corky with



age. The stem is pubescent and twining; the leaves are opposite, cordate-acuminate, with a red petiole 3 inches to 4 inches long. From their axils is produced a single flower, borne on a long peduncle. The calyx has five broad lanceolate lobes. The corolla is urceolate below, and green; its limb is turned back, and prolonged into five large horns, with recurved margins; this part is

whitish, marked with innumerable small purple lines or striae, which are horizontal on the limb, and vertical at the base of the tube. The staminal crown has five large rays in the form of a star. The flowers remain open about a week. M. Baumann

has grown it in the open air during summer, and in a warm Orange-house during winter, and had bloomed it on a wire trellis, about 2½ feet high. It is the *Tympananthe suberosa* (Haskarl), and the *Stapelia campanulata* (Pavon).

## FLORISTS' FLOWERS,

THEIR DISTINGUISHING CHARACTERISTICS, CULTIVATION, AND VARIETIES.—NO. 8.

### THE AZALEA.

Few features at our great exhibitions are more striking than the noble banks of Azaleas contributed by the first growers in the kingdom; their varied and rich tints from brilliant scarlet to pure white, the complete mass of bloom that they present (for oftentimes not a leaf is to be seen), and the size of the plants, exceeding as they do any others that are sent to the exhibitions, all combined are sure to attract crowds of flower-loving visitors; and will even detain those who only come because it is the fashion, and "everybody" will be there, and the devices will be worth looking at, and the music will be charming, but who would be quite as ready to come were there not a flower worth looking at, provided you could insure the company and the dresses and the bands. I well recollect what the Azaleas used to be in old Chiswick days; and one may well be astonished at the rapid improvement that has taken place in them, not only in the style and habit of their growth, but also in the varieties which are exhibited. Loose, ragged, and dull-coloured flowers are rapidly disappearing, and their places are being supplied by new varieties, which combine most of the properties considered desirable by those who have fixed the standard in this as in other florists' flowers.

It will be seen by a reference to the figure that the circular form has been adopted as the *beau idéal* after which raisers of new varieties

were to strive; and although that has not been reached yet, Ivery's Gem being about the nearest to it, yet it is most likely that the rapid strides which have been made will be continued until the complete circle has been attained: and however much such arbitrary rules may be decried, I believe that the general taste of the public will confirm in the end the judgment of the florists.

The substance of the flower must be stout—a rule that applies to all flowers, for shape cannot be retained if the petals be flimsy. People forget this, and, if they have a flower of good shape, will allow the public the benefit of it, although it may have at the same time such an utter lack of substance as to prevent its ever being extensively grown. The flower should consist of five segments of about equal size, and be regularly placed.

The colour should be bright and clean. In Whites this is very difficult, most of those under that term coming at times with splashes of crimson, red, and rose in them. Where they are spotted, the spots should be distinct, and not muddled up together.

The plants may be grown and trained in various ways; but in whatever way, they should be so full of bloom that a leaf can hardly be seen. We are speaking, of course, of those for exhibition; but it is ever to be remembered that the same kind of treatment which produces such plants at our great shows will also produce the best for home display also.

THE CULTIVATION of the Azalea does not present any very great difficulties, but cannot be carried out successfully unless there be a house specially for them, where heat can be applied and all fear of frost removed. The best grower of them that I know (and the prize lists evidence the truth of my observations), is Mr. Charles Turner, of the Royal Nurseries, Slough; and his Azalea-house is a model of what such a structure ought to be. The sides of the house are of glass, and the sashes slide so as to give an abundance of air when required; and from this house, save for the purposes of exhibition, they never move. The plants (and what plants they are!) are placed on the floor of the house, which is composed of gravel. The house is heated by hot-water pipes running all round, and can of course be thoroughly shaded from the scorching rays of the sun. Here they grow for about six months in the year; and as I have said, even during this period of comparative rest, they are not, as in the mode of treatment



A PERFECT INDIAN AZALEA.

adopted by some, turned out of doors: this Mr. Turner considers injurious and dangerous; for he does not think heavy rains suit them, and oftentimes early spring frosts lay hold on the plants; and although nothing is seen at the time of this injury, the flower-buds are damaged, and will either drop off or come badly.

The soil in which they delight is peat, and this strengthened by about one-third of good sound loam will grow them admirably; white sand being, of course, largely used.

When the plants are done blooming a moderate degree of heat is applied (about 60°), and they will then soon begin to move. During this time they should be frequently syringed—once or twice a-day, and the house kept close, for they delight in a warm moist atmosphere, just as the Camellia does at the same period of its growth. This will be continued until the plants all over have made a vigorous and healthy stock of shoots; and then gradually they may have air given to them until the sashes are left quite open and the flower-buds are well formed. They are thus kept gently growing until the month of October. Then frosts will begin to make their appearance, and a small amount of heat must be given every night. Two years ago Mr. Turner's

prospects of successful competition were seriously endangered by a slight frost having seized some of his plants at this period. During the winter months the supply of water must be lessened, but they must never be suffered to get dry. In the spring, when they begin to swell for flowers, they must receive a larger supply of water and a little more heat.

There is one dread enemy to the Azalea which must be carefully guarded against—namely thrips, which attacks the under side of the leaves, depositing a glutinous matter or dust which soon closes up the pores; and the health of the plant is materially injured before anything is known about it. When discovered, fumigating must be vigorously resorted to; but if it has attained any head the leaves attacked are sure to drop off, and the beauty of the plant be for a time destroyed. It is not, however, difficult to prevent its progress, and prevention is ever better than cure; and if the house be properly fumigated, syringed, and ventilated, there is little prospect of its gaining ground.

Although in thus writing I have had mainly in view the larger plants for exhibition, yet the same kind of treatment will insure success for any purpose: and even where there are not conveniences for heating, and where they must be grown with Geranium and other softwooded plants, attention to syringing and fumigating will enable a grower to have some nice plants for adorning the greenhouse or conservatory.

As to *sorts*, there is, as in every flower now, a large number, and hence selection becomes difficult; but I believe the following are about the best that can be had. They will vary in price according to the size of the plant or the newness of the variety. Those more recently introduced I have marked thus \*.

*Admiration*.—White ground with broad bands of crimson; fine form.

*Ardens*.—Orange scarlet; fine bright colour.

*Beauty of Reigate*.—White striped with rose; very fine shape.

*Brilliant* (Shearman's).—Fine orange scarlet.

*Chelson*.—Orange scarlet; fine form and good habit.

*Constantia Rosea*.—Deep rosy purple.

*Criterion*.—Light salmon, margined with white, and spotted with crimson in the upper petals.

*Distinction*.—Rich salmon, white margin.

\* *Due d'Areberg*.—Salmon, white margin, and spotted in upper petals.

\* *Duchesse Adelaide de Nassau*.—Red shaded with violet.

\* *Etoile de Gand*.—White ground; upper petals strongly spotted with rose, and a broad band of the same in the centre of each petal; very fine.

\* *Flower of the Day*.—Fine habit, large; white, occasionally striped with rose.

*Gledstanesii*.—White, sometimes striped with red.

*Lateritia*.—Light orange red; good form.

*Milioni*.—Rosy lilac; fine form and habit.

\* *Perfection* (Frost).—Bright rose; upper petals thickly spotted and veined with crimson; flowers large, shape excellent. The best in this class.

*Perryana*.—Dark orange scarlet; excellent shape.

*Queen Victoria*.—Pure white, flaked with purple.

\* *Roi Leopold*.—Salmon, finely spotted with crimson.

*Sir C. Napier*.—Salmon pink; large and fine.

\* *Sir H. Havelock*.—Bright salmon; upper part of the flower beautifully marked.

\* *Variiegata superba*.—Salmon pink, spotted, with white margin.

*Vesta*.—Fine white.—D., Deal.

**CRYSTAL PALACE**.—The great excursion of the Foresters on Tuesday last, when 83,721 persons were present, passed off without the least accident to the assembled thousands, or appreciable damage to the gardens and Palace. The large excess of visitors was doubtless owing to the unusual number of excursionists from the provinces and abroad, visiting London for the International Exhibition. On Monday, Tuesday, and Wednesday, the great Poultry, Pigeon, and Rabbit Show will be held, and upwards of eight hundred pens are entered for exhibition. On Thursday, 28th, M. Blondin will exhibit on the high rope over the fountains, and he will give a low rope representation in the centre transept on Saturday, which is now a shilling day. On Friday, the great fountains will be played their full height. As each of these great displays requires upwards of 1,900,000 gallons of water, the centre jets being higher from the basins than Bow Church steeple is from the level of Cheapside, it is no wonder they

are the special admiration of all visitors. Foreigners are particularly struck with them; and it has been truly remarked, that "whatever may be the relative position of the *grandes eaux* of Sydenham when compared to those of Versailles, there can be no doubt of their positive merit and attractiveness; they are never seen to greater advantage than when the flashing waters grow iridescent in the sunshine, and then break, from a rainbow of colour, into a shower of silver drops." Besides the above special attractions, a very interesting meeting will be held on Wednesday, of the *Deutsches Turnfest*, or German Gymnastic Association. Great attention has of late been given throughout Germany to institutions connected with athletic sports and exercises, and one held last autumn created the greatest public interest, many thousands of Germans taking part in the proceedings. This will be the first gathering of the sort in this country, and is likely to excite no inconsiderable attention.

## WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 400.)

### MOLLUSCA.

MOLLUSCS may be generally described as soft, invertebrate, inarticulate animals, mostly protected by a shell. This shell is usually composed of a single piece in the higher groups, and is bivalve in the lower. The chief office of the shell is to serve as a shield or case for the protection from injury of the respiratory organs; although it very frequently serves as a defensive covering for the whole of the soft parts. These shells are mostly so elegant in their structure, so beautiful in their colour, and so durable in their substance, that they have, until a comparatively recent date, engrossed the attention of the scientific and curious, to the exclusion of the animals they contained; and whilst naturalists devoted their time and attention to the collection and delineation of the shell, they totally neglected the no less beautiful and curious creatures those shells protected.

The following introductory sketch to the British Mollusca is partially condensed from the very admirable work of Professor Edward Forbes and Mr. Sylvanus Hanley, of Wadham College, Oxford.

The Mollusca of the British seas are abundant; the varied conformation of the coasts of Great Britain and Ireland, and of the sea-bed surrounding these islands, being peculiarly favourable for nourishing a multiplicity of these animals. The greater part of our marine Molluscs are very small species.

The Cuttle-fishes that live around us are too excursive and oceanic in their habits to be claimed as exclusively or even chiefly our own. Those, however, that frequent our sea-bed are generally of considerable size for Molluscs, and certainly among the most beautiful and wonderful inhabitants of the sea; but they are seldom seen by the casual observer.

A considerable number of our marine Molluscs are sufficiently common on the western coasts of Britain, though they are scarce in the Irish Sea, and for the most entirely absent from the German Ocean, or, at any rate, from the more central portions of our eastern coast. Several localities have species peculiar to themselves. Where the shore is rocky it is inhabited chiefly by numerous gasteropodous (belly-footed) Molluscs. For instance: the common Limpet (*Patella vulgata*), the various species of Periwinkle (*Littorina*), the Dog-Whelk (*Purpura lapillus*), the common Mussel, &c., are found in quantities on this hard rocky ground, whilst muddy or sandy shores are frequented by burrowing bivalves. Such localities are, however, frequently destitute of Testacea altogether. It may be set down as a general rule that univalve Testacea and naked Mollusca flourish most upon hard ground; whereas bivalve Testacea appear to be more at their ease on soft ground.

The Molluscous province may be primarily divided into ACEPHALA, or animals destitute of heads; and ENCEPHALA, those which are provided with heads.

These may be again divided into classes according to the modifications of their integuments or of their gills.

ACEPHALA, then, are headless animals, having simply a pharynx or beginning of the œsophagus, without jaws, tongue, or mouth properly so called, and of which the Oyster may be looked upon as the most familiar illustration.

The ACEPHALA may be subdivided into three classes—namely, 1st, *Tunicata*, from *tunica*, a tunic. This class comprises such Molluscs as have the body enveloped in an elastic tunic furnished

with at least two apertures. This class is also denominated "soft-shelled" or "shell-less," in distinction to the other Acephalous Molluscs, all of which have a bivalve shell.

2ndly, The *Lamellibranchiata*, from *lamella*, a little plate, and *branchiæ*, gills. A class of Molluscs which are bivalve, and respire by gills in the form of vascular plates of membrane attached to the mantle. The common Oyster and the Mussel belong to this class.

3rdly, *Brachiopoda*, from two Greek words signifying "an arm" and "a foot," or *Palliobranchiata*, from *pallium*, a mantle, and *branchiæ*, gills—a class so named from its members having two long spiral arms placed on each side of the mouth, which in many species can be unrolled to a considerable length, and protruded to some distance in search of aliment. They are bivalve, one valve of the shell being applied to the back and the other to the belly of the animal, which is attached by its shell, or by a pedicel to some foreign body.

The ENCEPHALA, or animals having heads, may be subdivided also into three classes, according to the modifications of the locomotive organs.

1st, The *Pteropoda*, from two Greek words signifying "a wing" and "a foot." This class consists of small, soft, floating marine animals, which swim by the contractions of two lateral, musculo-cutaneous fins; but are unable to fix themselves or creep in the sea from want of feet.

2nd, The *Gasteropoda*, from Greek words signifying "the stomach" and "the foot." This class includes those Molluscs whose locomotive apparatus consists of a muscular disk attached to the ventral surface of the body, serving either as an instrument for crawling, or, in rarer instances, compressed into a muscular membrane for swimming.

3rd, *Cephalopoda*, from two Greek words signifying "the head" and "the foot." This class has all or part of their locomotive organs attached to the head, whence they radiate in the form of muscular arms or tentacula. The Cuttle-fish is a familiar illustration of this class.

It is only in this class (the *Cephalopoda*) that we find an internal skeleton, combined in some with a shell. In the rest of the Mollusca the hard parts, where present, are external. But the integument in certain species of the *Encephalous* classes, and in most of the *Cephalopoda*, is uncalcified and flexible.

It may be mentioned here that all true Molluscs have a complete alimentary canal, with mouth, stomach, intestine, and vent, and they are provided with circulating and respiratory organs.

In the higher classes of Molluscs (*Cephalopoda*), muscles may originate from an internal cartilage; in other Molluscs they are attached to the skin, or to the shell which may be developed in that otherwise soft substance. The shell is chiefly hardened by carbonate of lime, and consists either of one or two pieces called "valves;" there are rarely more than two of these, or with accessory parts. The blood is colourless, or, at all events, it is not red. The heart is distinct and muscular, and propels the blood through a system of arteries and veins, the latter having the form of irregular lacunæ.

It is almost unnecessary to observe that as our errand lies only on the seashore, we shall take no notice of the countless land and freshwater animals which form so large a proportion of the family of the Molluscs.

We shall now proceed to notice the first class of Headless Molluscs, called TUNICATA.—W.

(To be continued.)

## PROPAGATION OF BEDDING PLANTS.

THIS now-a-days forms no mean portion of the duties, or shall I say pleasures? of all who aim at gay beds and borders throughout the summer and autumn months, and the time is now upon us when it must be set about in earnest. It is to those amateurs that are in possession of a greenhouse, vinery or pit, with the further aid of it, may be, a one or two-light common frame, or a few hand-glasses, that I propose addressing myself on this occasion, with the view of giving a few practical hints as to the best mode of autumn propagation. There are two important points to be aimed at in the case of those whose means of wintering stock is limited. The first being how to propagate so as to turn out the healthiest possible stock of plants, and the next is how to winter the greatest quantity in as small a compass as possible. In discussing these points I will not take them

up under separate heads, but shall keep both objects in mind in the few following remarks.

Throughout an experience of very considerable extent I have become more and more convinced every year that the practice of striking cuttings of Verbenas, Heliotropes, &c., in a high temperature, and plunged in bottom heat, is not only unnecessary, but the very reverse of sound practice, and results in the excessive debility of the plants; so much so, that by so striking such plants after the middle of August, it require the whole autumn to accomplish the tedious and so-called process of "hardening them off." I would advise the commencement of propagation to take place either with the closing days of July or the beginning of August. And instead of enclosing the cuttings in a steaming hotbed—deriving the heat either from hot water or fermenting material—I would say, Choose a cold frame, putting in the bottom of it a layer of half-rotten leaves or turfy loam to act as drainage. Over this place 3 inches of half sand, half finely sifted leaf mould for the reception of the cuttings; press the surface moderately firm, and commence putting in the cuttings of Verbenas, Heliotropes, Alyssums; in short, the whole fraternity of bedding plants, excepting Scarlet and variegated Geraniums, as well as yellow Calceolarias, of which more by-and-by. In taking cuttings of such things let them be short, fresh, stubby cuttings from the outsides of the beds, and see that as fast as they are made into cuttings they are dibbed firmly into the frame—prepared as above—and watered and shaded before they droop. This is a point of great importance, for cuttings once allowed to droop and be dried up with sun and wind never succeed so well. The cuttings may be inserted at about 1 inch by 1½ inch. A one or two-light box, or even a few hand-glasses at this rate hold a great quantity of cuttings, and the labour and trouble in preparing such receptacles is scarcely worth naming as compared with the crocking of pots, and the plunging and steaming into the bargain. As soon as the necessary quantity of cuttings are in, give them as much water as will wet the whole surface soil down to the leaves or turf, and then shut them up close, and shade them carefully from the sun.

Now, the first step in the process of getting fine, stocky plants that will stand the rigours of winter well, is to get these cuttings to make roots without becoming drawn and weakly. To this end let the lights be removed entirely from the frame in the evening after the sun has left it, at the same time—and to prevent any chance of the plants drooping—give them a gentle dewing through a very fine rose. Should the weather be harsh and windy, be content with simply putting on some air at the back of the frame by tilting up the lights. When the lights are removed never forget to put them on again before leaving them for the night, for a thunderstorm or a high wind would deal cruelly with them. If the cuttings are healthy when put in, they will soon root when treated so, and that, too, without making much growth or expending their life and energies. But such cuttings thrust into warm frames and plunged in bottom heat become elongated and sickly long before they are ready either to prick or pot-off. As soon as they are rooted, of course the next consideration is how best to accommodate them for the winter, so as at the same time to take up the smallest possible space, and to preserve them in health. In the case of Verbenas, I would recommend square or round pans of earthenware, the same material as pots, or wooden boxes about 5 inches deep. In preparing these it is not necessary to use many crocks; a single crock over the openings, with a few crocks finely broken over them is enough; then place above these 1½ inch of horse-droppings that have been in heap for a few months, or part of a decayed Mushroom-bed or hotbed will do perfectly well. Cowdung I object to from its sloppy nature, which makes it dangerous on the score of impeding the drainage. The pans or boxes should then be filled up to within a quarter of an inch of the top, with a compost of half loam, half rotten dung, and sufficient sand to make it sparkle. The cuttings should then be lifted carefully with their roots entire, and dibbed into these vessels, putting about forty plants into a round pan 13 inches in diameter. This transplanting process should be performed as soon as the cuttings have made roots an inch long. After all are so transplanted into the pans or boxes, as the case may be, place them in a cold frame and shade for a few days from the sun, but let the shading be discontinued by degrees, and entirely dispensed with as soon as the plants have got hold of the soil. Give more and more air every day till the lights be removed entirely, except in cases of heavy rains; go over them as soon as they begin to grow freely, and pinch the top out of every plant. Let them be

attentively supplied with water so as to prevent them ever becoming mealy dry on the one hand, or saturated on the other. Thus treated they will form masses of healthy plants by the middle or end of September, that will rustle as you draw your hand over them, and will contrast most favourably with cuttings struck in hot, close frames, in a poor, sandy compost, and allowed to stand starving in their cutting-pots till next spring.

Plants treated as described above will be comparatively easily wintered, although the most favourable position is a light, dry, and airy one. Through the winter months they must be kept carefully free from green fly, and have just enough of moisture at the root to keep them healthy and no more, or mildew or other ills may be looked for. With regard to the comparative merits of earthenware pans and wooden boxes, I give the decided preference to the former, having always observed that these plants are easier kept in health in them than in boxes.

In spring should it be desirable to increase the stock, such may be done at pleasure by the aid of a little bottom-heat. Spring-struck cuttings are much preferable to autumn-struck ones; and I propagate only in autumn to get stock from them in spring, and the ease with which the necessary stock can be worked up in spring is dependant in no small degree on a fine healthy stock to propagate from; and struck as I have described, the show of cuttings will be very different to the miserable rusty things struck in heat, and wintered in their cutting-pots. There may, however, be many amateurs who must, in the nature of things, be entirely dependant on autumn-struck plants; and, in the case of such it is all the more urgent that their stock should be fine, and I have no fear but that by pursuing the hardy manner of propagating, they will find themselves in possession of a stock that will not only cost them much less trouble and anxiety, but also of one far superior in quality.

In the propagation of the different sorts of Geraniums, both variegated and common sorts, it not unfrequently pains one to see them coddled to death by placing them inside the room window, with a blind between them and the sun, instead of placing on the sill outside in the full blaze of the sun. Amazement is very often expressed at our exhortations to bring them up so hardy, and it takes some earnestness and pains to convince that certain death would not be the result of propagating Geraniums in the hottest and most sunny place at command.

In order to make the most of space in wintering Geraniums, there is no better and easier way than that of striking them in boxes, and wintering them as they are struck. Boxes about 5 inches deep, filled with light tolerably rich soil, are all that is required for the successful propagation and wintering of the common earliest varieties. The variegated sorts are, however, more tender and do best in well-drained pots or pans. In the propagation of both sections, I know of nothing so conducive to success as the selection of large cuttings, and the placing them in an open, sunny position after they are made, and dibbed into the pots or boxes. Heavy rains should always be guarded against by having some means of covering them. I fear, however, in the face of these directions, that, should the present most ungenial weather continue, large cuttings will not be easily got early in August. Well, then, I would say, Wait a fortnight or three weeks. You will be safer with a large, firm cutting at the beginning of September, than with a soft, spongy thing at the 1st of August.

In about three weeks after the cuttings of Geraniums are put in and managed thus, they will root and begin to grow, and make fresh leaves; and as soon as they become to any extent thick, go over them and pinch the terminal bud out of each, and remove some of the leaves so as to let the air have free scope about them. They should be housed before autumn rains and frost commence; the best place to keep them safely is in the coolest and driest part of a greenhouse, vinery, or pit. Geraniums can also be successfully wintered in a spare sitting-room, coach-house, or, in fact, any place where they can be kept dry and free from frost, and have a moderate share of light.—D. T., in *Scottish Gardener*.

## EXTRACTS FROM A TOO-MUCH NEGLECTED BOOK.

**MUSHROOMS.**—September 22.—Mushrooms are springing up by the roadside and in pasture grounds; they are not so numerous as last year, however, when the fungus tribe abounded. Mushrooms are not much eaten in our country neighbourhood;

people are afraid of them, and perhaps they are right. Certainly, they should never be eaten unless gathered by a person who understands them thoroughly. In France they are not allowed to be offered for sale, I believe, until inspected by an officer appointed for the purpose. There is a good old Irish mother who supplies one or two houses in the village when they are in season, and she understands them very well.

The Indians of this part of the continent ate Mushrooms. Poor creatures, they were often reduced to great extremities for food, from their want of forethought, feeding upon lichens, *tripe de roche*, and everything edible which grew in the forest. But Mushrooms seem to have been considered by them as a great delicacy. A Chippewa, when speaking with Major Long on the subject of a future life, gave the following account of the opinions prevailing among his people:—"In this land of souls, all are treated according to their merits." "The wicked are haunted by the phantoms of the persons or things they have injured; thus, if a man has destroyed much property, the phantoms of the wrecks of this property obstruct his passage wherever he goes; if he has been cruel to his dogs, they also torment him after death; the ghosts of those whom during his lifetime he has wronged, are there permitted to avenge their wrongs." "Those who have been good men are free from pain; they have no duties to perform; their time is spent in dancing and singing, and they feed upon Mushrooms, which are very abundant." Thus, Mushrooms appear to be the choice food of the Chippewa heroes in the happy hunting grounds.

**COLOUR OF AUTUMN LEAVES.**—October 5.—The woods are very fine, under the cloudy sky, to-day. Scarlet, crimson, pink, and dark red increasing rapidly—gaining upon the yellows. So much the better; seasons where yellow prevails are far from being our finest autumns. The more crimson and scarlet we have to blend with the orange and straw colours, the gayer we are. Still, this seems rather a yellow year; for the Elms and Hickories—which often wither and turn brown, without much beauty—are very handsome just now, in clear shades of yellow, fluttering in the breeze like gold-leaf; while the Chestnuts, Birches, Wych Hazel, and many Maples, as usual, wear the same colours.

Although there are certain general rules regarding the colouring of the trees, still they vary with different seasons; some which were red last year may be yellow this autumn, and others which were dull russet may be bright gold colour. The other day we found a wood path strewed, at one spot, with pink Aspen leaves; but the general colour of this tree is a decided yellow, nor do I ever remember to have seen its foliage pink before this instance; still there was no mistake about the matter, the leaves belonged to the large Aspen, and they were clearly pink. They looked, however, as if they had first turned yellow, and then a coat of rich warm lake had been laid on afterwards. Maples frequently go through the same process.

Some of the Oaks are turning deep red, others scarlet. The Ashes are already dark purple. But while most of the foliage is gaining in brilliancy, bare limbs are already seen here and there; the Virginia Creepers are all but leafless; so are the black Walnuts; and the Balm of Gilead Poplar is losing its large leaves. Such is Autumn: prodigal in her magnificence, scattering largesse with a liberal hand, she is yet careless, and regardless of finish in the lesser details; she flings cloth of gold over the old Chestnut, and Tyrian purple upon the Oak; while the neighbouring Grape Vine hangs a dull and blighted garland of russet upon the forgotten Aspen, still green. Spring has a dainty hand, a delicate pencil; no single tree, shrub, plant, or weed, is left untouched by her; but Autumn delights rather in the breadth and grandeur of her labours, she is careless of details. Spring works lovingly—Autumn, proudly, magnificently.—(*Miss Cooper's Journal of a Naturalist in the United States*.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

**Artichokes**, cut down the flower-stems, and remove the dead leaves from the old plantation. Those made last season will probably now produce a few heads. **Basil** and **Marjoram**, to be cut and dried just as it is coming into flower. **Asparagus**, to be kept free from seed-weeds. **Carrots**, make a sowing for early spring use on a dry light soil, that is only moderately rich. **Cabbage**, continue to plant-out for Coleworts at every favourable opportunity; prick-out the young plants intended for the main

spring crop. *Cauliflowers*, sow the principal crop for keeping over the winter. *Celery*, some of the early crops will now be sufficiently advanced for earthing-up; this should be performed on a dry day. Remove all suckers, and tie each plant separately with a piece of matting to prevent the earth from getting into the hearts of the plants. The earthing-up to be proceeded with in the usual way, taking care to loosen the soil well about the roots. If they had a thorough good soaking of liquid manure the day previous, it will be of great advantage to them. *Endive*, make a last sowing for spring use; continue to transplant from former sowings when the weather is favourable. *Dwarf Kidney Beans*, if the weather is dry and hot, give them an abundant supply of water when they are in bloom. *Lettuces*, if a sowing of the various sorts to stand the winter was made last week, another good sowing may be made during this week. The former will do for transplanting in the autumn, and the latter may remain in the seed-bed to be transplanted in the spring. *Onions*, sow seed of Spanish, Tripoli, or Strasburgh to stand the winter. The Welsh may also be sown for drawing young in the spring; the other sorts are best transplanted in the spring for bulbing. Let the crop now on the ground be removed as soon as they have ceased to grow, if left longer than this on the ground they frequently get mouldy and do not keep well; to be spread out in a shed or any dry place till fit for tying in ropes. *Tomatoes*, gather them as they ripen; and where they are backward, and at the same time much in demand, gather a few of the most forward and hang them in the stove, or, where there is not this convenience, place them in a frame where they will soon ripen.

#### FLOWER GARDEN.

Look over rock plants, pruning back any that are overgrowing choice kinds, in order to give them sufficient time to break again before autumn. Keep such plants cut back as have a tendency to overgrow Box or other edgings. Tie-up Dahlias, Sweet Peas, and other border plants. Peg-down a few shoots of *Chrysanthemums* for laying in pots; this is better done after the shoot has turned up at the point. Cut-out some of the leaves from Hollyhocks to show their bloom. Keep gravel walks perfectly clean and smooth by weeding, sweeping, and rolling as may be necessary. Keep climbers on walls within due limits. Part and transplant *Polyanthuses*. Prick-out seedling *Auriculas* into store-pots or pans. Prick-out seedling *Pansies*, and plant-out the first-struck cuttings for next year's bloom. Pull-off all deformed or damaged flowers from Dahlias, and give regular attention to staking, tying, &c., that the plants may not be broken during boisterous weather.

#### FRUIT GARDEN.

Remove all superfluous shoots from wall trees, and expose the fruit of Peaches and Nectarines, but not by cutting off the foliage. Place dry beanstalks, cut in lengths of about 6 inches, among the branches, and by this means the earwigs, that are sometimes very injurious, may be caught before the fruit is ripe.

#### STOVE.

Continue former directions in this house as to heat and moisture, and, by giving plenty of air, endeavour to get your *Ixoras* and similar plants to make strong luxuriant shoots, which, if properly ripened, are sure to produce fine heads of bloom. Pay due attention to *Begonias*, *Euphorbias*, and all winter-blooming plants. Expose such plants as *Stephanotis* that have completed their growth to the full sun, so as to get the wood properly ripened, and then gradually go to rest.

#### GREENHOUSE AND CONSERVATORY.

Plants that are required to bloom late in autumn and winter should be repotted, and their growth advanced. Ply the finger and thumb vigilantly on all plants which appear disposed to make a loose rambling growth. Remove the flowers regularly from *Leschenaultias*, and assist those that have filled their pots with roots with a little weak manure water occasionally. Look sharply out for mildew on *Boronias*, *Gompholobiums*, &c., and when the slightest speck is visible dust the plants with sulphur. Pot *Tropeolums* of all kinds, giving them a free open soil, with plenty of sand and drainage, and place the pots in the open air until the end of next month. Thin-out the *Mignonette* sown some weeks back, and get in a second sowing for Christmas-blooming. Look to Violets, and keep the runners removed. *Roses*, *Lilacs*, and other plants for forcing, to be examined, and such as require it may be repotted, plunging the pots afterward, and watering when necessary.

#### PITS AND FRAMES.

Attention should now be paid to the propagation of *Verbenas*, *Petunias*, *Salvias*, *Scarlet Geraniums*, and other bedding-out plants. Use every available means to raise a sufficient stock to preserve through the winter. Where there is a comparatively small space for wintering them, boxes and square pans are recommended for that purpose. The cuttings of plants liable to be affected by aphids to be immersed in tobacco water before they are put into the boxes or pans. W. KEANE.

#### DOINGS OF THE LAST WEEK.

"It never rains but it pours," might well be said of Saturday the 16th, and Sunday the 17th inst. For from fifty to sixty hours we had a continual down-pour, without the least intermission—a grand thing for land needing ploughing and scarifying; as in this neighbourhood, notwithstanding the damp and drizzle, the soil was too dry to permit of either being satisfactorily done. A grand thing, too, for Turnips, reaching to their roots, and giving them enough to prevent their feeling the effects of drought for the season. A grand thing, too, for the corn swelling, and just needing cutting, as it will make it fill the bushel so much the better. With these benefits, the drawbacks were that it hindered the storing of grain fit to be carted, interfered with the labour of the reaper; and in our own department, though giving us just what we wanted in the kitchen garden, it gave a desolate appearance to the flower garden, as noble trusses of *Geraniums* became a mass of rottenness, looking as wretched as a lot of drowned mice, whilst *Calceolaria* blossoms were washed off in bushels. Monday afternoon gave us a little sunshine. Tuesday was a glorious day. Wednesday, sunny and cloudy by turns: and though the rains have given us labour for which we did not bargain, in picking off the worst remnants of flowers, did the sun continue to shine the flower gardens would yet be fine this autumn, as many fresh flowers begin to open, and there are plenty of buds to make all rich and beautiful. The rains have also so soaked the ground that watering to any extent will hereafter be unnecessary, whilst lawns will hardly have a tinge of brown for the season. At no time have I seen them of a richer green.

#### KITCHEN GARDEN.

Pulled up forward garden Beans for seed. Pulled Dwarf Kidney Beans close to keep them well in bearing, every pod allowed to swell seed doing more to exhaust the plant than a dozen of pods nice and crisp for the table. Planted out Lettuces, *Endive*, *Coleworts*, *Broccoli*, &c., as room could be found; also a good batch of Cauliflower for the last gathering without protection, and a bank of smaller plants, which can easily be protected a little. Tied up the seed-heads of *Sea-kale* in bundles, as the seed is ripe enough for keeping, and taking it all away will strengthen the roots of the plants. Sowed Lettuces and Cauliflowers, the latter for early spring use. Will sow again in a week or ten days. Took up Shallots and Garlic, and pulled up Onions of spring planting, leaving the bulbs exposed to the sun. Thinned and stopped Cucumber plants, Vegetable Marrows, &c. Stopped and thinned leaves of Tomatoes. Thinned Turnips, sowed more, and also Spinach and Onions for winter. Found that *Capsicums* and *Chilis* were not swelling much under glass merely; turned them, therefore, out of their pots into leaf mould and loam placed above hot fermenting matter, and where a pipe can give a little top heat when necessary. This luxury in the shape of home-made Cayenne pepper is much valued, and what is not wanted for that purpose will be pretty well as serviceable for destroying insects as *Neal's Pastils*. Put some dung round Tobacco plants, which are not growing so well as usual, owing to the want of heat in the soil. Earthed-up some *Celery*, using ashes round the stem. This, too, grows more slowly than usual this season. Peas have been in their glory, so juicy and rich. Must get the latest staked if we can find time to do so at all. Swept the surface of the older Mushroom-beds to leave them clean and solid; and will smoke the Mushroom-house with burning sulphur and sawdust, to destroy all wood lice and other vermin that may be lodging there, before we begin to make up beds for late autumn and winter.

#### FRUIT GARDEN.

Planted Strawberry plants as time could be got. Potted for forcing. Commenced clearing the rows of those to be left for next year. Gathered some of the earlier Apples that were ripe.

Removed as we could get at them the breastwood of trees, and taking now almost the whole away, and especially the second growth after a first nipping some time ago. Find wasps attacking the remnants of Figs, which have borne heavy crops—the first time we have seen the gentry this season, looking almost as if the heavy rains had turned them out, and the bright sun had enticed them to keep out instead of returning to their burrows. As a matter of precaution will place gauze over the air-openings in vineries to prevent them getting in, which is better than driving them out after they get in and do mischief. Removed all the plants from the second vinery, washed the stage, &c., so that there should be no damp or impurity about the fruit, ripe and ripening. Got Camellias, &c., out of late vinery, where colouring is commencing, for a similar purpose; and in about ten days or less will have all the other things—Begonias, Cockscombs, Achimenes, &c., also out, that the floor may be nice and dry before the autumn closes. Thinned out the laterals in these houses now, that more strength may be thrown into the branches and the wood and buds that will be wanted for another year. I regret the roof is so flat, as moisture is so easily condensed and apt to drop inside in winter, even with every care.

Watered the borders of Peach-house, from which the fruit has been all gathered for three weeks, and find we have been rather greedy in the orchard-house in leaving so many, especially Peaches; and, therefore, we do not in the earliest coming-in get the size which we will do in later ones better thinned. We are apt to err in this respect when the young fruit set as thick as they can stand, as they did merely with the protection of the glass, and plenty of air on too. Small Peach and Nectarine trees in pots have yielded good fruit and heavy crops, and we are doubtful what to do in the autumn, give larger pots or plant out; the advantage of the former being that they are so thoroughly under control. Some Jefferson's Plums in pots, ripened with air on night and day, have been much prized for their size and flavour. All these pots have had a fair allowance of manure water, and twice during the summer have had about half-an-inch surfacing of horse-droppings half rotten, partly to enrich the water that passed through them, and partly to act as mulching and keep the soil from drying so quickly. The plants chiefly were small single-stemmed maidens in the spring of 1861; the pots chiefly 12's and 8's, half plunged in the border; and some of the larger kinds of Plums have from one to two dozen of fine fruit, and the plants seem anything but distressed, giving every promise of better crops next year. We find that the roots are getting through the pots notwithstanding all the surface-mulching; but as soon as the fruit is gathered the pots will be lifted or twisted round, so that the wood shall be thoroughly ripened. Where a little labour and attention can be given we feel sure that the best Plums can thus be satisfactorily grown, and they will have a richness in flavour which they rarely have in cold places out of doors. Had we the chance we would have a little house of Coe's Golden Drop, which will rarely ripen here; as with plenty of air all the summer it would come in rich as preserves in October and November. We mean to give all Peach, Plum, &c., trees in these houses some thorough washings and smokings as soon as the wood is ripe and the leaves falling, as there is some appearance of the black fly that annoyed us so much in the spring. The green fly is nothing to it.

#### ORNAMENTAL GARDENING.

The rains have given us pretty well a week's work, which we did not bargain for, in the flower garden, cleaning and nipping off the decayed bloom. This has thrown us behind with other work that needed doing, as there was a necessity for making the grounds as attractive as possible, and if this weather continues, a few days will remove all traces of the drenching. Some visitors at the mansion would not look at the beds on Sunday or Monday, and thus escaped the morbid feeling experienced at seeing such a dreary spectacle. Much of the happiness of life consists in resolutely not looking at the black side of things. The grass, too, from the drenching gave us much additional work, rushing up like magic; but then it is so beautifully green when dressed either by the scythe or hand machine. I was afraid that

#### GREEN'S MOWING MACHINE

of 16 inches would be rather heavy for one man; but unless the grass is long, which it never should be, I hear no complaint, it is so nicely balanced. I never saw Mr. Green, but I had the pleasure of examining these machines closely on his premises, and seeing them at work. I am much obliged for his courtesy

in noticing my complaint at page 298. Several ladies and gentlemen who saw them at work, and liked them much, were horrified at the hideous noise as the machine was pulled backwards. I might have written to Mr. Green privately, but that would have been far less effectual in removing the unpleasant impression, and many now will be astonished that such a simple thing as elevating the iron rollers and allowing the weight to rest on the wooden rollers in front, enables you to draw the machine backwards with as little noise as a cat would make with its paws. All things, however, are simple, but only to the initiated. Common workmen might have plodded on for years deafening the ears of their employers without finding out such a simple thing. Of course, in those of a larger size, the moving of the lever that takes the cogs out of gear, remedies all this without any elevating of the machine.

These different operations have interfered with propagating and potting farther than getting in a batch of Verbenas in the mode spoken of last week, and we are about commencing with Scarlet Geraniums, most of which *now* will be inserted in rough wooden boxes, and, if possible, all the tenderest will get the protection of glass. Will have to hunt the sides of roads to get some fresh compost for this purpose, which answers better than any mixture of old soils or compost—if sandy, all the better; if not, to be made so. No cuttings care much for leaf mould or dung in the soil, though when the cuttings are to stand many months we often lay a little of such material in a rough state at the bottom of the boxes or pots. In all delicate affairs, the cuttings do best without, and if help is needed, a little weak manure water, when struck, would suit the most of them better. Among things rather new we will put in a good batch of the

#### GNAPHALIUM LANATUM,

a free-growing, neat, cordate, woolly-leaved plant, producing small everlasting-like flowers, that but for the white stems and the white scales round the flower, and their rather agreeable perfume would be little more attractive than the flowers of the Groundsel. Some ladies, however, like them much and say that thinly scattered they give a greater attraction to the plant as an edging. For myself I neither like nor dislike, being neutral in the matter. In some cases I might let them remain, and in others I would remove them if their yellow points did not suit what was next to them. I think either Mr. Beaton or some other correspondent spoke of its not blooming, but here it seems that from oldish plants it would bloom rather freely. I like it as an edging plant chiefly for two reasons. First, it is so accommodating that you may cut and pin it down to a broad or narrow margin of a few inches in height, or you may let it grow upright with support, so as to form a dense sloping bank of 18 inches or more in height round a tallish bed of scarlet or purple, against the shades of which colours it seems to tell the most favourably. The next attraction is one that some ladies first pointed out to me, and that is the dancing flickering shades that flit over its foliage when looked at from a little distance in bright sunshine. "Oh! what beautiful new variegated Ivy is that you have got?" several have exclaimed; and really the shades are very striking under such circumstances. This is a matter much overlooked. Mr. Hamilton, of Ham Wood, first drew my attention to the beauty in this respect of Beaton's Stella Geranium. Well, the smallest bit of this Gnaphalium will atone in sandy soil, either under hand-light or frame; and though it will not stand frost it is so hardy that you can hardly lose it in winter unless you thoroughly dry it up, or thoroughly deluge it with water. The poorer the soil, I am inclined to think, the whiter will be the foliage. As an edging plant I give it a place along with the *Cerastium tomentosum* and *Cineraria maritima*.—R. F.

#### TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate

communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**PRONUNCIATION OF NAMES (*Ignoramus*).**—The correct pronunciation of *Dryopteris*, *Oreopteris*, and *Polystichum*, is *Dryop-teris*, *Oreop-teris*, and *Polys-tichum*.

**INSECTS ON CUCUMBERS (*J. M.*).**—If, as we presume, your plants are attacked by red spider, sulphur vapouring at a temperature not higher than 140° or 150° may be resorted to; but you must be very cautious or you may kill your plants. In syringing employ the following liquor:—Boll a pound of sulphur and a pound of lime in five or six quarts of water for twenty minutes, pour off when clear, and use half a quart to four gallons of water. You have, probably, been keeping the house or pit too hot and dry; maintain on the contrary a moist atmosphere, and syringe frequently. If you consult our back Numbers you will find full information on the best means of destroying this tenacious pest.

**FLOWER-GARDEN DESIGN (*A Regular Subscriber*).**—We would decidedly recommend you to adopt grass; it will make your design look very much better than gravel, and would harmonise better with the bright colours of the flowers.

**REPORTS (*A Constant Reader*).**—If you refer to page 322 of our present volume, you will find a reply to your inquiry. Where so much repetition is necessary, we must draw the line somewhere. Your observation does not apply to country shows, because there the whole features and subjects are totally distinct from the metropolitan exhibitions.

**CRYSTAL PALACE (*E. M. M.*).**—You must have had a treat round the beds there. The *Commelina* is one of the oldest herbaceous plants, and has blue flowers, and there were more than two full beds of it there. But Mr. Beaton will tell us next month how they all stood the season there. For your greenhouse we would prefer a common flue; these hot stews for cuttings, from a greenhouse boiler, are like paying through the nose for one's use. Perhaps six fires will carry you through the winter, and seldom is fire needed for a greenhouse in March and April when you propagate.

**ROSE-CUTTINGS (*Virgil*).**—The best Rose-cuttings in August and September are those stiff little side shoots which are from 3 inches to 4 inches long; cut them off close from the shoots, or with a heel to them, and put them in with a little sand in pots, or in the open ground. The latter is the surest way for all inexperienced persons, and if they could put a hand-glass over them all the sure.

**BERBERIS BERBERIS (*Idem*).**—The blue berries of the Holly-leaved *Barberry* are thus prepared for sowing:—First you draw a lot of drills, as for winter Spinach, across a border; secondly, you get up before the blackbirds and thrushes, and keep them from the berries; and in the third and last place, when the berries are ripe take a blue apron before you, and gather as many as you can carry, and sow them just as they will be, and as much like spring Pea sowing as anything you ever saw; cover them up like Peas, and next April they will come up in rows just as you put them.

**GUERNSEY LILIES (*J. F.*).**—They are beyond the pale of useful cultivation in the three kingdoms, and no mode of culture will cause one of them to flower a second time in England or Scotland at all events; and if you can hit on a plan in your part of the country you might do good to some one there, and give him a share of the trade in Guernsey Lilies.

**PLANTS FOR A TANK (*H. M.*).**—The plant is *Hippophae rhamnoides*. We fear you will not do much with your water-tank that is only a foot in depth and 5 feet wide. A good plant of *Nymphaea alba* would fill it, but then you have not depth enough to do it justice. A good root would require more than a foot of rich loamy soil, and at least as much water above it. In the circumstances, we would advise plants in six-inch pots of *Apogonon distachyon*; *Butomus umbellatus*, the flowering Rush; *Menyanthes trifoliata*, three-leaved Buckbean; and two or three plants of the *Ranunculus aquatilis*. Then, for variety, you might have two plants of *Calla rethiopia*, set in the tank in summer, and moved under the protection of a greenhouse in winter. Two or three plants of *Agapanthus umbellatus* might be set round the sides in summer, the half of their pots under the water. These too should be removed under protection in winter. Suppose you use the last two in summer first, and see how you like them.

**GREENHOUSE CLIMBERS (*Gardenia*).**—We never give plans for flower gardens, but opinions on plans submitted to us. There are, however, many plans in this work and in the manuals; but every place should have an arrangement to suit itself. As the *Mandevilla* does well, we would suggest as climbers—*Kennedy*, *Marruytta*, *K. nigricans*, *Soiya heterophylla*, *Jasminum revolutum*, *Bignonia jasminoides*, *B. Cherii*. These will give scarlet, dark purple, blue, yellow, pink, and rich crimson, also fine foliage. All the Tea Roses, *Deviensis* especially, would do admirably against pillars, &c., and so would the *Rhododendron* spoken of, if it has plenty of light, and too much heat is not given.

**BOTTOM HEAT AND MOISTURE (*H. II.*).**—We do not think that for tropical plants you will have too much bottom heat, if the pots stand on the top of the cinders. If at all set on the tank, we think there will be too much. If, however, the bottom of the pots, even on the surface, get more heat than you want, you may increase the depth of ashes, or give each plant a piece of board or slate to stand upon. If so, we would prefer the ashes being covered with sand for neatness. We do not understand rightly about the open cisterns, and the tanks consuming their own moisture in winter; but if you have too much moisture in winter, the covering of the cisterns by a lid would be an advantage. The next best would be to see that no moisture escaped from the tank, by the slate covering being made vapour-proof; and the best of all would be to have part of the tank surface slate, at least exposed so as to give a dry heat in winter; and if even then the house was rather damp to be careful in watering, not using more than was necessary, and spilling none, as careless waterers are apt to do.

**FUCHSIA ON WILD ROSE (*A Three-years Subscriber*).**—Very strange things happen sometimes, but that a *Fuchsia* should grow when grafted on a Wild Rose is more than we can give credence to.

**HYDRANGEAS (*H. B.*).**—If you keep your *Hydrangeas* as much in the sun as possible, with no more heat now than they will receive in the greenhouse or out of doors, and thin the shoots or leaves where too thick, curtail water as autumn approaches, and keep the plant dry all the winter, then every prominent bud, whether on old or young plants, should produce a

flower-bud or a fresh shoot next season. We expect your plants are too hot, and that the wood has been imperfectly ripened last season. For composts, we lately said much. Fresh soil from the roadside, and a little sweet rotten dung or leaf mould will grow *Hydrangeas* well, and every other common soil-wooded plant.

**WHITE CARNATION (*M. F.*).**—The colour is pure, but the flower does not seem to be as fine as many in the same way.

**VINE-BORDER (*William Mackney*).**—You will find ample instructions in Nos. 3 and 4.

**RIGHT TO A DITCH (*Ignoramus*).**—So many circumstances control the right to ditches and other boundaries, that we cannot venture to give a decided opinion in answer to your queries. You have certainly no right to stop up the ditch by building a dung-pen in it, because a ditch, among other uses, acts as a beneficial drainage to your neighbour's field. You have a right to the contents of the ditch, but must keep it scoured out, yet you have no right to widen it. On the other hand, your neighbour has no right to fill it up by "throwing clods in at ploughing time." If he has any object in so filling it up and preventing your building a dung-pen in it, that object must be that when the ditch is filled up he may have more ploughable space. This he has no right to, and he might be mulcted for throwing in the clods. On the other hand, you must not widen the ditch; your utmost boundary is its present outer edge. As there is no ditch outside of the Quick-hedge you mention as planted on the flat, you most probably have no right to make a ditch there; for it is a reasonable conclusion, as no ditch exists, that the hedge was planted on the extreme boundary of the land it encloses.

**NAMES OF PLANTS (*S. A. P. S.*).**—The plant appears to be *Stachys lanata*, a hardy perennial, easily increased by division of the root.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

August 25th, 26th, 27th, and 28th. CRYSTAL PALACE. Sec., W. Houghton. Entries close July 26th.

August 27th. COTTINGRAM. Sec., Mr. J. Brittain. Entries close Aug. 26th.

August 30th. HALIFAX and CALDER VALE. Sec., Mr. W. Irvine, Holmsfield. Entries close August 16th.

SEPTEMBER 2nd. POCKLINGTON, Yorkshire. Sec., Mr. T. Grant. Entries close August 26th.

SEPTEMBER 4th. WAKEFIELD and WEST RIDING. Sec., Mr. J. Crosland, jun., Entries close August 23rd.

SEPTEMBER 9th. WORSLEY and ARMLEY (near Leeds). Sec., Mr. Robert Hoyle, Armley, near Leeds.

SEPTEMBER 9th and 10th. CALNE. Secs., A. Heath and F. Baily. Entries close August 28th.

SEPTEMBER 10th and 11th. MANCHESTER and LIVERPOOL. Sec., Mr. T. B. Ryder, Church Street, Liverpool. Entries close August 11th.

SEPTEMBER 25th. STAFFORDSHIRE. Sec., Mr. W. Tomkinson, Newcastle. Entries close August 25th.

SEPTEMBER 25th. MIDDLETON. Sec., Mr. T. Mills. Entries close September 10th.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.

### CRYSTAL PALACE POULTRY SHOW.

The Summer Show of Poultry, Pigeons, Rabbits, Ornamental Water Fowl, Gold, Silver, and other Pheasants was commenced yesterday, and will be continued this day, to-morrow, and Thursday. The prizes offered being very liberal in amount, the entries in the different classes have been extremely numerous, amounting to upwards of eight hundred in number. On the whole, it is a most admirable and comprehensive Exhibition, which will doubtless prove a great attraction to those interested in the breeding and management of Poultry, Pigeons, and Rabbits; whilst, to the uninitiated in these matters, the examination of the different breeds which have been gathered together must be both interesting and instructive.

We subjoin a list of the prizes, but must defer our detailed report until next week.

Class 1.—SPANISH.—First and Second, J. R. Rodbard. Third, J. Smith. Highly Commended, M. Rake. Commended, F. Crook.

Class 2.—SPANISH.—First, J. Barry. Second, J. R. Rodbard. Highly Commended, J. Smith.

SPANISH COCKS.—First, H. Lane. Second, J. Smith. Highly Commended, J. R. Rodbard. Commended, W. H. Butler.

DORKING (Coloured).—First, Hon. W. W. Vernon. Second, J. Frost. Third, E. Tudman. Fourth, Sir J. Paxton, M.P. Highly Commended, W. G. Bannister; C. H. Wakefield; F. Waldar. Commended, A. Potts.

DORKING PULLETS.—First, C. H. Wakefield. Second, Miss M. Milne. Highly Commended, Hon. W. W. Vernon. Commended, P. A. Eagles.

DORKING (White).—First, Rev. G. F. Hodson. Second, H. Lingwood. Highly Commended, Mrs. H. Fookes; H. Lingwood.

DORKING COCKS (Coloured and White).—First, J. Simmons. Second, H. Lingwood. Third, C. Smith. Highly Commended, P. A. Eagles.

COCHIN-CHINA (Cinnamon and Buff).—First, J. W. Kelleway. Second and Third, H. Bates. Highly Commended, J. W. Kelleway. Commended, Miss V. W. Musgrove.

COCHIN-CHINA (Brown and Partridge-feathered).—First, E. Tudman. Second, P. Cartwright. Third, Miss V. W. Musgrove. Highly Commended, W. H. Beadon; J. K. Fowler.

COCHIN-CHINA (White).—First, W. Dawson, Hopton. Second, G. Lamb. Commended, R. Chase.

COCHIN-CHINA COCKS (Coloured and White).—First, J. W. Kelleway. Second, T. Stretch.

BRAHMA POOTRA.—First, Mrs. Seamons. Second, J. K. Fowler. Commended, C. Priest.

BRAHMA POOTRA COCKS.—First, J. K. Fowler. Second, Mrs. Seamons. GAME (White and Piles).—First, G. Crofts. Second, A. Ewen. Third, W. Phillips. Highly Commended, G. J. Barnett; R. R. Clayton; S. Matthew. Commended, J. Monsey.

GAME (Black-breasted Reds).—First, J. Fletcher. Second, J. Groote. Third, R. Brand. Highly Commended, Hon. W. W. Vernon; J. Fletcher. Commended, G. J. Barnett; H. C. Dear; S. Matthew.

GAME (Brown-breasted and other Reds except Black-breasted).—First, E. Archer. Second, J. Fletcher. Third, T. Moss. Highly Commended, A. B. Dyas; J. Groote.

GAME (Duckwings and other Greys and Blues).—First, Hon. W. W. Vernon. Second, F. Hardy. Third, J. Fletcher. Highly Commended, S. Dupe. Commended, W. Bentley.

GAME (Blacks and any other variety).—First, W. Dawson, Selly Oak. Second, J. Fletcher. Highly Commended, Hon. W. W. Vernon; J. Rogers.

GAME COCKS.—First, Hon. W. W. Vernon. Second and Third, J. Fletcher. Highly Commended, E. Archer; R. Swift.

HAMBURGH (Gold-pencilled).—First and Second, A. Nuttall. Third, Messrs. Carter & Valiant. Highly Commended, R. R. Clayton; J. Munn. Commended, C. H. Wakefield.

HAMBURGH (Silver-pencilled).—First, C. Moore. Second, E. Buckland. Third, S. Fielding.

HAMBURGH COCKS (Gold or Silver-pencilled).—First, G. W. Locke. Second, J. Munn. Highly Commended, Mrs. H. Sharp.

HAMBURGH (Golden-spangled).—First, G. Brook. Second, E. Smith. Third, E. Collinge.

HAMBURGH (Silver-spangled).—First, E. Collinge. Second, T. Twose. Third, F. W. Entwistle. Highly Commended, Mrs. H. Sharp. Commended, H. Carter; W. Joshua.

HAMBURGH COCKS (Gold or Silver-spangled).—First, J. Dixon. Second, J. Davies.

POLAND (Black, with White Crests).—First, G. Ray. Second, W. Newcome.

POLAND (Gold).—Prize, H. Beldon.

POLAND (Silver).—First and Second, G. C. Adkins.

POLAND COCKS.—First, G. C. Adkins. Second, J. Firth. Highly Commended, H. Beldon.

MALAY.—First, W. Hill. Second, N. Sykes, jun.

ANY OTHER DISTINCT BREED.—First, C. H. Wakefield. Second and Third, R. H. Nicholas. Fourth, J. Hope. Highly Commended, Mrs. Robinson; C. Ballance.

BANTAMS (Gold-laced).—First, T. H. D. Bayly. Second, M. Leno, jun.

BANTAMS (Silver-laced).—First and Second, T. H. D. Bayly.

BANTAMS (White, clean legs).—First, T. H. D. Bayly. Second, F. Hardy. Highly Commended, E. Holdsworth.

BANTAMS (Black, clean legs).—First, E. Hutton. Second, Miss J. Hodson. Highly Commended, E. Hutton; N. Sykes, jun. Commended, Rev. P. W. Story.

BANTAMS (Game).—First, T. H. D. Bayly. Second, J. W. Kelleway. Highly Commended, T. H. D. Bayly; E. Brown; J. Cann; W. Lawrenson; T. Moss; R. Swift.

BANTAMS (any other variety).—Prize, Rev. P. W. Story.

BANTAM COCKS (any variety).—First, M. Leno, jun. Second, G. W. Locke. Commended, T. Moss; Miss V. W. Musgrove.

DUCKS (Aylesbury).—First and Second, Mrs. Seamons. Highly Commended, Mrs. Seamons. Commended, Mrs. Seamons; W. Walter.

DUCKS (Rouen).—First, C. Priest. Second, J. K. Fowler. Highly Commended, J. K. Fowler.

DUCKS (Black).—First, W. Joshua. Second, Mr. Wolferstan. Highly Commended, Capt. R. Edgell; H. Adney; J. K. Fowler; J. W. Kelleway; T. Twose. Commended, Mrs. Beardmore.

DUCKS (any other variety).—First, T. H. D. Bayly. Second, H. Adney.

GEESE (White).—First, Mrs. Seamons. Second, W. Manfield, jun. Highly Commended, W. Manfield, jun.

GEESE (Grey and Mottled).—First and Second, J. K. Fowler.

TERKEYS.—First, R. Brand. Second, W. Wright. Highly Commended, R. Brand.

ORNAMENTAL WATER FOWL.—First, T. H. D. Bayly. Second and Third, C. Baker. Highly Commended, C. Baker.

PRESAUNTS (Gold and Silver).—First, S. C. Betty. Second, A. S. Yates. Highly Commended, S. C. Betty.

PRESAUNTS (any other variety).—First, C. Baker. Second, M. Leno, jun. Highly Commended, C. Baker; A. S. Yates.

#### PIGEONS.

POWTERS OR CROPPERS (Cocks of any colour).—First, R. Fulton. Second, T. H. Evans. Third, M. Rake. Highly Commended, Mrs. Evans. Commended, R. Fulton. *Hens*.—First, M. Rake. Second, R. Fulton. Third, Mrs. Evans. Highly Commended, T. H. Evans. Commended, Mrs. Evans; R. Fulton.

CARRIERS (Cocks, Black and Dun).—First, J. F. Mortimer. Second, Mrs. Craigie. Third, Major F. C. Hassard, R.E. Very Highly Commended,

A. L. Sylvester. Highly Commended, J. F. Mortimer. *Of any other colour*.—First, J. C. Ord. Second, W. H. Edmonds. Highly Commended, J. C. Ord. Commended, Major F. C. Hassard, R.E. *Hens, Black and Dun*.—First and Second, E. L. Corker. Third, M. Rake. Highly Commended, M. Rake. *Of any other colour*.—First and Second, W. H. Edmonds. Highly Commended, F. Esquilant.

DRAGONS (Blue).—Prize, T. W. Walker. Very Highly Commended, F. Else. Highly Commended, J. C. Ord. *Any other colour*.—Prize, W. H. Edmonds. Highly Commended, H. Yardley. Commended, T. D. Walker.

ALMOND TUMBLERS.—First, E. L. Corker. Second, M. Rake. Third, J. Percivall. Very Highly Commended, M. Rake. Highly Commended, F. Esquilant. (A good Class.)

SHORT-FACED MOTTLES.—First, E. L. Corker. Second, F. Else.

SHORT-FACED BALDHEADS.—First, F. Esquilant. Second, H. Morris.

SHORT-FACED BEARDS.—First, H. Bunce. Second, M. Rake. Commended, J. Ford; T. D. Walker.

SHORT-FACED TUMBLERS (Self-colour).—Prize, F. Esquilant.

KITES, AGATES, DUNES, AND GRIZZLES.—Prize, J. Percivall.

JACOBINS.—First, F. Esquilant. Second, H. Morris. Commended, J. Baily, jun.; G. F. Nicholls.

OWLS (Blue or Silver).—Prize, M. Rake. Very Highly Commended, H. Morris. Highly Commended, F. Else. Commended, J. W. Edge. (A good class.) *Yellow or any other colour*.—Prize, F. Else. Very Highly Commended, J. Baily, jun.; H. Morris. Highly Commended, F. Key; M. Rake. (An excellent class.)

NUNS.—First, F. Key. Second, F. Else.

TURRITS.—First, J. W. Edge. Second, G. F. Nicholls. Third, G. Fleming. Highly Commended, W. Greene.

FANTAILS (Black).—Prize, T. D. Walker. *White*.—Prize, F. Else. Commended, H. Morris. *Blue*.—Prize, H. Morris.

BARBS (Black).—Prize, M. Rake. *Yellow or any other colour*.—Prize, M. Rake.

MAGPIES.—First, E. L. Corker. Second, G. Fleming. Third, T. D. Walker. Highly Commended, G. Fleming. Commended, W. Greene.

TRUMPETERS (Black Mottled).—Prize, F. Else. *White, or any other colour*.—Prize, H. Morris.

RUNTS (Spanish and Leghorn).—First, T. D. Greene. Second, F. Key. Commended, E. Pigeon.

ANY NEW OR DESERVING VARIETY.—First, H. Yardley. Second, J. Baily, jun. Third, Mrs. C. Baker. Fourth, A. G. Brooke. Highly Commended, J. Baily, jun. Commended, J. Baily, jun.; J. W. Edge; H. Morris.

#### RABBITS.

LONGEST EARS.—First, Messrs. Guest & Coleman. Second, J. Cranch. Highly Commended, J. Angus; J. Olley; W. Howell. Commended, H. Handford; M. Taylor.

BLACK AND WHITE.—First, Miss M. Hawksley. Second, A. Stedman. Highly Commended, Messrs. Guest & Coleman; H. Handford; A. Stedman. Commended, G. Jones; G. Miller; W. J. Pope; A. Stedman.

YELLOW AND WHITE.—First, J. Morris, jun. Second, J. Hincks, jun. Highly Commended, J. Haile; H. Hinde, jun. Commended, J. Hincks, jun.; A. S. Marchant; J. Morris, jun.; G. South, jun.

TORTOISESHELL.—First, R. Cook. Second, J. Morris, jun. Highly Commended, J. Angus. Commended, J. Haile; Miss M. Hawksley; G. Jones; J. H. Wyone; C. Sellen.

BLUE AND WHITE.—First, T. Durbridge. Second, Messrs. Guest and Coleman. Highly Commended, G. Jones.

GREY AND WHITE.—First, R. Cook. Second, J. Sherwood. Highly Commended, C. King. Commended, J. Hincks, jun.

SELF COLOUR.—First, J. Hincks, jun. Second, H. Hodge. Highly Commended, J. Angus; Messrs. Guest & Coleman; J. Haile; G. Jones. Commended, Miss M. Hawksley; H. Hinde, jun.; G. Jones; J. G. Quick; C. Sellen.

WEIGHT.—First, N. Norman. Second, C. Ashdowne.

FOREIGN RABBITS.—First, C. Sellen. Second, E. J. Vipans.

JUDGES.—*Poultry*: Mr. J. Baily and Mr. Edward Hewitt. *Pigeons*: Mr. Bellamy and Mr. Hurrierson Weir. *Rabbits*: Mr. Banck, Mr. Fox, and Mr. Webster.

#### TO PRESERVE EGGS AS FRESH AS WHEN LAID, FOR SIX MONTHS.

HAVE a vessel of water boiling on the fire, put the eggs into a net, or, better, into one of those wire baskets for boiling vegetables; hold it in the boiling water for half a minute; take out the eggs and rub them all over with a little fresh lard, pack them with the narrow end downwards in a glazed crock, cover them with coarse salt. They will keep perfectly fresh for six months; but will not do for culinary purposes, as the whites will not beat up well from being in the boiling water.—(*Irish Farmers' Gazette*.)

TO PRESERVE EGGS IN LIME.—A correspondent of a contemporary gives the following recipe for this purpose:—"Take two or three limestones about the size of half-bricks, pour suffi-

cient cold water on them, and stir it up for three or four days; let it settle, then pour the clean water into an earthen vessel, in which place the eggs, and they will keep fresh for many months. Eggshells being lime, lime water strengthens the shell and keeps the air from acting on the animal matter. I have practised this for over forty years, and have always had fresh eggs as long as my stock lasted."

### LIGURIAN QUEENS.

BEING desirous of converting my stocks of black bees into Ligurians, I intend substituting Ligurian queens for the black ones. Of course, the Ligurian queens should be fertilised, and if any of my fellow bee-keepers who have got pure Ligurians would kindly supply me with a few, I should be very thankful and would pay anything in reason for them, or would exchange betwixt them and a bee-hive or wax-refiner on the same principles as those I have got in the International Exhibition. See Class 9, 8023.—JAMES BOOTHMAN.

[We regret that we are unable to name any bee-keepers who are in the habit of selling Ligurian queens. The fact is, that multiplying these queens appears a difficult and uncertain affair in this climate. "A DEVONSHIRE BEE-KEEPER" tried it very perseveringly during two seasons, but was glad to wash his hands of it in the end.]

### INTRODUCTION OF A LIGURIAN QUEEN.

OWING a Ligurian queen to the correspondent whose Ligurian misadventure was recorded in page 78 of the last volume of THE JOURNAL OF HORTICULTURE, I have only very recently been enabled to discharge the debt, and have been favoured in reply with the following interesting narrative.—A DEVONSHIRE BEE-KEEPER.

"Accept my best thanks for your kindness in sending the Ligurian queen, which arrived on the 11th August.

"I had two hives near each other, which I intended to unite for the winter. I turned an empty box, size of the hives, the open side up, covering about three parts with a cloth; removed No. 1 hive from its board on to the box partially covered. Taking out each frame in succession, I swept the bees from them back into the hive, and towards the open part of the empty box. No. 1 hive was removed and the frames replaced. No. 2 hive was then put on the box with No. 1 bees now in it, the frames taken out, and the bees swept into the box to unite with No. 1 stock, which they did quietly, being apparently too frightened to quarrel. No. 2 hive was removed, and the frames replaced; and the united bees left undisturbed nearly an hour. No. 1 was put on its board as soon as possible, and placed about midway between the old stands of No. 1 and No. 2. The bees on the wing soon crowded in. A piece of stick three-eighths of an inch thick was inserted between the back lower part of the hive and floor-board, and a spare board was put level with and against the floor-board. This preparation was to assist in finding the two queens.

Taking up the box with the united stocks in it, I turned its side on to the spare board, and from the lowest or uncovered side I swept out a few bees on to the board towards the hive. A joyful hum followed, and I soon had a living stream from the box into the hive—in fact a regular procession, which I regulated and directed with a large feather. In less than three minutes I secured one queen out of the procession, but the second did not make her appearance until nearly all the bees had left the box. I caught her and then swept out the remaining bees on to the board. I now got a piece of perforated zinc, put it on top of the hive, and on the zinc a piece of comb with a little honey run over it. The Ligurian queen and a few bees her companions were carefully got under a bell-glass placed over the comb and zinc, three slides drawn so that the smell from the hive should fill the glass. This was done about half-past seven P.M., the glass was covered with five or six folds of cloth, and the empty box over the cloth. So I left it until next evening about eight P.M., when I removed the box and cloth, shut two slides, and moved the zinc slightly and gently so that the bees in the hive could get up into the glass (anxious moment!). They rushed up, no fighting, and as it was getting dark and the glass cold I covered up again. Next morning I saw thirty or forty bees in a cluster

on one end of the comb under the glass. I thought the queen must be there, but could not get to see her. On disturbing them with a piece of wire they went down. I shut the slide and all has been quiet in the hive ever since, so I conclude her majesty was kindly received. This experiment has been very interesting in two ways—first, proving Mr. Filleul's method of uniting stocks\* to be good; and, secondly, showing how a queen can be put to a strange stock with something like a chance of being successful.

"Next spring I hope to begin the season with a strong and pure Ligurian stock.—J. N."

### ARTIFICIAL COMBS.

I HAVE just succeeded in obtaining from Germany a parcel of these very ingenious contrivances designed to assist bees in the production of combs, and insuring their being built with the greatest regularity, as well as effecting a great saving in wax, which, when elaborated from honey, is, as is well known, an enormously expensive material, since Gundelach has demonstrated by actual experiment that 20 lbs. of honey are consumed in secreting 1 lb. of wax!

Artificial combs, or, as the Germans more correctly style them, "artificial partition walls," are thin sheets of wax about the thickness of card-board which have been pressed between two metallic moulds, and thereby made to assume the exact form of a piece of comb from which the cells on both sides have been removed, leaving only the central partition indented over its entire surfaces by the bases of the cells. When used they are attached to comb-bars or frames, and hung in hives exactly like guide-combs, and are speedily completed by the bees, which excavate both surfaces, and apply the superfluous wax to the formation of cells on either side.

One of the best practical apiarians of my acquaintance assured me that these artificial appliances would most certainly fail, since he was satisfied that wax when once melted down underwent so great a change in its character that it was thenceforth useless to bees. I find, however, that he was entirely mistaken, as my bees accept the proffered assistance without hesitation, and speedily convert the indented plates into the most beautiful worker-comb.

As I am very desirous of having this contrivance thoroughly tested, with the view, if it be approved, of endeavouring to get artificial combs manufactured in this country, I shall be happy to distribute nearly all my stock at prime cost among the apiarian readers of THE JOURNAL OF HORTICULTURE. The expense of carriage from Germany is unfortunately a very sensible addition to their first cost, but I can send fifty artificial combs on receipt of a post-office order for 21s., or twenty-five for 10s. 6d.—T. W. WOODBURY, Mount Radford, Exeter, 21st August, 1862.

### APIARIAN NOTES.

PRACTICAL OBSERVATIONS ON BEES—HERR VIEBEG, POTSDAM.—Having written on the same subject fourteen or fifteen years ago, I avow myself an apiarian of the old school, and agree with Herr Viebeg, that in the end it is better to allow bees to swarm in their natural way than to torment them by too much artificial means. The use of bell-glasses, and what they term "supers," or smaller hives, to collect pure honey, and at the same time to give room to the bees, should be adopted by every bee-keeper; but among the cottagers how few of them, even in these enlightened days, are to be seen taking the trouble to carry this plan out to any extent! Mr. Woodbury, whom I designate the "Wildman" of this century, is, no doubt, an adept at all operations in the secret of artificial swarming and manipulation of bees; and it is quite refreshing to observe with what ease he manages to do what not one in a hundred of the bee-keepers of the present day attempt without failure, even by their own honest confession. For myself I own that one of the greatest and most agreeable gratifications to me as a bee-keeper, has been the wonderful mode in which Divine guidance has taught these insects to act, when their numbers are to be increased at the proper season, by issuing from their hives, headed by their queen, and hovering in the air for some minutes

\* Vide "The English Bee-keeper," page 143. This excellent little work has recently been very much reduced in price.—A DEVONSHIRE BEE-KEEPER.

previously to settling. Their devotion, also, is wonderful, as, should the queen bee fall suddenly, which is often the case, and the main body of the bees lose her, a few faithful guards will always be found near her person, and remain even after she is dead for many hours.

**LIGURIAN BEES.**—Mr. Woodbury has been unfortunate in his seasons in introducing this new and beautiful species of bee into England, as the years 1860, 1861, and 1862, have all been most untoward years. At the same time I am still of opinion, that except in being hardier, and not so sensitive of raw or dull weather, I still think the black or brown bee indigenous in Great Britain, by no means inferior to the yellow-jacketed strangers. It will be many years before the "Ligurians" become very common in Great Britain, and I still think that no benefit can arise from a mixture of the two breeds.

**THE SEASON.**—Very little honey will be saved this year except in localities where heath abounds. The pasture for bees in my neighbourhood is nearly at an end. One bee-keeper informed me yesterday (21st August), that neither his old stocks nor swarms had any honey in them, and that he should be compelled to feed immediately or lose them all. Nearly one hundred stocks are kept within six or seven hundred yards of my apiary; one of my near neighbours has more than thirty hives.

I have never noticed three seasons consecutively so bad as the last three, but in 1838, 1839, and 1840. The former two were miserable seasons, and 1840 and 1841 were very indifferent.

We may in the course of the "roster," as they say in the army, expect that the next two or three summers, or rather the bee months of May and June in these, may be much more favourable, and make some "compensation" for the past.—H. W. NEWMAN, *Hillside, Cheltenham.*

### QUEEN BEES MUTILATED BY WORKERS.

I HAVE already related my experience of this phenomenon in pages 304 and 366; but a somewhat similar instance is related by Herr Mehring in a recent Number of the German "Bee Journal," which was attended by some remarkable results. It appears that on the 3rd of last June he substituted three Italian queens for the original sovereigns of as many German stocks with perfect success, by merely presenting them to their future subjects in small boxes, from which they were released in fifteen minutes, on no signs of hostility being manifested by the bees. It was one of these queens, the effects of whose ill-treatment is thus related by Herr Mehring:—

"On the 6th of June, the third day after having introduced the queen to the hive, I observed that when laying eggs she made strikingly tortuous and dragging movements. On examining her closely, I found that instead of the right, hind, and middle feet she had only short stumps, and that it was, therefore, very difficult for her to perform the act of egg-laying—a discovery very vexatious to me. It was, indeed, very afflictive to see how difficult it was to her, being deprived of these two feet, to raise the abdomen high enough to bring its point into the chosen cell, in which however, she seldom succeeded; as on account of the missing members on one side the whole body remained in an oblique position, in consequence of which the point of the abdomen came into the next cell. If this were empty it received an egg unknown to the queen, and the missing of the cell for which it was intended had no farther consequences; but if this cell already contained an egg a second was added, and thus was produced the irregular egg-laying on which so many and very different opinions have been expressed. In this instance a bodily defect existed, but there was no deficiency of instinct.

"On the first and second days after this discovery, the irregularity in egg-laying was greater than I ever saw before. Everywhere empty cells alternated with those containing eggs, whereby several eggs were often found in one cell, and (what certainly very seldom happens), sometimes even in cells containing pollen. Once I saved the queen from inevitable death by widening the worker-cell into which her head and thorax had fallen, whilst her abdomen stuck in the next cell. Although the invalid had become quite exhausted from her efforts to free herself, not a single bee attempted to assist her, which is by no means favourable to the intelligence for which they have been so highly praised. About the third or fourth day the oviposition became more exact and afterwards quite normal. The queen had by little and little accustomed herself to a new mode of laying, and

had entirely laid aside her stiff awkward manner. She now slipped the abdomen sideways into the chosen cell, and this with a dexterity and steadiness that never missed its object—a proof that she entered the hive un mutilated. It is most probable that she lost her two feet when I first placed her in the hive, and learnt by degrees to accommodate herself to circumstances."

I can only say that I hope very few queens have to learn so hard a lesson.—A DEVONSHIRE BEE-KEEPER.

### GOLD FISH TURNING BLACK.

WE have had some Gold Fish for some months, and some of them are becoming marked in different places with black. We have been informed that it is a sign of decay. Will you please inform one of your readers whether it is so?—PETER KINSEY.

[We have had similar complaints before. Your fish will ultimately become entirely black and die. Will any of our readers give us further information on this subject, and the remedy if there is any?]

**DRYING CURRANTS.**—The Currants should be quite ripe when gathered, with the stems attached, and washed or rinsed effectually or drained off. Then stem them and wash them thoroughly, and to each pound of Currants add a quarter of a pound of good Havana sugar; then place them in a preserving-kettle over a fire until they come to a scald heat, when they are turned out into white earthen dishes, and exposed to the action of the sun until, by evaporation, they become hardened on the upper side. Then they are turned over, and there remain until they become so on the other side, and so alternately until they become of a sort of leathery texture, when they are put away in earthen jars or boxes until wanted for use. Care must be taken to keep them from the dews and rains during the process of drying; finally, the utmost cleanliness must be observed from first to last. When used, enough hot water is required to dissolve them or render them to any consistency suitable for tarts, jelly, &c. At the same time more sugar is required to make them quite palatable, which must of course be governed by taste. Currants in this way have kept well with us for three years, and the presumption is that they will keep a longer time if well cared for.—(*Horticulturist.*)

### OUR LETTER BOX.

**SELECTION OF PENCILLED HAMBURGERS (T. J. S.).**—In the selection of a Silver-pencilled Hamburg cockerel, for exhibition or as a stock bird, great attention should be paid in respect of the comb. It must stand perfectly erect on the head, but not raised too high from it, as the latter is a defect commonly called "helmet-combed." It must terminate behind in a peak curving gently upward. The peak should be perfectly plain, though the comb itself should be well covered over with points. Any hollow in the centre of the comb is a grievous defect. The earlobe should not exceed the size of a shilling, if a little smaller the better, be quite circular, and perfectly white. The whole character of the head of a well-bred bird is neat and small. All the plumage, except the flights and tail, are white, the tail-sickle feathers and outer coverts of the tail an iridescent black in a perfect bird, each feather being shaded round the edge with silver. The legs and feet must be blue. Any disposition to lop the tail on either side must be carefully avoided. It is a fatal disqualification although a somewhat frequent fault in very highly bred Pencilled Hamburgs.

**BRAMA POOTRAS (Sophia).**—As the Brahma Pootra is merely a variety of the Cochinchina differing in colour, their habits are exactly the same as that variety.

**RABBIT (L. B. S. D.).**—Your Rabbit with black ears, tail, feet, and nose, is the Himalaya.

**SIZE OF QUEEN BEES (J. E. B., Waterhampton).**—The two queens enclosed in your letter appear well developed, but dark. I do not think either of them can justly be considered small, whilst one is certainly large. In common with most apiarists I prefer large queens to small ones; but I have sometimes found a very diminutive virgin expand into a full-sized and wonderfully prolific matriarch.—A DEVONSHIRE BEE-KEEPER.

### LONDON MARKETS.—AUGUST 25.

#### POULTRY.

Poultry is fast becoming cheaper as the season declines. The last week has told the tale of the passing year and approaching autumn. The Grouse season has begun, and so far as we can judge those who prognosticated a total failure of the breed were right. They are unusually scarce.

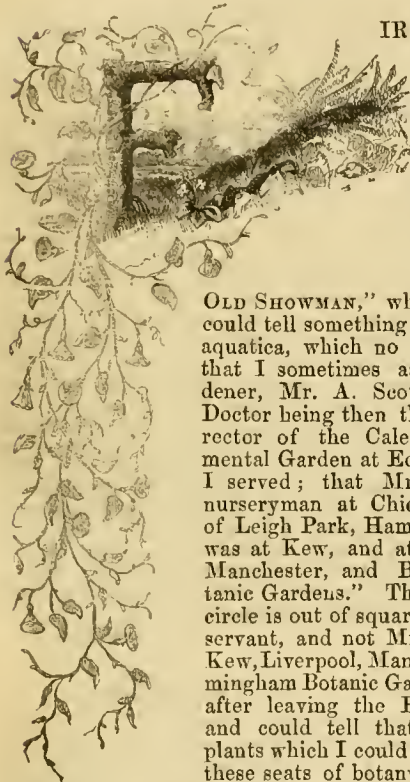
Large Fowls .....	3 0 to 3 6	Ducks .....	2 0 to 2 3
Smaller do .....	2 0 ,, 2 6	Hares .....	0 0 ,, 0 0
Chickens .....	1 6 ,, 1 9	Rabbits .....	1 4 ,, 1 5
Geese .....	6 0 ,, 6 6	Wild do. ....	0 8 ,, 0 9
Grouse .....	5 6 ,, 6 0	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	SEPTEMBER 2-8, 1862.	WEATHER NEAR LONDON IN 1861.							Clock after Sun.	Day of Year.		
			Barometer.	Thermom.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon Rises and Sets			Moon's Age.	
				degrees.				m. h.	m. h.	m. h.		m. s.	
2	Tu	Angophora cordifolia.	29.932-29.846	80-53	W.	.01	15 af 5	44 af 7	4 11	8	0 24	245	
3	W	Aretotis decumbens.	29.775-29.736	73-47	S.W.	.06	17 5	42 7	morn.	9	0 43	246	
4	Tu	Balsams.	29.931-29.860	74-44	S.W.	—	19 5	40 7	18 0	10	1 3	247	
5	F	Banksia verticillata.	30.006-29.825	78-59	W.	—	20 5	37 7	37 1	11	1 23	248	
6	S	Bauera humilis, &c.	29.785-29.676	74-56	S.W.	.12	22 5	35 7	57 2	12	1 43	249	
7	SUN	12 SUNDAY AFTER TRINITY.	29.979-29.838	71-47	W.	—	23 5	33 7	17 4	13	2 3	250	
8	M	Blaria ericoides.	30.038-29.887	69-37	S.W.	.18	25 5	30 7	rises	0	2 23	251	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 69.8° and 47.1° respectively. The greatest heat, 83°, occurred on the 7th, in 1843 and 1846; and the lowest cold, 28°, on the 7th, in 1855. During the period 142 days were fine, and on 103 rain fell.

CERASTIUM BIEBERSTEINI — WHITE FUCHSIAS—COCOA-NUT FIBRE.



IRSTLY, then, I must square the circle in which I have been writing last week. I wrote that I knew every plant Dr. Neill had in 1829, in answer to "AN OLD SHOWMAN," who said Dr. Neill could tell something of *Scrophularia aquatica*, which no one else could; that I sometimes assisted his gardener, Mr. A. Scott, the worthy Doctor being then the scientific director of the Caledonian Experimental Garden at Edinburgh, where I served; that Mr. Scott is now nurseryman at Chichester, "lately of Leigh Park, Hampshire, and who was at Kew, and at the Liverpool, Manchester, and Birmingham Botanic Gardens." There is where the circle is out of square: your humble servant, and not Mr. Scott, was at Kew, Liverpool, Manchester, and Birmingham Botanic Gardens, very soon after leaving the Edinburgh ones, and could tell that Dr. Neill had plants which I could not see in any of these seats of botany; but I did not recollect either of the *Scrophularias*

being then in his collection. I can tell you one thing he had in 1827, 1828, and 1829, which would be an eyesight to some fresh-water sailors of the present day. He had a real fresh-water aquarium in a glazed pit, or cold frame as you might call it, with means to keep it warm. It was a wooden tank lined with lead; one-half of it was all water, and a few under-water-growing plants, as *Vallisneria*, and a number of creeping lizards and other living creatures of strange aspects; and another part was all water below, and a thin crust of marsh-like surface of tangled vegetation, either resting on the water, floating about, or fixed as islands by having stones sunk in the water for the island surfaces to rest upon. In such ways Mr. Scott grew plants and kept water animals in a way they have not yet been done, nor one-half so naturally. It is just as natural that the Doctor might have written something about *Scrophularia aquatica*, which did not much interest the world at that time; and people of the present day need not fash themselves about old saws and sayings, but dig into a good plant, new or old, when they find it,

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or discover its properties, for such fancy works as are in the favour of fashion for the time.

This brings me on in the circle, to the beginning of last week, when we had a large pot or pan plant of *Cerastium Biebersteini* before the Floral Committee; and as one tale is good until another is told, and also as you have been made to believe that the new *Cerastium* was so much better than the old one, it is only, as an attempt at squaring the circle, but right and proper for you to be made aware of the fact that not one member of the Floral Committee thought the new *Cerastium* one single step in advance of the old one. Some of them believed it was not nearly so good as tomentosum, and to-day I appear before you as a living illustration of the adage which speaks of a man convinced against his will. The only clue I can give you for arriving at a fair conclusion of saving your money on that plant, or to spend it on it, is that there is no plant now in use in all the flower gardens of the three kingdoms, which ever had the smallest lift or encouragement from any society whatever, or from any quorum or committee of such society, except two or three for which we had given good characters last season—such as *Agathæa cœlestis variegata*, and the Foxhunter *Verbena*.

WHITE FUCHSIAS.

I never saw a bed of white *Fuchsias*, nor have I been aware, at all, of their bedding qualities; but at the head of public opinion on gardening, or say in the Floral Committee of last week, I had to make an apology to one of the members, Mr. Smith, of Hornsey Road, the raiser of so many fine *Fuchsia* and other plants, for the non-appearance of his new white *Fuchsia Conspicua* in our report of the previous Meeting, at which it had a fair and suitable award. On Mr. Smith's authority I make bold to say that this *Conspicua* white *Fuchsia* is one of the best bedders of the family; and he backed two more members of our body in affirming that the new race of white-corollaed *Fuchsias*—that is to say, those with the white inside and red outside, make famous bedders; all of the members having either had them so, or had seen them so used. It was only a few weeks before, in looking over my own collection of twenty-five kinds of the best new ones of this season, that I was congratulating myself for living to see the day when sense and judgment should come to the aid of one of the very prettiest of the flowers of my childhood—*Fuchsia coccinea*, than which there has never been a better wild *Fuchsia*, and out of its style of growth there has never been any improvement in the family, to my eye.

These new white-corollaed *Fuchsias* are just coming round in the style and habit of *Fuchsia coccinea*, and that of *globosa*, the next best-habited of the very old *Fuchsias*. Now, as the most ready way of getting up a stock of bedding plants on the instant for an experimental-bed of the different kinds of these white-corollaed beauties for next year, we who possess them must propagate a stock this autumn, and those who have them not must order a lot from the nurseries, or else arrange to

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do without them for another year. Of course, to those who cannot well afford the expense that is the best way; and by this time next year we shall be enabled, from experience, to tell a better tale, if that be possible. I do not know another family of plants from which it would be more desirable to get up three or four very distinct kinds of beds for the flower garden than the family of Fuchsia. All that I can say more in the matter is this, that there is no danger or fear but that a ready demand for bedding Fuchsias is as sure to follow as that day follows night or one season succeeds another. What I was going to remark about a stock of autumn-got plants was, that we who have not got hothouses should not go on the plan of Verbenas and Geraniums, by taking little bits of the tops or tips of the shoots for cuttings. I have a score of times got Fuchsia plants, just such plants as I anticipate now, without wanting them, or caring at all about them, in this wise: Whole rows and hedges of common Fuchsias have been cut over by the ground late in the autumn, when the pleasure ground was being righted after the bedding plants were housed, and before the spring bulbs were put in. Bundles of these would be made in sizes for staking plants with; and after being dry in the sheds, perhaps, for six weeks, they would root in the pots like Willows, till at last I was compelled not to allow them being used in-doors at all. They were, in fact, an actual nuisance, rooting and filling the pots faster than the plants they were meant to support. Every gardener in the three kingdoms of any experience is well aware of all this—aware that bare sticks of all Fuchsias will root and cause trouble the whole winter through, if they have been used fresh even for cold-frame uses, for stakes, sticks, or number-tallies. Then what is more simple than to take advantage of this living and pushing principle of Fuchsias, by pruning them, as soon as their growth is done for the season, on the close-spurring system; then to cut the prunings Rose-cutting fashion into lengths of four, or five, or even six inches, according to the strength of the shoots, parcel them into three sizes, the strongest or five or six-inch-lengths in one bundle, the middle-sized next, and the least by themselves; the assortments of cuttings to be planted in three different places, or pots, or pans—indeed, anyhow, so they be planted also Rose-cutting October fashion, all but an inch out of the ground they are in, wherever it is?

But the best way of all the ways I know of would be to get mould into one light of a cold pit, where *Calceolarias* and *Cinerarias* might be trusted in winter, then to begin at the back of the pit, and put in the biggest cuttings there as thick as they could be got in; the middle-sized cuttings to follow, and the little tit-bits to be along the front; then to damp them well with water at once, to leave off the glass till the next rain or frost, and to finish the season with them by a sprinkling of dusty dry something, if it be no other than the sweeping of the sheds. Anything will do if it is dry, or a dry mulching as one might say, and then there need be no more saying or doing about them till the middle or end of next March, when you would find them all rooted and coming away from every eye, like the sprouting of Potatoes in a cellar. If the spring was early they might be up in leaf as soon as the time here stated.

Perhaps one might like to try a hand at making spring cuttings of the tops as they rose above the surface; and if not, the best way would be to nip them off as fast as they appeared, for a certain reason, for getting rid of them out of the pit more early—that is to say, by the last week in April, if the bed or beds were ready for them. Always, and in all places of our three kingdoms united, beds of Fuchsias struck on this plan might be planted out and off-hand by the first days of May. You have seen, at least in your mind's eye, that the spring growth was all under the surface, so there would be no chance for a May frost to get hold of them. Besides, it is always a good plan to mulch over such beds as soon as they are planted—not with any mulching stuff, however, but with dry refuse soil from the back place, sifted if you could, and put on an inch thick. This is what I would call the best mode for every class and calling in society to adopt for getting up the first Fuchsia-beds; but then it might cause a rebellion if one were to insist on it, when a gardener knew well enough he could do it in another way more suitable to his own arrangements. Then the second year some would risk the Fuchsias in the beds the whole winter with something over them; and others would take them up and store them away like Potatoes for the winter, divide the plants in the spring, put the biggest pieces with the best roots in the middle of the bed, and work down to the sides in gradation of sizes, just as has been suggested for the pit cuttings.

The last way will be my own practice if I go on at all, which is doubtful. But in the autumn I would have all my Fuchsias after or just before the first frost of more than 5°—that is, as soon as the thermometer fell to 27° I would up with my beds of Fuchsias root and branch, prune to the quick at once, assort the prunings into three sizes like the comparing of adjectives in grammar—good, better, best, and keep up a fresh stock for contingencies. The old roots and the stumps pruned that way I would keep in a shed to dry partially for two or three weeks, with a bundle of something to throw over them in case of frost. I would have them then packed in sand or mould where Carrots, Parsnips, and Potatoes would keep without sprouting to the end of February. During the last week in March I would have them out; divide them in parts as strong as possible, for the centre of the beds; plant them all as soon as I could, putting the tops of the stumps within the soil; and then sow a crop of some six-weeks annual over them, as *Nemophila*; the covering for the seeds being my dry mulching.

#### COCOA-NUT FIBRE.

The next most gratifying news for propagation, which I heard of at the "top of public opinion" aforesaid, was this—that Dr. Lindley was actually the best patron down at Turnham Green for Barsham's patent "pulp," this cocoa-nut refuse. He always said his garden was damp, full of clay, and a great bother to him, and I consider it one of the most gratifying points in the history of Barsham's patent that I should be indirectly the means of getting Dr. Lindley out of a fix. That is the stuff to fix your ammonia, if you only first fix it in clay ankle deep. The first 18 inches of the surface of all the clay in Middlesex could be made with the refuse into a compost for Pine Apples, or for *Lobelia speciosa kermesina*. That I have proved with my own hands. Mr. Samuel Matthews, a well-known gentleman in Long Ditton, and well-to-do as he deserves, charged us only 14s. the load for the best clay in Claygate for the Experimental Garden loam during seven long years, and now he only charges me 10s. the load for the same. That is trade price for my being in the calling, for I never spoke to him but once. I vouch for it that his Claygate clay, where the Claygate Pearmain originated, is the most genuine article in the commerce of all England; and at the present moment I have the actual *Lobelia speciosa kermesina* growing in it in little pots, and doing as well as any *Lobelia* you ever saw, and not one particle of sand has ever been used to make it into the suitable soil. But that clay was out of a ditch for years, and the surface of it mouldered down to the very strongest loam I ever handled. It takes only four times its bulk to make it suitable for any pot plant in England, and I have not the smallest doubt but Dr. Lindley will report it, when he has used it half as long as I have done, in far better terms and with still greater confidence.

D. BEATON.

## INTERNATIONAL EXHIBITION.

### HORTICULTURAL GARDENS.

"HAVE you been to the Exhibition yourself yet?" are questions that are coming to me thick and fast." And to save other people and myself trouble, I wish to state, "Of course I have," though as yet only for one day; and I think it right to add, that owing to the kindness of my employer every man and boy in the garden has enjoyed the same privilege, making two companies of them, so that the work might be carried on to a certain extent, and nothing suffer from the holiday. The sight will be a thing to be talked about by the youngest now, when they come to have grey hairs, and to be looked back to as a sunny spot in memory's recollections. "Sad, sad is the heart that never rejoices." Wearisome must that existence be in which no bright joyous feature of the past comes as a sweet vision to delight amid the stern realities of the present. We have had gardener visitors sent up all the way from the north of Scotland; and I could discover many more by their voice and the peculiar walk in the building—a gait which to me is almost as sure a sign as any in the masonic confederacy, by which one brother easily recognises another. Once more, then, as the closing of the Exhibition approaches, allow me to urge upon the employers of gardeners who read these pages, not as a duty or a privilege, but as the means of giving a great treat to hard-working respectable men, to send up their gardeners, if at all within railway distance, to see this grand sight at least; confident that even in this, goodness and beneficence will meet

its legitimate reward in renewed and extended efforts to please and to promote their interests on the part of those thus favoured and obliged.

"But what, after all, would be the use of one day amid such a display of wonders? Anything like study of details and clear apprehension of particulars must be quite out of the question." Well, suppose we grant all that for the sake of argument; we would contend notwithstanding that a most beneficial effect would be produced on most minds—not merely from the sense of the beautiful being gratified, but in beholding the wonderfully diversified produce of our earth, and observing how that has been improved and developed by the agency and intellect of man. Humility of spirit, the wish to learn, the desire to improve, are the first steps in the ladder of advancement, and nowhere could we have better forced upon our attention the idea of individual littleness. Many a one will be bettered for life from that sight, though they might be at a loss to tell you clearly of the individual thing that produced such impressions. A country clergyman once got into conversation with a matronly peasant washing wool in a sieve in a running stream. The services of the previous Sunday formed the chief topic of their talk, and he ought to have been satisfied when the good woman told him of the comfort and happiness she derived from his sermon. But no. He wanted to know what particular head or division of the sermon afforded her so much pleasure; and because she honestly told him she could not tell him, he somewhat bluntly said he could not see how she could have been benefited if her memory was so bad and unretentive. Lifting the sieve full of wool out of the stream, she directed his attention to the patent fact that the water all fell through, and then added, "But the wool is the cleaner, sir." We would wish all the brotherhood of the spade to be placed as respects the Exhibition in the same position as the good woman's wool stood in respect to the water.

Though granting the above, yet we are also of opinion that a good general idea may be gained of the whole Exhibition in a day, if a shilling guide especially is studied a few hours previously, so as to see the most attractive objects first. I was in the building from ten to five, and though there were close on 60,000 people I cannot say I was ever crowded. The great feature as contrasted with 1851 is the picture gallery. The two lesser and distinct features are the superior and more extended machinery, and the produce—mineral, vegetable, and animal, of the numerous colonies.

I had a fine view of all the jewellery, &c., on the south side of the nave, where people could be counted by scores. Had between two and three hours in the picture gallery, and had a general run through the whole building upstairs and downstairs, with a more particular survey of the machinery, and the whole of our colonial departments; delighted I was with the grand view of their mineral, vegetable, and animal products; and I did not only make notes to please myself, but such as might have been useful to those who did not have even a day's view, but for those very nice short descriptions that have appeared in and no doubt will continue to grace these pages.

Having dined to my heart's content, with only a few minutes given for digestion, and having had an excellent cup of tea, I spent more than an hour in the

#### HORTICULTURAL GARDENS.

I would not have deferred the visit to the evening, but on wishing to go early in the afternoon, when exhausted with the noise and the heat of the machinery, I was told I could not get back again without paying afresh. Nothing could have been worse advised. But for such a foolish restriction, thousands instead of tens would have cheerfully paid their sixpence merely to breathe the sweet air, and have a walk or a seat after the bustle and heat of the building. On appealing next day to some of the great folks connected with the Exhibition and the gardens, I found, so far to my satisfaction, that in this case the garden authorities were not at all to blame; and ere long afterwards I had the pleasure of noting, that such an absurd rule was broken to the benefit of all concerned and the disadvantage of none. On that beautiful evening, with the garden at its trimmest and best—and it did look lovely—and one of the most popular bands discoursing eloquent music, not above two hundred people seemed congregated to have ear and eye alike gratified; and during the day when I looked at the gardens the visitors were few and far between.

Another drawback to visitors was the very desolate appearance

of the low piece of ground next the building. Owing, I presume, to that having been used for exhibition tents, and, consequently, the beauty of the upper terraces not being seen from the Exhibition building, there was little inducement presented for investing a sixpence for gratifying the eye out of doors, when there was so much to see within. For this I presume no one is to blame, but hundreds so turned from the refreshment-room with "Is that what is to be seen?" Such a matter is deserving of consideration on a future occasion, and also the idea, as exhibiting in these gardens is the most prominent feature, whether it would not be better to have permanent glass buildings chiefly for the purpose. At any rate, many of us gardeners and many gardens might take a useful lesson from the drapers who do adorn their windows with a care and an elegance that would shame the tawdriness and slovenliness of many parterres, knowing full well that the attractiveness of the window induces many a customer to walk in to the counter.

Shortly afterwards in the establishment of one of our greatest nurserymen I noticed a span-roofed house full of fine plants of Vines in pots. The *very very* best were clustered opposite the doorway, and on the sides near that end. Not one visitor in a hundred would think of walking round the houses. Some young gardeners, if sent with visitors, think they must especially show off all that is below the mark, just as if those visitors came on purpose to see failures; nay, sometimes they will be so honest as to depreciate what is really excellent. Our nurseryman knew better. All his Vines were up to the mark; the most excellent were placed full in view, like the chaste dress and the elegant ribbon in the window. There is no deception, nothing against sound policy in putting, so to speak, the best foot foremost. The impression that would be formed of the gardens from the Exhibition would decidedly be that of the worst foot foremost. But for the reason assigned the grounds next the building might have been as attractive as anywhere else, and thus have tempted many thousands of sixpences into the treasury.

Of the gardens as a whole, now becoming a rather controverted subject with the public, I would treat rather gingerly, more especially because I am one of the half-way sort of people that see much to admire, and also something not to admire, and just having enough of presumption to say what I think, notwithstanding the "away, then, with criticism" of our worthy coadjutor Mr. Beaton. Well, then, the grounds were everything to be desired in the way of keeping, and, on the whole, the planting and grouping were in much better order than is generally to be met with this season, and more especially the different Geraniums. For *Caleceolarias* I think the beds could have been more than matched farther north.

Then, again, as to the title "Horticultural Gardens," I believe the first person that summoned courage to criticise the title with the appendix "Royal" as totally unsuited, honoured me with a notice of his intention; and I pleaded as I now do, that the smallness of the space and the position would ever prevent it being a garden distinguished for its horticulture; but that I viewed it, and I believed the members viewed it, chiefly as a place suitable for the exhibitions of the Society, and where the results of culture at their garden at Chiswick could be made known, and also as a place where the members and friends of the Society could meet and enjoy themselves amid its parterres and conservatories.

Then, again, others complain that there are no trees to speak of, no shelter, no shade, no picturesque effects produced. To which it might be replied that the trees could not be expected to be large in a twelvemonth; and that though in picturesque effect the gardens could not compare with the Regent's Park or the Crystal Palace, it should be recollected that it was intended to be merely an artistic garden of terraces and parterres, and that this could scarcely have been departed from if the giving of the ground by the International Commissioners were dependant on flanking the ground all round with brick arches, corridors, or arcades. If the authorities were thus tied up, there is little more to be said about the general design, which left only the *artistic* to the artist or landscape gardener as a matter of necessity. If not thus tied up, the whole costly affair of as-yet-some-what-useless corridors and costly terraces, when the visitor obtains an idea of what the whole has cost, would lead him to the conclusion that the affair as a whole and for the objects contemplated was a huge mistake. It would really be a great benefit to the gardening public to know what was spent on the laying-out of this garden as it is, and the laying-out of the

garden in Regent's Park, as we would be surprised if the latter cost anything like the former, and there can be no question of the greater suitability of the latter for the object aimed at, and the greater pleasure of the visitor from the diversified scenery, and from the artists not being confined to any one school of design. Certainly, before country gentlemen who grudge their £50 or £100 for a great improvement are to be indoctrinated with the idea that these gardens are a pattern for them to follow, they ought to know something of the cost—first of making them, and then of keeping them.

Leaving these things, however, as they are, the question of greatest import is, As an artistic garden is it fitted to be a pattern to the community? If not, we will have a spurious, gimcrack system of flower-gardening poured over the country—a retrogression instead of a progression in fitness and refined taste, and already the example is being followed in but too many cases. I might have entered on this subject at large; but our friend Mr. Beaton has really done pretty well all we intended doing, and the beauty of it is, he has done it all, not in the way of fault-finding, but as an advocate of things as they are, as the best present example of Italian gardening, &c., which I do not doubt in the least, though the very best would, perhaps, not suit our purposes. It is thoroughly refreshing, after objections being scouted as so much *twaddle* and criticism disbanded "away," to find after all the ponderous club of the veteran coming down more heavily on the mixture of coloured gravels, broken bottles, and flowers than ever we should have ventured to strike for fear of breaking all up in a rough medley of confusion. "Shure and doesn't he bate me because he loves me?" was the rejoinder of the Irish lady to the kind but simple-hearted swain that tried to interpose between her and the fists of her angry husband. Our friend loves the garden so well, that he heartily drubs all its shortcomings; but woe to the other poor wight who would gently hint at a drawback. Well, it matters not, provided the evil is pointed out. I thoroughly agree, therefore, with Mr. Beaton, that though different coloured gravels, shells, ashes, broken bottles, &c., may be admissible as to ground colour—may, may come in well as pathways between beds of flowers, especially if well contrasted, that they are thoroughly inadmissible for occupying the position which a clump of flowers ought to do.

I saw the prettiest parterres of the garden last season, and the same, even with more telling effect, this season; and these patches of colour, stuck here and there, rendered the whole effect incongruous. The same style has been adopted in various parts of England, and also in Ireland; but the effect, to our eye, was constantly most unsatisfactory. It just made a sorry muddle of what otherwise would have been most artistic in design and uniform in beauty. The idea of levelness, a great charm in itself in such parterres, is completely broken. Train, peg as you may, the generality of plants will be from 9 inches to 18 inches above these little holes of mere colour. If admissible at all, the general planting should be sunk so low that the colour of the flowers should be on the same level with the shells, &c. As at present managed, whatever may be urged in favour of composition planting, the beauty of the picture is marred. Instead of leaving them, as our friend advises, as a source of warning, we would rather see the evil remedied before the incongruity is spread over the country on the authority of these gardens as an example. Nay more, not only would I plant these circles, &c., now monopolised with coloured earths, but, as rising abruptly now and then above the general level is a very different thing from sinking below it, we should be disposed to try a few pyramids of colours in some of the smallest of the circles merely as stand-points to the eye, enhancing and not reducing the general loveliness. I was delighted to observe that the pretty parterres in the Regent's Park had an additional attractiveness given to them by several of these blunt pyramids at regular distances, which, by breaking the general levelness, enhanced the attractions of the picture as a whole. There are many positions in which stand-points would be inadmissible; but, in somewhat level ground, acres of flower-beds, all uniform in height, are to us acres of boredom. Variety in height has a charm in itself, as well as variety in colour.

To the beautiful, artistic, purely composition groups, one on each side of the garden, these remarks have no reference. Entirely composed of Box and variously-coloured materials they look all of a piece, and the first sight is very striking. We should imagine the want of change would become irksome. The great beauty consists in the artistic tracings. We should be sorry, however, to see such a style of purely coloured earths ever going beyond towns or their thickly-populated suburbs. Even there

they can convey little idea of gardening or its pleasures. A carpet so coloured or a piece of calico would for a time be as attractive as these Box composition-gardens. To produce them more durably we may ere long find the carpenter, the stonemason, and the painter taking the place of the gardener. I can, however, find no fault with those who like them, though, as far as gardening is concerned, I look upon it as a step in retrogression. The largest affair of the kind I know is the huge bed in winter at Linton. I wonder what the accomplished proprietress with her refined taste would think if Mr. Robson, following this now somewhat popular mania, were to leave that huge group adorned with his coloured earths all the summer through, as a pattern of flower-gardening of the highest kind to the neighbourhood. Mind, however, I deny not the beauty and the striking effect of the artistic tracery, I merely demur to its general introduction as a feature in flower-gardening.

#### ARCADES.

"Talk of shade and shelter, why don't you go to the arcades?" growled one old gentleman to another as I was passing. "Yes, and get a stiff neck and rheumatic fever again," was the grumbling retort. Well, if they have no other good qualification about them, they are certainly breezy enough. Given a little brisk wind outside, and the visitor would have to look after the point of his nose. No wonder that exhibitors dread to have their plants placed in these corridors, even when protected with the dingy curtains in the openings, that, flapping about, conveyed anything but the idea of the "Royal." In our ramble through them we scarcely discovered a vestige of the humanities, except a single pair in a sheltered nook, busy seemingly in exchanging the sweets unutterable that can only flow from tongues that love has rendered eloquent, and charitably we gave them a wide path not to break in on their happiness.

Often these corridors have been brought under our notice by visitors, who wished to give us plain simple folk in the country some idea of the grand if not the sublime. "They give such an architectural effect to the gardens," and that is all true. "They render such a fine background to the terraces when standing in the middle of the garden." All true, no doubt. We presume that was part and parcel of the bond. Like many other things, however, these corridors seem to require this distance to lend enchantment to their view; like many other objects of attraction, like even our dearest friends at a distance, nearness and intimacy only tend to dissolve the magic of the charm. From description merely, we had formed bright visions of corridors, width somewhat larger than the reality, length going round the south as well as the east and west of the garden, so as to permit of all being seen in a wet day. Front openings furnished with glass; a low span-roof of glass, concealed if deemed necessary by parapets; the front buttresses inside covered with plants. The back wall so covered, and climbers depending from arches across at regular distances, thus furnishing in such a limited garden a vast number of growing plants to engage the attention of visitors, and of which we could see little doubt as to their thriving if the ventilators were provided with gauze to exclude the soot, and also presenting a noble background for those exhibition-tables that could not be massed in the conservatory. Although in these corridors there would not be the same massive effect as could be achieved under large tents, there would be much more opportunity for visitors examining all objects quietly in detail, whilst the uncertainty of the weather and the flapping of tents in such an artistic garden would be wholly provided against. Instead of the realisation of anything like such a vision or day-dream, which we believe would have involved little more expense, we are presented with some flapping dingy curtains, a bare unadorned back wall, an ugly opaque roof, consisting in one place of large rough timber, and in another of lath, seemingly, from which the plaster has fallen; and all so far as we can see, to procure an asphalted walk on the top, that some visitors, numbered by tens in the twelve months, may have the pleasure of looking on the garden from an eminence a few feet higher than could be obtained from the arcade inside. No doubt there is a reason for all this. No doubt it is very wrong for a person knowing little or nothing of architecture to attempt to criticise what may prove to be only half-finished work; and yet it may not be wrong to omit swelling the notes of admiration for the beauty of these arcades until we are kindly informed how they are to be finished, and what purpose of utility they can be made to answer to compensate for the heavy outlay; there being still a good many old-fashioned people who think the beautiful

not the less beautiful when associated with the useful, and who, without clear perceptions on such matters, might demur to follow even the Royal Horticultural Society in the forming of architectural and artistic gardens.—R. F.

### PRESERVING PLANTS DURING WINTER.

"A CONSTANT READER" asks in your valuable Journal of August 19, "What am I to do with my plants in winter?" I have a number of Geraniums, Calceolarias, Fuchsias, &c., and have preserved them successfully during the last two winters. The winter of 1860 was very severe, as many a gardener has reason to remember, and in that winter I lost but one plant; last year I lost none. Plants in pots are a pest in winter, unless you possess a greenhouse.

To avoid trouble, I made several boxes suitable for the window; each box the depth of an ordinary flower-pot, about 8 inches or 9 inches wide, and 16 inches or 17 inches long, well supplied at the bottom with holes for drainage, and nicely painted. A slight layer of broken crocks was then placed at the bottom of each box, and covered with coarse fibre torn from a cocoa-nut husk to prevent the mould escaping. I then turned each plant out of its pot, squaring the ball of earth a little, without disturbing the plants. They were then placed in the boxes side by side, each box holding about eight plants (eight troubles in one), and the spaces between, if any, were then filled with the spare mould. Geraniums, Calceolarias, Fuchsias, &c., were each in a box by themselves. I then kept them as quiet as I could; they were very rarely watered, did not grow lanky, and were preserved healthy to the spring. They are now mostly bedded-out, and are finer plants and more profuse in flowers than any I have purchased this year. In fine weather they had plenty of air in the daytime. They were in a back kitchen during the greater part of the winter, only being removed into a dwelling-room when the weather was very severe, and then placed as far off the fire as possible.

Be sparing with the water—comparative dryness is essential. The Calceolarias will ask plainly when they want moisture.—WM. H. STRANGE, *Hornsey*.

### FORCING VINES.

LAST year I erected a small lean-to house, and have raised some young Vines, some of which I intend planting in front to train in. Would you advise me to plant them out this autumn, or in the spring?—J. G. D.

[Vines to be forced early in the spring, or in winter in pots, should have the pots full of roots, and the wood well ripened early in the autumn. An early produce of fruit is more the object than continuous bearing. In your case, we would prefer turning out the Vines now, as the roots would progress well in the warm soil. Spread the roots well out, as practised by the best planters, and recommended by Mr. Thomson in his book on the Vine. Such roots should be protected in winter from frost, and heavy cold rains. We think you will gain considerably in thus planting-out now.]

### CULTIVATION OF THE PEACH.

MR. APPLEBY gives some plain directions for the out-door cultivation of the Peach, &c., which have found their way by this time into unknown corners, and added to the information of many a young aspirant. But I do not think, nor do I believe Mr. Appleby thinks, that the time has arrived for folding arms upon the subject; and if I desire to have a say in the matter, it is less from the fact of having anything new or useful to impart than from a desire to give my experience, which every one is invited to do, and which if done in a kindly and neighbourly manner, is conducive to good will among the gardening fraternity.

I took charge some eight or nine years ago of a collection of very old trees, which were trained to a very old wall, in a very old garden. The trees were not only well stricken in years, and the wall so indented with nail-holes that not a square inch presented a plane surface, but they also seemed to be in no very healthy condition. By midsummer the leaves had acquired a yellowish tint, and were infested with thrips; and although the trees bore a fair crop of fruit, which ripened tolerably well, I did not like the starved appearance nor the quantity of dead

wood they made. It was never in my nature to let well alone if I could better it, and after my experience of the first season I considered what had best be done. If I could have had my own way entirely I should have taken out every other tree, planted a young one in its place, and kept the remainder of the old trees in bearing till the young were sufficiently advanced to depend upon for a regular crop, when the rest would have been replaced as the others were; but I could not do this, so I resolved on what I considered the next best plan. In the following March I pruned them in rather hard, nailed them up, and allowed them to flower and set their fruit, which they did in a satisfactory manner.

I must here state that the border in which the trees grew was 12 feet wide, the soil a very light loam, deep, and rich, but had evidently been worked in a very superficial manner. I concluded that in addition to the lightness and porosity of the soil, the roots had spread near the surface; consequently the heat of the sun and rapid evaporation of moisture from the light soil caused a deficiency of that most essential article, and that this was the reason of the starved appearance of the trees during the heat of the summer. This might have been remedied easily by mulching, but I had not the material; and as I was obliged to crop the border, I could not have used it properly if I had. It might also have been remedied in the manner spoken of by Mr. Appleby—that is, by opening holes at the foot of each tree and filling them with water; but there were reasons why I could not do this. Water was not sufficiently plentiful, nor could I spare the time, as to do the whole of the trees in this way and carry the water a long distance would have been a good day's work each time it was done, and I had many other things to attend to.

The plan I adopted was effectual and more permanent than either of the above, and I would recommend others who find their trees in a like condition to try the same remedy.

I procured several loads of good stiff loam, the stiffest I could get—somewhat approaching clay. I then, taking the stem of each tree as a centre, marked out a crescent or half-circle a yard each way from the stem. The soil within this half-circle was then dug out to the depth of 10 inches, and a foot of the loam put in its place and trodden down firmly. This was done about the middle of April, before the sun had affected the trees that season. Nor were they ever affected afterwards in the way they had been before. Instead of the leaves turning yellow they preserved a healthy greenness, and have done so every season; and I have never known them from that time to be infested with thrips or any other pest, except here and there where a shoot may be occasionally troubled with aphids, but not enough to disfigure a tree. The roots and the collar of the trees were shielded from the scorching and drying influence of the sun by this bed of loam, which by maintaining a uniform degree of moisture and regular temperature, had a most beneficial effect. Old trees seemed to have taken a new lease of life; they made vigorous shoots, soon covered the wall, and bore regularly every season a uniform crop.

But there were two spaces still which it was desirable to fill up, and I procured two young trees and planted them in a good mixture of loam and dung. The following autumn two young trees were planted in the place of a very large Peach tree, of a sort inferior to the others, which I was ordered to destroy. These I planted by merely making holes for them and without giving any additional soil. The difference now between these two and the two planted a year previously is remarkable. The first two that were planted rooted into the rich stuff and grew vigorously, too vigorously to be fruitful; and in spite of root-pruning, they are still far less fruitful than those that received no manure or extra soil at the time of planting. The latter have borne regularly from the third year after planting, and always produce a good supply of fruit-bearing wood, proving in my opinion that planting in strong or stimulating soil is not conducive to fruitfulness, either in wall trees or indeed any others; and if the soil is tolerably good in the first place, it is not advisable to add any stimulating manure until the trees come into bearing: it may then be applied advantageously either as a mulching or dressing to the border.

With regard to making holes at the foot of the trees as above referred to, I think a better plan might be adopted for applying water, provided neither mulching nor my plan of easing the main roots with loam is thought advisable. That is, instead of making holes and filling them up each time after watering, let good-sized flower-pots be sunk bottom upwards just where the

holes would be made, and let the bottom of the pots be on a level with the surface of the ground. These pots may be filled with water as often as you please without the trouble of digging holes every time. A piece of slate may be placed over the hole to exclude the light after filling. Eight-inch pots I think a very good size for the purpose; at least that is the sized pot I have seen in use, and found it an excellent plan for introducing water or liquid manure to the roots of plants in sufficient quantities to be beneficial, without the inconvenience of disturbing the ground excepting in the first operation of sinking the pots.

Another good method I have seen in operation as applied to a Vine-border, is to lay perforated pipes a foot under the surface, and have a tube leading to a convenient place for mixing liquid manure, which is poured into a funnel, and thence conducted directly to the roots of the trees, where it becomes of immediate effect. The same system might be applied to the whole length of a Peach-wall; and the pipes filled once or twice a-week would keep the trees in full vigour and add considerably to the size and flavour of the fruit. The first expense of laying down the pipes is saved in labour, as they will last as long as the wall, and the time it takes to fill them is nothing. It would be a grand thing if the owners would see the advantage of such appliances, and the benefit they might reap from them in a long course of seasons—to say nothing of the credit of gardeners, who, as a rule, have to work against numerous impediments, that with a few pounds judiciously spent in the first instance might be removed. In the management of wall trees particularly I have known instances where gardeners have been brought to discredit for what in reality was no fault of their own. Sometimes a ten-foot wall has a border 2 feet wide. This border is usually skirted by a gravel path, presenting an impenetrable barrier to the extension of the roots, which are consequently confined to that narrow compass of border. No wonder, then, if the trees do not bear regularly, or that they do not yield good-sized or well-flavoured fruit. Yet as regards quantity, I have known heavy crops produced in such situations; and had the roots been well supplied with liquid manure during the swelling of the fruit, I believe it would have been all that could be desired as regards size and flavour.

In speaking of the culture of wall fruit, writers of any note would seem to imply that it can be properly managed only in gardens that are kept up in style, or of some extent;—an erroneous opinion altogether, as every jobbing gardener about London knows. Many suburban residences are built in continuous blocks, sometimes of considerable length, with long strips of gardens, divided by walls averaging 7 feet or 8 feet high. These walls are never lost; every available space is planted with Peaches, Nectarines, Vines, &c., wherever there is a southern aspect, and Cherries, Plums, &c., on the north. Thus many hundreds of these trees are grown in the space of a few acres. In such places I have known crops that would do credit to the most skilful growers in the country; and many a cold, frosty day in winter, and many a hot day in summer, have I spent in the training process, going from one garden to another, and got over a number of trees during a single season that would surprise many a country gardener.

I am led to make these remarks from what Mr. Appleby states in speaking of the winter treatment of wall trees. He says, "To prevent breaking or loosening the wall in the process of drawing the nails, give each a gentle tap;" a thing that would seem extraordinary to one who has taken a pair of pincers, and, giving each nail a gentle twist, has drawn bushels of nails and shreds just before pruning time. In giving a nail a tap with the hammer, be it ever so gentle, is as likely to break the nail off as to loosen it; and even the claws of the hammer are not so convenient for drawing the nails as a handy-sized pair of pincers, which every one who undertakes the training of wall trees should be provided with, and have slung in a loop fixed to the nail-bag for the purpose.

Again, Mr. Appleby recommends scalding the shreds, and oiling and cleaning the nails before using them a second time. These precautionary measures I have never practised—in the first place, because they take up too much time; and in the second place, I do not think that much importance need be attached to them. I will answer for it that the trees I have attended the last nine years are as clean and free from every insect pest as need be; yet I never syringed or lmed them, or ever had occasion to use one of the numerous remedies for thrips, aphids, cuckoo-spit, &c., and my trees are as innocent of Gishurst Compound as they possibly can be, yet I use the same nails and

shreds as long as they will last. How, then, am I to believe that insects deposit their eggs in them? If they do they come to naught. As regards repairing the wall and stopping-up nail-holes, I think it a very wise rule to be observed, and should never be neglected; the more so because I have known the inconvenience of training trees properly and neatly where it has not been done. But as to taking so many precautions on account of the eggs, &c., of insects, I think too much stress is often laid upon a fact of which I have never known any positive proof. Far more I believe depends on the condition of the trees. And this brings me to an old theory I have long entertained—viz., that insects, where they appear in considerable numbers, are not the cause but the effect of ill health; that they prey on the unhealthy juices of a diseased tree or plant in preference to those of one in a healthy state; and that while either is in a thoroughly healthy state neither thrips, aphids, nor red spider will be found upon it: therefore, see that the soil of the border is tolerably good, and that the roots are never either dried up or soddened with wet, that the trees are pruned in a timely and judicious manner, and that they are never exhausted by being overburdened with fruit. Attend well to these points, and the trees will be kept in health, and insect pests will not annoy you by infesting them.—F. CHITTY, *Stamford Hill.*

### EXPERIENCE OF THE AMARANTHUS RUBER MELANCHOLICUS.

I RECEIVED twelve plants of the above at the end of June from the grower. They were planted out round a bed of Calceolaria, the Perilla-border being removed to make room for them. They were fine healthy plants, but the second day began to droop. I wrote to the Messrs. Veitch, who suggested shelter with pots for a short time. This had been already done from the third day. In a few days half of the number died off from the collar. The gardener then took up the rest and repotted them, placing them in a cool frame. Three out of the number are now doing well. Can any correspondent suggest a cause?—H.

### ROYAL HORTICULTURAL SOCIETY.

AUGUST 26TH.

FLORAL COMMITTEE.—It occupied two hours to discuss the merits of the collection of novelties which were sent up for adjudication—*Gladiolus*, bedding *Geraniums*, *Petunias*, *Verbenas*, *Begonias*, *Hollyhocks*, *Achimenes*, a *Gloxinia*, *Ceraium Biebersteini*, a tricolor *Heath*, many *Dahlias*, new *Pyrethrums* from Mr. Salter, lots of *Fuchsias*, the new *Zinnia aurea*, *Phloxes*, a *Fern*, and some other plants, all of which were not considered of sufficient merits above their kind and kindred to deserve the honours aimed at. But the best *Dahlia* that ever was seen and the newest to the florists of the day was there, and took your reporter by the eye like the flash of a firefly. It was from Mr. Keynes, of Salisbury, who named it Charles Turner in compliment to Mr. Turner, of Slough; and it had the First-class Certificate by the unanimous lifting-up of hands in admiration of the beauty of the flower, which is of a peculiarly rich orange ground colour, and edged, tipped, and shaded throughout with a peculiar tint of soft, rich, mellow purple—a perfect model of a lady's fancy in the combination of colours in one flower.

Cut flowers of a new *Verbena* from the Messrs. Downie, Laird, & Laing were equally admired by all present, and had a unanimous vote for a First-class Certificate. It is named Lord Craven, and the colour is a compound of dark plum colour and Bishop's purple—the finest purple *Verbena* yet seen.

Another *Achimenes* from Mr. Parsons had a unanimous vote for the highest award on account of the substance, shape, and size of the flowers. They are as thick, as stiff, and of as much substance as those of the stoutest *Gloxinias*, and larger than any of the race. It is named Mauve Queen after the fashion of the dress of 1859, when every shade of blue to violet and lavender was called mauve, when no mauve was in the market.

The *Dahlias* Countess of Shelburne and Lord Dundresry brought First and Second Certificates to Mr. Turner. The Countess of Shelburne is a very pretty new colour in blush tipped and lightly punctured.

*Lobelia kermesina*, from Messrs. J. Carter & Co., had a Certificate of Commendation, as a likely kind to produce a new strain of purple *Lobelias*.

The new *Zinnia aurea* is a bright orange yellow, but was said not to be very suitable for beds.

Mr. Bull had a Second-class Certificate for *Anthurium leuconeurum*.

There were many plants from the Messrs. Veitch, beginning with a fine specimen of *Lapageria rosea* with upwards of twenty blossoms open, for which a Special Certificate was awarded. Then *Rhus vernicifera*, the tree from which the celebrated lacker of the Japanese is manufactured. To this a First-class Certificate was given, in consideration of its having been reported to be hardy: and another First-class Certificate was given to an entirely new form of *Cryptomeria*, which in a young state has much the look of the old *Diosma cricoides*; and a fine hybrid from *Rhododendron jasminiflorum*, which is as pure in white as the original, and four times its size; and another plant of the great gilded Lily of Japan with one large flower.

**FRUIT COMMITTEE.**—Thomas Rivers, Esq., in the chair. Mr. Rivers brought several varieties of Peaches and Nectarines grown on pot-trees in an orchard-house. Like all the fruit this season, they were very inferior in flavour, and came far short of the qualities they usually present. *Violette Hâtive*, which is generally a first-rate and delicious Peach, was not good, flat, and without much flavour. *Montagne Précoce*, another excellent variety, was acid and inferior in flavour. *Early Albert*, one of Mr. Rivers' own seedlings, was rather better, but still had more acidity and coarseness in its flavour than is usual. *Early Grosse Mignonne* was in better condition than any of the others. In the collection was a variety raised from a stone of the White Nectarine, and which was, in fact, a White Peach, equally as white as the White Nectarine, and with the flesh pale to the stone—not a trace of colour either outside or inside. It had a brisk flavour like the White Nectarine, and no doubt in a good season will be in very much better condition. Crawford's *Early*, a fine large Yellow American Peach, was past, and had become mealy.

Mr. Rivers also brought specimens of his Orange Nectarine, a seedling from Pitmaston Orange, which has kidney-shaped instead of round glands on the leaves, but is in other respects the same.

Of Plums and Cherries Mr. Rivers brought the following:—Prince Engelbert Plum is a large, oval, dark purple variety, admirably adapted for all kitchen purposes, and an immense bearer. Mitchellson's Plum, less in size, but of the same colour, is also a great bearer. Columbia, a large, round, purple Plum; is also fit only for kitchen use; the flesh is coarse, and of an ordinary plum flavour. Rival Cherry is a variety recently introduced from the continent. It is a small Black Bigarreau of the race of Belle Agathe, only the latter is a Red Bigarreau. It has the good properties of hanging late and bearing abundantly, as Belle Agathe has. Planchoury is a form of our Late Duke, or Anglaise Tardive as the French call it, and if not identical with that variety, is so like it that the one can hardly be known from the other.

Mr. E. Pierce, nurseryman, Yeovil, exhibited a Seedling Nectarine called the Cricket Nectarine. It was raised from a stone of Royal George Peach, and is very highly coloured, as much so as *Violette Hâtive*, and has a deep yellow flesh. Unfortunately, the unfavourable season influenced this variety also, and the specimens exhibited did not come up in flavour to the requirements of a first-rate fruit. It exhibited, however, the properties of a good fruit, and the Committee recommended Mr. Pierce to produce it again another season. It is said to be remarkably hardy, the maiden trees having for the last three winters withstood the severity of the season when every other variety was killed in the Yeovil Nursery.

Mr. Rust, gardener to Lawrence Sullivan, Esq., Putney, sent a seedling yellow-fluted Peach, which was of a very bitter flavour, and a seedling Nectarine with hard flesh, and with not much flavour.

Mr. Cunningham, gardener to the Bishop of London, Fulham, sent a dish of each Red and White Alpine Strawberries in very fine condition. The fruit of both was large and handsome, and the flavour all that could be desired.

C. Roach Smith, Esq., of Strood, sent a branch of the Cluster Damson, a variety growing in his garden, which is an immense bearer, and which this season has produced enormous crops, while other Damsons in the neighbourhood have failed.

Richards Headley, Esq., Stapleford, near Cambridge, sent a seedling early culinary Apple. It is of small size, being similar in appearance to a small Dumelow's Seedling. It has a fine

tender flesh, and a brisk acidity—in fact, the true "Wellington flavour." It is ready for use early in August, and in this respect is valuable. The Committee awarded it a First-class Certificate as a valuable early kitchen Apple.

Mr. Rivers, of Sawbridgeworth, exhibited samples of the Royal Ashleaved Kidney, a new variety raised by the late James Ashwin, Esq., of Bulerton Hall, Evesham. It is much more luxuriant and prolific than the old Ashleaved Kidney, and eight or ten days earlier. When cooked it is a mass of flour, and of excellent flavour.

Mr. Loney, gardener to W. G. Prescott, Esq., Roehampton, sent fruit of a seedling Melon, which was of very good flavour.

Mr. Parsons, of Welwyn, exhibited a branch of Gondouin Currant, an enormous bearer, and a variety well worth growing.

Mr. Myatt exhibited fruit of Standard of England Plum, and Mr. Dancer the Goodenough Apple.

## NOTES WHILST RESTING.

(Continued from page 412.)

ON the north-west side of the island is Vazon Bay, and beneath its widely-extended, firm, pebbleless sand is a peatified forest. A notice from the governmental authorities forbids this fuel being dug up nearer to the sea wall than the half-tide mark. This stratum of peatified forest extends, however, much further inland; for a fisherman, resident in a cottage not far from the shore, told me he found this peat when digging the garden behind his cottage. In some places there it is very near the surface, but in others it is much deeper. His son brought a specimen on a spade from the garden, wet, but otherwise the same as the lumps won from the sea, kept dry for fuel in a heap near the cottage. In all the specimens I examined were pieces of not-entirely-decayed wood and leaves. Birds' nests, acorns, and hazel nuts, with the kernels still within them, have been found embedded in this peat. One of the guide-books intensifies this discovery by adding, "The Hazel, like the Beech, has disappeared from this island; and it may not be out of place to state that the Filbert, on many occasions imported into Guernsey from a good stock, though subject to the same culture and pruning as prevails in Kent, cannot be brought to bear fruit." Both these statements are contrary to existing facts. I have seen fine Beeches growing here in St. Martin's; and I am informed by Mr. Carey that in his garden at Le Vallon, in the same parish, he has grown Filberts, and that at his brother's, Woodlands in Catel parish, they have grown for many years, are still growing, and bear abundantly every year.

Although the existence of the peatified forest had been long known, and though dried seaweed had been the chief fuel of the poor, and is still in other parts of the island, yet this forest was not rendered useful until the year 1817. In the December of that year a violent gale, impelling a spring tide, upheaved large masses and bore them to the shore. These masses were immediately employed as fuel, their value duly appreciated, and the winter being severe it received, and retains, the name of *Corban*, corrupted into *Garban*, a gift—a name forcibly reminding one of the similar word of like meaning mentioned in the 7th chapter of St. Mark's gospel.

It is interesting to have an approximate knowledge of the date when this forest was overwhelmed, and we have such knowledge from Mr. Lukis, a well-known authority resident in the island, who says "that there were found pottery and stone instruments, the tools and vessels of the first inhabitants, materials in character coexistent with our cromlechs and their contents, formed of the same substances. It is also reported that several hundred Roman coins were discovered in the peat some years ago."

Noting this peat formation, reminds me how forcibly and continuously I am struck by the courtesy even of the poorest of these islanders; for even that poor, half-naked, tattered fisher's boy whom I have mentioned, seeing my hands dirtied by the peat, fetched for me, unasked, a bowl of water and a fragment of coarse towelling.

I have already glanced a passing observation, I think, at the market of St. Peter's Port; but whether I have or not, having now seen it in all its glory—namely, on a Saturday morning, my notes can be more full and more worthy of its excellence. I have spoken in the singular; but in truth there are four markets, all abundantly supplied, all thronged by purchasers, the majority of them carrying a basket in which to bear home their bargains—for bargains they are, inasmuch as the female vendors have the

reputation of asking for a commodity sixpence when they will not reject the fourpence bid. On this point I will not volunteer an opinion, for they all looked upon me so benignly that bargaining would have been ingratitude.

The Fish Market I estimate to be more than 200 feet long, and full 20 feet wide, very lofty, and well lighted. There are twenty double stalls on each side, and two at one end. Each stall is formed of a slab of polished black, white-veined marble, has a tap of water, and is formed so that the surplus does not overflow, but is conveyed away by a pipe in the central front-supporting pillar.

I shall only mention some of the fish which were there when I made my visit. The most plentiful supply and most readily sold were crabs, both the common and the spider. The price of the largest and heaviest was 1s. 6d., and in London would have had affixed more than double that price; mackerel, a dozen for 6d.; red mullet, just in season, 6d. each; gore fish, if that is correct orthography; large craw fish, or rock lobsters, 6d. a-piece; and many other kinds, as bream, rock fish, red gurnet, bass, conger in large quantity, cut into pieces, but I am told this fish will be more plentiful next week. The only fish in the market peculiar to the island was the *Ormer*, a contraction of *Oreille de Mer*, or Sea Ear, which name is descriptive, for the form of its univalve shell approaches very closely to that of the human ear. Its scientific name is *Halotis tuberculata*. By its shell-less side it adheres to the rocks, probably by the same vacuum-power which makes the wet leather of the boy's toy adhere to a stone. Beaten to render it tender, and then stewed, it is said to have the flavour of a veal-cutlet. Uncooked, and lying with the unshelled side uppermost, they look much like a small scollop of oysters. The emptied shells are exported in large quantities to England, and especially to Birmingham, their pearly, iridescent, internal surface being familiar to us in *papier maché* and other 'spanned ornamental work.

The fish usually purchasable, but which were either not in season or absent when I was there, are turbot, whiting, white mullet, john dory, soles, brill, plaice, cod, smelt, and sand eel.

The Butchers' Market runs parallel, and is annexed to the Fish Market, and comprises about forty small rooms, lined within and without with the usual joints, the only peculiarity of which not-very-provocative-of-appetite exhibition was the extreme smallness of the veal. This, I am told, arises from the greater value of the butter and milk inducing the early killing of the calves.

On a projecting ledge outside the Butchers' Market, and in the open air, sit some thirty or more countrywomen with their very uniform white-clothed baskets of butter and eggs. That butter and those eggs are unsurpassable, the vendors thereof being unexceptionable models of elderly neatness; so I turned over in my mind why they were all elderly, and it would have been a mystery until this day, had not my eyes rested upon one young, fair, and jocund—then was it a mystery no longer, for I had to say, "Hadji, thou art advanced in years, yet thou art looking upon the damsel rather than upon her commodities."

Before these decorous butter-vendors, exposed to the open air, is the spacious, well-supplied Fruit and Vegetable Market. There were all the usual vegetables, and about which I saw no peculiarity except that the Broad Beans were shelled and sold by the pint. Among the fruit were good Peaches, 3d. each; Moorpark Apricots, the finest I ever saw, 2½d. a-piece; Apples, Pears, and Plums very various and abundant; purple and white Figs; and Cob nuts, from France, 3d. per quart. There were also a few Raspberries, and still fewer Mulberries. Strawberries, of course, were not there; but I must mention that I am informed that the old Pine variety of this fruit, rarely met with now in England, is the most prolific here, and, consequently, is that chiefly cultivated for sale. When in season the market-supply of it is most abundant, and often sells for no more than 1½d. per pound. The Cabbages exposed for sale are all of the Drumhead kind, and only the extreme heart of them is cooked for table use. I conclude that the reason for preferring this variety is, that it is that which is most useful as food for the cows, with an eye to which all the cottage gardening is conducted. Every spare space where cultivation can be carried on is occupied either with these Cabbages, or Mangold Wurtzel, or Parsnips. A red variety of Onion is universally cultivated, and, I think, it is James' Keeping Onion; except a stray instance among these now and then, I have not seen a white Onion in the island.—*QUIT.*

(To be continued.)

## BREAKING UP A PASTURE FIELD FOR MARKET-GARDENING PURPOSES.

I HAVE upwards of five acres of grass land which I intend converting into a market garden. The soil is peaty; in some parts peaty to the thickness of 2 feet or 3 feet, resting on a fine yellow clay. It is at present imperfectly drained. How would you advise it to be drained well? and how would you dispose of the sods—bury them, or pile them up in heaps to rot? And also, would you advise a good application of gas lime on breaking it up?—*FEAT.*

[First of all drain it well; then break it up as early in the autumn as you like, and about 2 feet deep, burying the turf about midway, or just so near the top as to insure it not growing through; rough dig it once or twice during slight frosty weather in winter or when it is dry; and in spring plant a good breadth of it with Potatoes, for such a soil as you describe is just the one we have seen Potatoes do best in. The wants of the neighbourhood will determine what other crops are advisable; and if you contemplate doing anything in the hot-bed or Grape-house way, save several loads of turf which will be wanted there. Perhaps that taken off the part intended for walks might be set aside for such uses; but unless the turf be full of couch grass or other noxious weeds bad to kill, it had better be trenched into the ground at once. If you determine on planting any autumn crop as Cabbage or the like, immediately after trenching a good dressing with gas water may be useful in killing wireworm and other enemies; but it ought to be given some days before planting and the ground dug again. If, however, it lies in fallow through the winter, and receives one or two diggings during that time, it is likely these pests will in a great measure be destroyed; and we are no advocates for gas water in cases where it can be done without, as it does not impart any useful ingredient to the composition of the soil.]

## READING HORTICULTURAL SHOW.

THOSE accustomed to the great metropolitan exhibitions of flowers and fruit, but who are ignorant of what many of our provincial horticultural societies can effect in this way, are apt to under-estimate the importance of country shows, and to imagine they are not worth attending. This is a great mistake; for in some of the principal towns horticultural exhibitions are held, which, though not of course equal in extent to those at South Kensington or the Crystal Palace, nor offering such inducements to exhibitors from a distance, are yet of no small magnitude, are well arranged, well attended, and thoroughly enjoyable. Of such the shows of the Reading Horticultural Society are amongst the best and most attractive, from the extent of the display and the place where they are held—among the ruins of the old abbey, in the midst of a well-kept public garden, which, except on such occasions, is freely open to the townsfolk.

Another advantage which the ancient and historical borough of Reading possesses, is that of its being readily accessible from all parts of the kingdom by means of three principal lines of railway.

The second and last Show for the season took place on Thursday last; and about £115 being offered in prizes for plants, cut flowers, fruit, and vegetables, an extensive and creditable exhibition was the result.

The various productions exhibited were ranged in a large tent, hollowed out on a similar plan to that formerly adopted at South Kensington, with turf stages down the middle and at one end for cut flowers, with others more elevated at the sides for plants: thus a very good view could be obtained of nearly every part of the tent.

In class A, 8 Stove and Greenhouse Plants, the first prize was awarded to Mr. Ingram, gardener to J. J. Blandy, Esq., High-grove, Reading, who had a large and well-trained *Stephanotis floribunda*, a fine specimen of *Rondeletia speciosa*, *Vallota purpurea* in fine bloom, and nice plants of *Vinca rosea* and *alba*, *Tetratea verticillata*, *Leschenaultia formosa* *superba*, and *Statice brassiceifolia*. Mr. Good, gardener to E. Majoribanks, Esq., Henley, had a good plant of *Rondeletia speciosa* *major*, though rather past its best in point of flower; nice plants of *Vinca alba* and *rosea*; *Tetratea verticillata*; *Heterocentrum roseum*; *Crowea stricta*; a fine *Ixora coccinea*; and *Clerodendron fallax* in excellent condition. To this collection the second prize was awarded; the third going to Mr. Miller, gardener to

Miss Hobson, Shinfield, whose collection contained *Statice brassicifolia*, *Begonia prestoniensis*, a fine plant of *Gesnera zebрина splendens*, *Stephanotis floribunda* (good, but not equal to Mr. Ingram's either in size or beauty), and *Leschenaultia formosa*.

In class B, 10 Variegated or Foliage Plants, the exhibitors were Mr. Ingram; Mr. Robinson, gardener to R. Benyon, Esq., M.P., Englefield; and Mr. Moles, gardener to W. Banbury, Esq., Reading, who respectively gained the first, second, and third prizes.

Mr. Ingram had a nice little *Alocasia metallica*, a large and beautifully grown specimen of *Coleus Verschaffelti*, a fine *Croton variegatum*, a tall *Dracena ferrea*, *Cissus discolor* (large and so perfectly clothed with leaves as not to show any stems), *Philodendron pertusum*, *Sansevieria javanica*, and two *Caladiums*.

Mr. Robinson's collection contained a small *Cyanophyllum magnificum*, tall plants of *Dracena draco* and *ferrea*, *Maranta zebрина*, *Alophila anstralis*. And Mr. Moles had two handsome specimens of *Coleus Verschaffelti* and *Blumei*, 4 feet across; a small *Croton*, two *Dracenas*, two *Begonias*, and three *Caladiums*.

In class C, 10 Ferns, the first prize was awarded to Mr. Robinson for his exhibition, which contained a fine *Dicksonia antarctica*, a handsome *Pteris tremula*, as well as well-grown plants of *Pteris argentes*, *Gymnogramma chrysophylla*, and *Cibotium Barometz*. Mr. Ingram obtained the second prize for a well-grown collection, which included some excellent specimens of *Asplenium* and *Pteris*, *Gymnogramma argyrophylla* and *Platyterium alciorne*. Mr. Moles was third, and an extra prize was given to Mr. Fabray, gardener to W. S. Darter, Esq.; the only other exhibitors being Messrs. Ivery, of Dorking, who had a large collection of hardy British Ferns, some of which were exhibited in this, and the remainder in the Miscellaneous class.

The succeeding class, D, was for 6 Lycopods, and as in the case of the Ferns, the whole of the exhibitions were good samples of cultivation. The competitors were Mr. Ingram, first; Mr. Robinson, second; and Mr. Good, third.

In class E, 6 Achimenes, the first award was taken by Mr. Ingram, who had a fine pan of *Sir Treherne Thomas*, and *Lengiflora major*. Mr. Lanaway, gardener to R. Henborough, Esq., was second, who had *Ambroise Verschaffelt*, *Dr. Buenzood*, and *Sir Treherne Thomas*, in good flower; and Mr. Miller came in third, having among his six good examples of *Sir Treherne Thomas*, *Lengiflora major*, and *Carl Woolfurth*.

Of *Fuchsias*, in sixes, class F, the first prize was given for a beautiful set, among which were *Venus de Medici*, *Sir C. Campbell*, *Little Bo-Peep*, *England's Glory*, *British Sailor*, exhibited by Mr. Baskett, gardener to Miss Sheepshanks. These plants, being tall and covered with flowers, were placed in an elevated position near the principal entrance to the tent, where they had a very pretty effect, being covered with their beautiful pendulous flowers. Mr. Foster, gardener to J. Lodge, Esq., Reading, who was second, had good plants of *Fair Oriana* and *Wiltshire Lass*; and Mr. Castle, gardener to Miss Sowden, third.

In class G, for Balsams, there was no competition; and in class H, 8 Cockscombs, Mr. Bailey, gardener to T. T. Drake, Esq., Shardeloes, Amersham, gained the first prize with some well-grown specimens; those of Mr. Hawes, gardener to J. W. Rhodes, Esq., Henley, who was second, not having such regular heads.

The next class, I, was for 8 branching Cockscombs, and here Mr. Good was successful in obtaining the first award with plants which were generally well flowered; and Mr. Prior, gardener to G. May, Esq., Reading, was second; an extra prize being given to R. Webb, Esq.

In class J, 6 *Lilium lancifolium*, Mr. Ingram, exhibited album and rubrum grandiflorum, three of each, all of them being large, handsomely grown, and beautifully in flower. To this exhibition the first prize was awarded; the second was given to Mr. Baskett for nice plants of the same kinds well flowered, but of much less size.

In classes K and L, 6 Bedding and 6 Variegated Geraniums, Mr. Baskett was first, and Mr. Miller second; and in the Miscellaneous class prizes were awarded to Mr. Good for three *Vallota* and one *Eucharis amazonica*, all of them creditable specimens; to Mr. Ingram for a mixed collection of flowering and fine-foliage plants, for *Anectochilis*, and for *Desfontainia spinosa*; to Mr. Robinson for *Caladiums*, miscellaneous plants, aquariums, and some neatly-prepared skeleton leaves; and to

Mesara. Ivery for hardy British Ferns. Awards were also made to Messrs. Webb, Miller, and Bragg.

The exhibition of Cut Flowers was very good, but we should have liked to have seen more Roses.

In class N, 24 Dahlias, Mr. Turner had a magnificent stand which distanced all competitors in the size, colour, and regularity of the blooms, which were perfect models. The sorts were Mrs. Bush, Lord Palmerston, Lady D. Pennant, Mr. Stocken, Delicata, Privateer, Goldfinder (a splendid bloom), George Brown, Cygnat (lovely), Criterion, Lord Cardigan, Umpire, Beauty of Hilper-ton, Golden Drop, Captain Harvey, Hugh Miller, Bob Ridley, Mrs. W. Piggott, Earl of Shaftesbury, Lady Popham, Madge Wilkfire, Juno, Lord Derby, and Lady Elecho. To this exhibition the first prize was, of course, awarded. The second was taken by Mr. Terry, Castle Bromwich, who had also some very good blooms in his stand; and Mr. Bragg was third.

In the Amateurs' class, O, 12 varieties, there were several very good stands, Mr. Perry coming off first, Mr. Hopkins, of Brentford, second; and Mr. Fruin, Foot Baldon, third.

The Fancies, class P, were likewise very good, Mr. Turner and Mr. Perry being again first and second. The exhibition of the former contained some remarkably fine blooms of *Lady Paxton*, *Queen Mab*, *Gem*, *Pauline*, and *Miss Jones*. In the succeeding class, Q, exclusively for Amateurs, Mr. Perry and Mr. Fruin were first and second respectively. Seedlings, for which there were no prizes offered, were shown by Mr. Turner and Mr. Perry; those of the former were *Caractacus*, *Dundreary*, and *Countess of Shelburne*, which have already been stamped with the approbation of the Floral Committee.

Of Hollyhocks there were several fine stands, that of Mr. Turner taking the first prize; and in *Roses*, 24 varieties, three trusses each, he was the only exhibitor, but well merited the highest award. *Miss Crawshay*, of Caversham Park, had a very good stand of twelve in the Amateur's class, gaining the first prize; and a similar award was made to C. Worthington, Esq., for single blooms.

Asters, both French and German, were in most instances very fine, though the setting-up in a few cases was susceptible of improvement. Mr. Betteidge received the first prize for both kinds; Mr. Millett being second in French; Mr. Beasley holding the same position for the German quilled varieties; Mr. Baskett and Mr. Bailey obtained third prizes, and several extra ones were given besides.

In *Verbenas*, 18 varieties, fine trusses were exhibited by Mr. Perry and Mr. Turner, between whom the competition was very close, who respectively obtained the first and second prizes; the stand of the former was very tastefully arranged with regard to colour.

Mr. Bailey was first in the class for 12 varieties, with a fine stand; Mr. Baskett and Mr. Jacob being second and third. There were several other exhibitions, which were also of great merit.

Of Miscellaneous Cut Flowers there was an excellent display, which contributed much to setting off the end of the tent which they occupied. Mr. Millett and Mr. Moles were first; Mr. Baskett and Mr. Mearing receiving second prizes.

Of Fruit there was an excellent display, quite as good as we have seen at a London exhibition. Grapes, especially of the *Black Hamburg* kind, were fine, the bunches regular, the berries generally large and well coloured, and the bloom not rubbed. *Muscats*, of which several large bunches were shown, were not sufficiently ripe.

Pines were not so numerous as could be desired, but were generally well grown and of fair size; and here we would suggest that in future the names as well as the weights should be attached to each.

Excellent collections of eight dishes, from Mr. Turner, Mr. Good, and Mr. Robinson, received first, second, and third prizes.

In *Quecu Pines*, Mr. Johnson, gardener to the Duke of Wellington, was first. A *Ripley Queen*, from Mr. Robinson, came next. Mr. Bailey was third with a good *Moscow Queen*; and in the class for "any variety," he obtained the highest award for a *Queen*, apparently about 4 lbs. weight. Mr. Robinson was second with a *Smooth-leaved Cayenne*; and Mr. Johnson third.

The best *Black Hamburg Crisps* were from Mr. Ingram; and Mr. Dwerrhouse, gardener to Lord Eversley, who was second, had also large and well-coloured bunches, and the competition among the other exhibitors being close, several extra prizes were awarded.

Muscats large but not sufficiently ripe were sent by Mr. Ingram, Mr. Webb, Mr. Johnson, and Mr. Turner, those of the latter being very fine as regards size, and prizes were awarded in the order in which the names stand.

White Muscadines, from Mr. Turner, were the best in the next class for any other White Grapes; Mr. Cording coming in next with Sweetwater, and Mr. Good third with good bunches of the Royal Muscadine.

Large and well-ripened Royal George Peaches were exhibited by Mr. Johnson and Mr. Good, who were first and second; and in Nectarines and Apricots the best came from Mr. Turner and Mr. Johnson, both of whom received equal first prizes for fine fruit of the Moorpark variety.

In Melons Mr. Good was first, Mr. Bousie second; and in Plums, three dishes, Mr. Bailey received the first prize for fine fruit of the Washington, Prince of Wales, and Denyer's Victoria.

Among the Miscellaneous Fruit, we noticed a beautiful dish of Red Astrachan Apples from R. Webb, Esq., and some of the finest Oranges we have ever seen grown in this country from Mr. Robinson, who had also some excellent Lemons. Nor must we omit to mention eight Apple trees, in 13-inch pots, from Mr. Webb, which were loaded with large fruit. They were grown out of doors without protection, being merely plunged in the ground.

Of Vegetables there was likewise a very creditable exhibition, both in the Gardeners' and Cottagers' classes, and numerous awards were made; but we cannot afford space to particularise them. The Cucumbers were fine, especially those which gained the first and second prizes, and so were the Carrots and Potatoes.

The arrangements were excellent, and even if we had the disposition to do so we could find no fault, everything was arranged pleasantly, and good humour was the order of the day. During the afternoon the subscribers to the Society and numerous visitors examined the Exhibition, which, but for a counter-attraction in the band of the gallant 16th Lancers from Aldershot, would have been even too crowded.

We may mention that the ride to Reading by the South-Western railway is just now very interesting, the line being bordered by waving fields of corn ready for the sickle, whilst the banks are in many places purpled with Heath, now in full bloom.

### WINDOW-GARDENING IN IRELAND.

In the introduction to "A Few Days in Ireland," Mr. Fish noticed a fine box of Geraniums in a certain street in Dublin, which seemed to stand alone in its loveliness. He has had a hint that it has been equally fine this year. He and the helpers in THE JOURNAL OF HORTICULTURE would be glad to hear of window plants being more prevalent in Dublin, and would be greatly obliged to "A CONSTANT READER" to forward that object, and we take also this opportunity to state that all inquiries bearing on this subject will meet with the most prompt attention; and if these inquiries are beyond our depth, we will at once confess our incompetence to answer them, so that information may be got from a different quarter. "A CONSTANT READER" may also rest assured, that neither he nor his fellow townsmen would for a moment be considered deficient in brains. On the contrary, much kindness received would prompt to the attempt to show all kindness and courtesy in return.

Now, to the purport of this last note. Until lately we have had a cold, drizzly season here, and we fear it has been much the same in Dublin, and that would influence the foliage of some of the tenderer variegated Geraniums, as we find that ours in beds needed more picking than usual. The leaves sent were much withered. The variegated Scarlet Geranium we presume to be Lady Plymouth, which likes plenty of sun and not too much water. The variegated Geranium we think to be one of the Peltatum kind, as Pink Cup, and to have that nice requires not only plenty of sun but plenty of moisture. Hitherto we have had plenty of the latter, but until lately not enough of the former, and the flowers have been more scanty than usual; but now they are coming better. The Calceolaria-heads had much the appearance which the Prince of Orange Yellow presents in May and June, when there has been a little frost. At this season it hardly ever appears in any Calceolaria, unless there is a deficiency of moisture and support.

To produce the best effect individually, then, would be to follow the hint given the other week, and grow such plants in separate boxes; or else take such care in the watering, that whilst you

drench Calceolarias well, you give but little to the Geraniums in general, except the Pink Cup referred to. As the Tropæolum elegans is healthy, arrest growth by taking off more than half of its foliage. This will give room to and encourage the flower-buds. Do not be afraid of disleafing considerably; the succulent stems when grown as yours, will be a sufficient store-house of nourishment. Wreaths of Nasturtiums, unless grown on the most hungry soil, will do no great things without this disleafing. Go over them again whenever the foliage becomes too dense. If your Scarlet Geraniums are very strong, and the flowers not thick enough, remove not only any faded leaves, but some of the strongest and largest of the green ones, to throw more strength into the flower-truss, and at this season you may with advantage pick out the terminal bud on each shoot with the point of a penknife. This arrests mere extension, and throws more strength into the flower-stems. The thinning-out of the leaves also puts the stems in a better position for standing the winter. Of course, though not stated the other week, all young Scarlet Geraniums raised from cuttings this autumn must be kept growing, and have light inside of a window all the winter; and hence require much more care than old ones, such as those in the boxes now. These boxes will want much less water than Calceolarias; but if they show signs of want of vigour, a little weak manure water, or a moderately rich top-dressing will set them all right. Small variegated Geraniums will, in general, need more moisture and heat to do well. The Calceolarias should have the decayed points removed, and plenty of moisture and a little top-dressing will cause the blooms to open freely. For Senecios the season has been too moist. A very poor hungry soil would have suited best, and then in very dry weather a mulching could have been given. In such a season as this has been here, the Tropæolums, Senecios, and the larger Scarlet Geraniums, would have bloomed better if plunged in their pots. There is even then no necessity for the pots being the same in size. We are glad that Fuchsias and Ivy-leaved Geraniums do so well. We shall always be glad to hear of successes as well as failures.

### ORCHARD-HOUSE TREES AT BURTON-ON-TRENT.

THE visitors to the Burton-on-Trent Flower Show, August the 27th, appeared highly pleased with the display of flowers, fruit, and vegetables, which was very good indeed; but the Peach trees in pots, sent by A. Bass, Esq., attracted marked attention. These would have been highly creditable to any gardener, but as the result of a lady's skill were quite remarkable. The house in which they were grown is 60 feet by 20 feet, a double-roofed one, handsomely painted in the way of the Crystal Palace, and nicely paved. Mrs. Bass, with the exception of such work as could be done by any labourer, has entirely managed them herself, and has reason to be proud of her success. The first season she had a good crop: this year almost every tree was full. Though so late in the season that most of the fruit was gathered, and such as remained would hardly bear touching, yet some fine specimens were exhibited. When staged three plants had thirty or more fruit each, besides those which had fallen, and the others had quite as much fruit as they were calculated to bear. It was amusing to see the faces of one or two persons who have always contended that Peaches could not be fruited in pots. So much interest was excited by this Exhibition that it was proposed by some members of the Committee to have the Show a little earlier next season, and make fruit trees in pots one of its principal features. If this is carried out, some of the gardeners in the neighbourhood stand a fair chance of again being beaten by a lady. I hope it may be so—it will have a very stirring effect. Why does not the Royal Horticultural Society of London offer a good prize for orchard-house trees? The result would be novel and attractive.—J. R. PEARSON, *Chillwell, Notts.*

### MARTYNIA FRAGRANS.

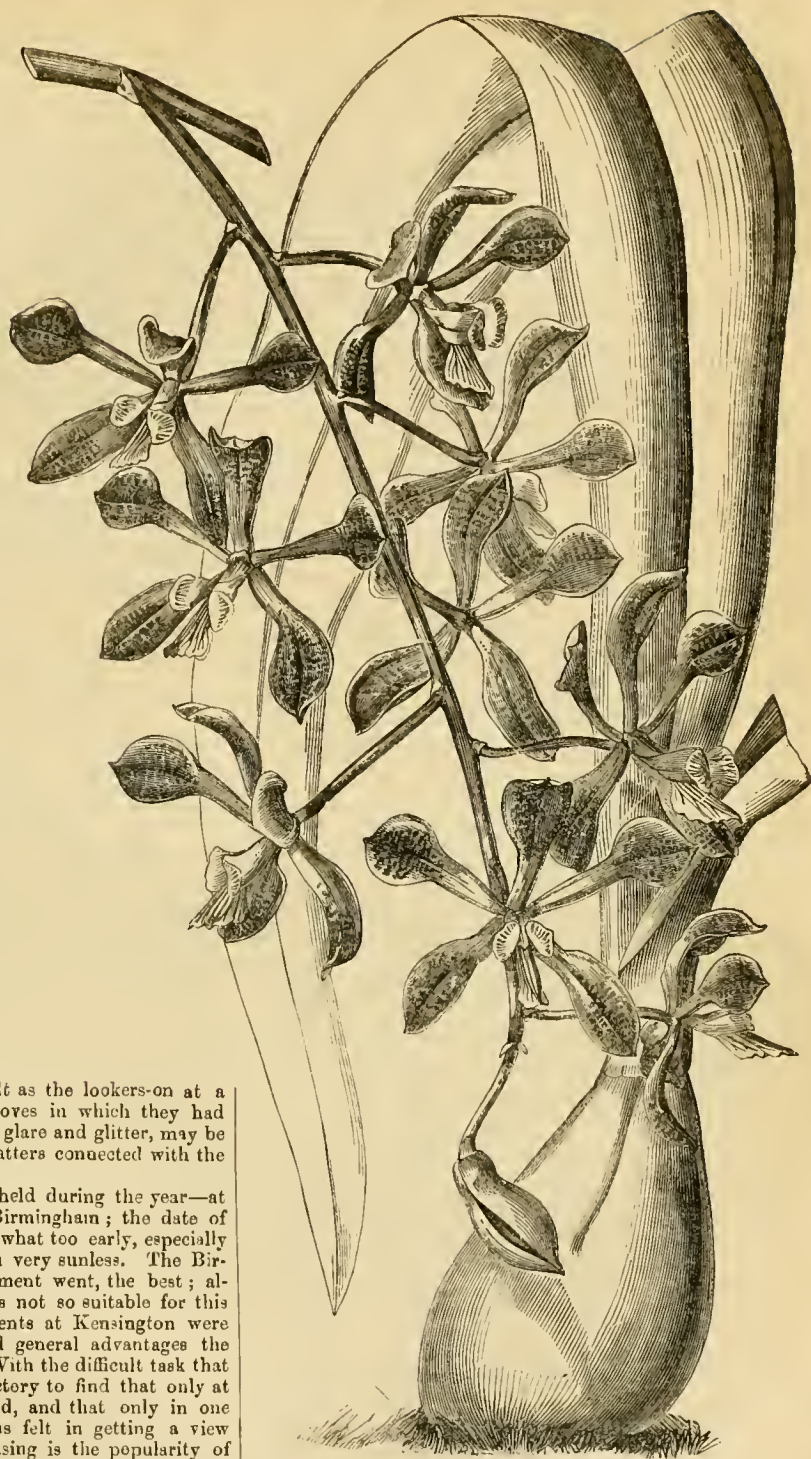
HAVE any of your readers ever noticed the intoxicating or soporific effect which the leaves of this plant have on flies and caterpillars? I find quantities of flies dead or "drugged" on them; and a day or two ago I remarked that some large green caterpillars, which had dropped on them from a plant above, were "lousised" most completely. Would the plant be of any value to duggists?—W. X. W.

## EPIDENDRUM REPLICATUM.

THE accompanying is a full-sized representation of one of the branches of the flowering panicle of this pretty Epidendrum.

The pseudo-bulbs are crowned by the ensiform, or narrowly-clongate lance-shaped leaves, from between which proceeds the flower-scape, 4 feet long, the upper half forming a large branched panicle. The flowers though not gaudy, are very pretty, and being numerous, they render this species ornamental. The sepals are cuneate-spatulate, with a mucro dull yellowish-brown; the petals are spatulate, narrowed below, mucronate above, of the same ground-colour as the sepals, and marked with a large chocolate-coloured blotch at the broad apex. The lip is white, veined with purple, three-lobed, the two lateral lobes large, oblong-ovate, appressed to the column at the base, spreading above; the middle lobe is cordate-acuminate, folded together backwards, and having a waved margin.

It is a stove epiphyte, and requires the same kind of treatment as other tropical orchidaceous plants.

A FEW WORDS ON ROSES  
IN 1862.

Now that all the bustle and din of the contest is over, the arena been swept, and fresh sawdust been put down, we may sit quietly down and consider what has been the result—who have most deserved the palm—whether Fortune has favoured the brave or been blind to her devotees. Doubtless we shall find, as in every contest, some cherished names have failed to fulfil their promise; reputations that seemed to stand on a sure basis have been scattered to the winds, and names hardly ever heard of before have assumed a prominent position. We may criticise both the combatants and the field of battle—may find fault as the lookers-on at a game of chess so well can do with moves in which they had nothing to do; and, undazzled by the glare and glitter, may be able to give an impartial opinion on matters connected with the fight.

Three great exhibitions have been held during the year—at Kensington, the Crystal Palace, and Birmingham; the date of the former one, June 26th, being somewhat too early, especially as the weather preceding it had been very sunless. The Birmingham one was, as far as my judgment went, the best; although, fine as the Town Hall is, it is not so suitable for this purpose as for some others. The tents at Kensington were excellent; but for ease, comfort, and general advantages the Crystal Palace must bear the palm. With the difficult task that judges have to perform, it was satisfactory to find that only at Kensington was there any fault found, and that only in one section; while the difficulty that was felt in getting a view of the flowers only shows how unceasing is the popularity of this favourite flower—a popularity which I imagine will be progressive.

The general character of the flowers exhibited was excellent; but I must take exception to what seems to be a too prevalent thing—viz., to cultivate so highly that colour is entirely sacrificed to size. There were flowers as large and as coarse as *Pæonies*, and others as flat as a breakfast-saucer, and quite as dull as they could well be. That this is an evil I feel every lover of the flower will agree in, although they will tell you that they are compelled to grow them to that size because others do; just on

the same principle that people will not close their shops early because others keep them open. Unquestionably if you could get flowers as large as Anna de Diesbach, of the shape and refinement of Comtesse Cécile de Chabillant, or with the brilliancy of Général Jacqueminot, they would be a sight worth looking at, but as it is coarse and large it ought to take a low place. Thus, I would say, if twelve blooms of Comtesse Cécile de Chabillant, and twelve of Anna de Diesbach were put up for competition,

even though the former might be somewhat inferior in quality to its ordinary character, I should give it the prize; for in all florists' flowers I hold that shape is first, colour next, and size last, and I believe if such a principle came to be acknowledged generally, it would tend greatly to the advantage of Rose-fanciers.

It is somewhat curious to see how the fortune of war changes, the ever-shifting hue of victory resting now on one and then on another. Hertfordshire, which seemed to be the home of the Rose, has been dead beaten this year by Essex; for the two most successful exhibitors in nurserymen's and amateurs' classes have been Mr. Cant, of Colchester, and Mr. Hedge, of Reed Hall, close to the same town. The universal admiration that the stands exhibited by these gentlemen elicited, shows how completely they have attained the foremost places as growers; not only, however, were their flowers well grown, but great taste was exhibited in the manner in which they were set up. The contrasts in colour were excellent, and neatness pervaded all their stands. This, let me say to exhibitors, is not a trifle. The best box may be marred by a want of it, and I have seen myself stands passed by which half an hour's skilful handling of wood have made presentable, and, perhaps, achieved honours; for great advances have been made in this, as also in the method of naming the flowers. The stand of ninety-six, exhibited by Mr. Mitchell at Kensington, was the best-named collection, I think, that I saw the whole year.

But that which has signalled the season of 1862 above all its predecessors, is the introduction of seedling Roses of English growth, heralding a new era in their history. It may be we shall be independent by-and-by of foreign growers, who, although they have given us a vast number of beautiful Roses, in fact well nigh all we possess, yet do manage to freight it with such an intolerable quantity of rubbish, that growers are out of heart at the apparently hopeless task before them; while the probability is, that Roses raised at Ipswich or Cheshunt will be better able to stand the variations of our climate than those produced at Angers or Lyons. In the earlier part of the season Mr. William Paul exhibited some very taking blooms of his seedling Beauty of Waltham, which fully justified the award given to it by the Floral Committee of a first-class certificate; while at the Rose Show on June 26th, "John Hopper," raised by Mr. Ward, of Ipswich, fairly took the "fancy" by storm. It was so grand, so rich, so vigorous, that there could be no doubt of its value. There was another, exhibited by Mr. George Paul, of the Old Nurseries, Cheshunt, which we think will prove a good addition to our catalogues, "Lord Clyde," but which was not brought forward with that *empressement* which it deserved; had it been better set up it would have claimed more attention. At Birmingham it excited a good deal of attention, and thus we have three good English Roses in one year. Those who have been thus successful will hardly be contented with these honours, but will look for still further ones, and we doubt not but that they will succeed. Out of the large number of foreign Roses there are a few which will, I think, be considered worthy of cultivation for some years. I do not think that one can go wrong in ordering the following:—François Lacharme, Olivier Delhomme, Marechal Vaillant, La Brillante, Souvenir de Comte Cavour (Margottin's), Alexandre Dumas, Duc de Rohan, Maurice Bernhardt, Madam Charles Wood, and Mademoiselle Julie Daran—all these are H.P.'s. Gloire de Bordeaux and Comtesse Ouravoff, are good Teas—at least, the latter is, and the former has been shown well. It seems a shy bloomer as yet, but this it may probably get out of. One may be, of course, mistaken in one's opinion of new Roses, but I do not think there are many in the above number which will be found indifferent.

And now may I ask a favour? I have endeavoured in my blundering way to give what little information I could on this subject, and I should be very much obliged if any one will tell me *how to grow Roses*. Yes, I mean it, here at least. My plants look well in the spring and bloom fairly, but in the summer black blotches (of mildew I suppose), appear on the leaves, and towards September many of my plants are left without a leaf. My situation is very open and sunny. My soil a rich, open, friable garden loam, which will grow almost anything; but I am baffled by this black enemy. I tried sulphur; it may do good, but prevention is better than cure. Would the addition of clay to the soil be of any use? or what would do good. I hope some kind Rose-grower will come to my rescue, and let me have the pleasure of seeing my Roses as they ought to be.—D., Deal.

## PRIMULA FARINOSA.

In your Number of the 17th of December last "RUSTIC ROBIN" recommended me to save seed for the purpose of raising varieties. I have just gathered my seed. Does "RUSTIC ROBIN" recommend me to sow it now, or to keep it until next spring? I am disposed to sow it now, because Nature certainly intends it, for the seed is evidently ready to be scattered from the gaping capsules by the first rough wind. I often think that we should be much more successful in raising plants if we took the hints given us by Dame Nature. It must be quite evident from the way in which the seed-capsules of many plants burst as soon as the seeds are ripe, that the seeds ought to be sown as soon as mature—for instance, the Delphiniums, the Digitalis, and the Salvias, as soon as ripe the slightest touch or breath of wind scatters them abroad; whilst others, if we may judge from the retentive character of their capsules, are not intended to be sown so soon, probably not until a drying frost has split or cracked their hard case. Perhaps this may be theoretical; at any rate I throw it down for consideration and discussion.

I may mention that my British *Cypripedium* has some seed-pods on it this season. Whether it will ripen them I know not yet; but when should they be sown? "RUSTIC ROBIN" will find *Achillea millefolium rubra* in a well-known garden at Todmorden; it is, I think, also sold elsewhere under another name.

By-the-by there is a strange peculiarity about the word *Todmorden*—*Tod* means a hill, *mor* also a hill, and *den* a hill, in three distinct languages—Runic, I think, and two others; so that two races have adopted the name given to it by their predecessors, and have added their conviction that it is a hill.—W. X. W.

## WHAT TO LOOK FOR ON THE SEASHORE.

MOLLUSCA—(Continued from page 417.)

### ACEPHALA TUNICATA, OR HEADLESS TUNICATED MOLLUSCS.

THE TUNICATA, as before observed, are Molluscs which have no true shell, but are enveloped in a coriaceous tunic or mantle, whence they derive their name. This mantle takes the form of a sac with two apertures, or in some instances is shaped like a tube, open at either end; within this tunic are the viscera, which consist of well-defined organs of digestion, circulation, and respiration, with a nervous and muscular system. They have no distinct head, nor any organs serving the purpose of hands or feet. Occasionally they are free, occasionally and more frequently fixed; but in every case they are free during a portion of their existence; and they are all inhabitants of the sea.

The Tunicata, of which we possess British specimens, may be divided into two orders—the *Ascidia*, from a Greek word signifying "a bottle," from the creature's resemblance to a leathern bottle; and *Salpa*, from a kind of fish called "Salpe," the outer tunic being elongated, compressed, and open at both extremities.

We will commence with the ASCIDIANS, which have been subdivided into compound, social, and simple *Ascidia*.

COMPOUND ASCIDIANS.—"If"—we quote from the "History of British Mollusca" by Messrs. Forbes and Hanley—"if, when walking on the seashore about low-water mark, we turn over large stones or look under projecting eaves of rock, we are almost sure to see translucent jelly-like masses of various hues of orange, purple, yellow, blue, grey, and green—sometimes nearly uniform in tint, sometimes beautifully variegated, and very frequently pencilled as if with stars of gorgeous device—now encrusting the surface of the rock, now depending from it in icicle-like projections. These are compound *Ascidians*."

They are otherwise known as *Botryllidae*, so called from a Greek word (*Botrys*), which signifies "a cluster of grapes," to the likeness of which a mass of these creatures very nearly approaches. It would well repay the curious observer to secure a bunch of these strange Molluscs, and after placing it in a vessel of sea-water to subject it to a minute and careful examination. In this examination, however, the naked eye will not be sufficient to assist him, he must call in the aid of a rather powerful microscope, when he will plainly perceive that that which appeared to be simply a mass of coloured jelly is in reality a cluster of many individual animals, each one possessing an independent and remarkable organisation; and torpid, motionless, lifeless as they appear to the naked eye, he will remark an energetic system of vitality carried on chiefly by the absorption and expulsion of the surrounding water, which double action, if

the creatures be disturbed, is increased to a considerable degree of violence. This arrangement is contrived so as not only to answer the purposes of respiration, but that it may serve also as the means of propelling into the stomach of the Ascidian such minute particles of food as the necessities of the creatures may require. The internal structure of these little Molluscs is as perfect as it is curious; but the scope of our work does not permit us to examine it in detail, it is sufficient to say that it is surpassed by but very few of the inferior forms of animal life.

**APLIDIUM FICUS** (*The Sea Fig*).—This Ascidian has received its somewhat singular appellation from the resemblance it bears to a fig when cut open. The name was, doubtless, originally given to it by the fishermen to whom it was a common object, and who ordinarily give a sufficiently expressive title to such creatures as come under their notice, being directed in their nomenclature by the likeness which they perceive in the animal named to some object familiar to their everyday experience.

The *Sea Fig* is of a fleshy substance and of a dusky olive colour when divided and examined, which must be done with the co-operation of a microscope. It is found to contain a large quantity of little yellowish bags or eggs, somewhat resembling in mass the interior of a fig. These bags are filled with a thick transparent liquid which emits a very offensive odour.

**SEPTOCLINUM MACULOSUM**.—This Ascidian is common to most parts of our coast, and occurs plentifully at the roots of *Laminaria*, in Belfast Bay, and the north of Ireland generally. It may be easily recognised by its thin, hard, leathery crust, which is variegated with white and blue. The substance of which the crust consists is composed of needle-like crystals.

**BOTRYLLES**.—This compound Ascidian is very common on stones and seaweeds near low-water mark all round the British islands. It is thus described by Messrs. Forbes and Hanley:—"Mass, a thick, gelatinous, semi-transparent, glaucous crust, with yellow marginal tubes. Systems numerous, composed of from ten to twenty or more individuals. Yellowish and reddish. Branchial aperture white, surrounded by a circle of broad ferruginous spots, a red spot on the centre of each individual. Mass often measuring several inches across; individuals one-twentieth of an inch in diameter."

There is also the *Botryllus violaceus*, the tunic of which is of deep blue; and the *Botryllus smaragdus*, where it is a deep green; both these are common on the coast of Cornwall. There is a third, again, very common at Falmouth, which has an intensely red integument.

**SOCIAL ASCIDIANS**.—These are intermediate forms between the compound and simple Ascidians. The Social Ascidians are individuals and groups connected by creeping root-like prolongations. The Ascidians arising from these have long, erect, and more or less stalk-supported bodies. The branchial and anal orifices are destitute of rays. The exterior tunic is smooth and transparent, and the thorax generally marked with coloured lines.

**CLAVELINA LEPADIFORMIS**.—This creature is abundant in many places, on rocks and stones at low water. It is most common, however, on the west coast of Scotland. Mr. Alder says, "It is very generally diffused. I have met with it on the Devonshire, Cornish, and Northumberland coasts, and in Lamah, Rothesay, and Oban bays, in Scotland." It is thus described by Messrs. Forbes & Hanley. The thorax forms one-third part of the length of the adult individual, and is marked with yellow lines. The stomach is of a bright orange, placed near the middle of the abdominal portion of the animal, part of the intestine being of the same colour. Its usual length is from one-half to three-fourths of an inch.—W.

(To be continued.)

## EXTRACTS FROM A TOO-MUCH NEGLECTED BOOK.

**A VETERAN IN THE WILD WOODS**.—October 10.—Mild. Showery morning, bright afternoon. Pleasant walk on the lake road. The Pines are clear green again, having cast their rusty leaves. A few cones also are dropping, but many hang on the trees through the winter.

A few years since, those who followed this road, along the lake shore, frequently met an old man coming and going in this direction, whose venerable appearance would probably have attracted a stranger's attention. His head was white with the honours of fourscore and upwards, yet his tall, slender figure was

erect and active, showing few marks of age; and his face was remarkable for a kindly, benevolent expression, a bright, healthy eye, and ruddy complexion.

This old man led a singular life, partaking of the retirement and simplicity of that of a hermit with the active benevolence of a different class of men. With children living in the village, and calling the house of a daughter his home, he loved the quiet solitude of the fields; and, unwilling to be idle so long as he had strength to work, the good old man applied to the owner of the land in this direction for a spot to till; his request was complied with, and he chose a little patch within a short walk of the village. Early in the morning, before sunrise, he would go out into the woods, frequently remaining out the whole day, only bending his steps homeward towards evening.

Often he might be seen at work with his spade or his hoe, about the little field which he was the first man to till; he made a fence of the decayed logs lying about, collected the rubbish and brushwood and burned it, then ploughed and planted Maize and Potatoes. Often, when missed from his field, he has been found sitting among the bushes reading his Bible or his hymn-book, or kneeling in prayer. On the hill side, at no great distance from his little clearing, there is a shallow cave, well known in the neighbourhood, and many a summer morning before the village bell has rung for sunrise, the good old man has been kneeling there in earnest prayer for the people of the sleeping town at his feet. Much of his time was passed in prayer, in reading the Holy Scriptures, and singing pious hymns with his pleasant old voice.

He always had a smiling, friendly greeting for his acquaintances, and expressed a very warm interest in the children and grandchildren of those he had known in earlier days; he never met a young person of his acquaintance without some solemn words of good advice, and a blessing given with earnest sincerity. Occasionally he would visit his different friends in the village; and although his object was generally of a charitable or religious nature, yet he loved to talk of past times with those whose memories went back to the first years of the little colony. He had been a miller by trade, and came into the county at an early day, and, of course, knew much of the history of this rural community. But he had also other recollections of a more ambitious nature; for he had begun life as a soldier during the troubles of the Revolution, having belonged to the "Jersey line;" and it was with some latent pride that he would relate how he had, more than once, stood sentinel before the tent of General Washington, and seen "His Excellency" go in and out. His recollection of the battle of Long Island, and the celebrated retreat across the East River, was particularly good; his old cheek would flush, and his mild eye grow brighter, as he told the incidents of that day and night; while the listener must needs smile to see the young soldier thus getting the better of the peaceful old solitary.

His activity was unusual for such advanced years: a great walker, he never used horse or wagon if he could help it; and at the age of eighty-two he walked forty miles in one day, to visit a friend in the next county. He ate only the simplest food, and never drank anything but water, or a bowl of milk now and then; and this temperance, added to regular exercise and light labour in the fields, with a mind at peace, were no doubt the cause of the good health and activity he enjoyed so late in life. This excellent man was a striking example of what the Holy Scriptures alone may do for the honest, simple heart, who endeavours faithfully to carry out the two great commandments—loving our Maker with all the heart, and doing unto others as we would have others do to us.

Full of simple piety and benevolence, temperate, frugal, and industrious, single-minded, and upright in word and deed, his conduct in all these respects was such as to command the respect and veneration of those who knew him. It was like a blessing to meet so good a man in one's daily walks. Such an instance of honourable integrity and simple piety was a strong encouragement to perseverance in duty, among the many examples of a very opposite character—examples of weakness, folly, and sin, which hourly crossed one's path.

Not long since, during the cold weather in winter, the village heard with regret that their venerable old neighbour had fallen on the ice, and broken a leg; from that time he has been compelled to give up his field labours, having become quite infirm. Bowed down with age and debility, his mind often wanders; but on the subject nearest his heart he is still himself. He may be seen occasionally, of a pleasant day, sitting alone in the lane

near his daughter's door, scarcely heeding what passes before him; his eyes closed, his hands clasped, and his lips moving in prayer. If one stops to offer him a respectful greeting, he shakes his head, acknowledging that memory fails him, but he still bestows a blessing with his feeble voice and dim eye—"God bless you, my friend, whoever you be!"

The little patch of ground enclosed by logs, just within the edge of the wood, and the frequent turning-point in our walks, was the good man's clearing. It now lies waste and deserted. A solitary Sweet Briar has sprung up lately by the roadside before the rude fence. This delightful shrub is well known to be a stranger in the forest, never appearing until the soil has been broken by the plough; and it seems to have sprung up just here expressly to mark the good man's tillage. Tall Mullein stalks, Thistles, and weeds, fill the place where the old husbandman gathered his little crop of Maize and Potatoes; every season the traces of tillage become more and more faint in the little field; a portion of the log fence has fallen, and this summer the Fern has gained rapidly upon the Mulleins and Thistles. The silent spirit of the woods seems creeping over the spot again.—(*Miss Cooper's Journal of a Naturalist in the United States.*)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

*Broccoli*, where there has not been sufficient planted, large plants may yet be put out with success; to be laid-in with a spade in a slanting direction. Earth-up the advancing crops. *Cardoons*, earth-up for blanching in favourable weather. *Celery*, the crops that have not yet been earthed to be abundantly supplied with water. *Endive*, continue to blanch, and plant-out from successional sowings. *Lettuce*, another sowing of the various sorts may be made. It is always better to have a superfluity in the spring than a deficiency. *Mushrooms*, beds may now be made either in sheds or in the open air. *Parsley*, thin the summer sowing while in a young state; the plants will have time to gain strength to stand the winter. A portion of the spring sowing to be cut down.

### FLOWER GARDEN.

The propagation of half-hardy plants should still be carried on as directed last month until all be completed. See that there is an abundant supply of everything for next year's operations. Root a good stock of *Maurandias*, *Lophospermums*, Ivy-leaved *Geraniums*, and other climbers that add so much to the beauty of the pleasure grounds; also *Salvias*, *Lobelias*, *Ageratum*s, *Campanulas*, &c. Continue to plant-out *Pinks* as they strike root. Besides keeping every part of this department in the neatest order, the propagation of the stock for supplying next season's demand will engross all the time and attention that can be spared. In all cases the number of plants which it will be necessary to provide should be noted down, allowing a wide margin for losses, &c. The early-struck cuttings to be potted-off, placed in a frame, and shaded, and after they become established to be placed out of doors in an open situation. No delay should now be made in the propagation of the more delicate bedding *Geraniums*; for if they have not sufficient time to well fill their pots with roots before winter, many will be lost. Attention should also be given to the amount of accommodation for them during the winter, which, whether in the shape of frames, pits, or larger structures should be got in readiness for their reception before bad weather sets in.

### FRUIT GARDEN.

Apples and Pears require constant attention now. Gather the various sorts as they ripen, and let the operation be performed with as much gentleness as possible; for wherever an Apple or Pear is bruised, it lays the foundation of premature decay. Peaches and Nectarines to be looked over daily and gathered as they ripen, as a fall, even when nets are suspended to receive them, is fatal to their flavour and appearance if they have to be kept a day.

### STOVE.

Plenty of atmospheric moisture and plenty of air are still the essentials, increasing the air and inuring them to more sunlight as the wood progresses to maturity; shading will, therefore, be dispensed with, except during very bright sunshine in the middle of the day. Continue to pay every attention to such useful plants as *Allamandas*, *Stephanotis*, *Dipladenias*, *Echites*, *Eu-*

*phorbias*, *Luculias*, &c. Shift on a good stock of *Gesnera zebra*; it delights in equal parts of good fibrous loam, heath soil, and leaf mould. If the plants are then placed for a time in a gentle bottom heat, shaded from bright sun, and syringed occasionally, they will make beautiful growth.

### GREENHOUSE AND CONSERVATORY.

Any of the inmates of these structures which have not been placed out of doors would still be much benefited by being out even for a fortnight or three weeks. If drenching rains should occur, any plants likely to suffer damage should be taken in-doors again. Where *Camellias*, Chinese *Azaleas*, and the hybrid Indian *Rhododendrons* were not potted in the spring and require shifting, the present is the most favourable time, as the young wood is now getting somewhat firm and the flower-buds are perceptible. As these plants require a liberal supply of water during their season of growth drain the pots well, and use very turfy peat and sand, adding an equal portion of fibrous loam for the *Camellias*. Pay attention to *Chrysanthemums*; they must not be stopped later than this to have fine heads of bloom. Climbers will always require attention to keep the shoots in their proper places. Take care in training that the parts of the trellis or stakes nearest the bottom do not get bare of flowering shoots, as the beauty of these depends upon being clothed with foliage and flowers from the rim of the pot upwards. Pot-off seedling *Cinerarias*, Chinese *Primroses*, and herbaceous *Calceolarias* into small pots, and keep them close in a frame for a few days, and when established to be exposed to the autumn dews, which are of great service to all young stock in a healthy condition.

W. KEANE.

## DOINGS OF THE LAST WEEK.

MUCH the same as the week previously; in fact, the work of the one resembled the other as much as two peas lying close together in the same peacod. In the kitchen garden, clearing, hoeing, and forking, were the order of the day, and watering fresh-planted vegetables. The week since the 20th has been the most beautiful and sunny of the season, and gave a chance for settling a host of the weeds that the heavy rains had encouraged. Tied-up herbs for drying, early Onions in bunches, &c.

### FRUIT GARDEN.

Proceeded as last week with Strawberries, fruit trees, &c., cutting down the used-up canes of Raspberries, and thinning and shortening the wood of Currants and Gooseberries, from which the fruit had been gathered. Find it necessary to keep what remains under netting and bunting, to keep birds and wasps out. The latter threaten to be troublesome with Peaches, &c., and where no other protection can be given must resort to traps and other devices to entice the marauders. Every damaged or decayed fruit is useful as a decoy, as they seldom go to a fresh fruit when they get a broken or injured one. Will be obliged to gather Morello Cherries from the wall to save them from such devourers. As yet we have been able to discover no nests. This plague is just one of those incentives to activity that keep us gardeners always alive and active.

### ORNAMENTAL GARDENING.

Moved plants, fresh-potted *Cinerarias*, and should have been deep in the mysteries of propagation but for noticing that from the heavy rains we required to go over all the flower-beds again, to remove yellow leaves and fading flowers, and now the trusses of bloom are as good as the plants presented before the drenching rains. It is no trifle to get a large lawn and a great many beds all in good order up to a certain day, and to do this many things must be neglected. The most we have done in the way of preparation is to get some fresh sandy loamy soil from the sides of the highway; and some days before our readers peruse this, we shall have some thousands of cuttings in, going a-head with almost everything, except *Calceolarias*, which we shall leave to the last. That new beginners may go along with us, we will mention what we deem most important to success at this season. First, Fresh sandy soil with little or no manurial matter of any kind; the roughest to be placed at the bottom of the pots or boxes. Secondly, A sprinkling of sand on the surface to prevent the air getting too freely into the soil. Thirdly, Watering the cuttings when inserted, and never allowing them to flag afterwards; keeping close or shading all that will not stand the sun during the day. Fourthly, Preventing damping and mere elongation upwards, by less or more air according to circum-

stances, from the time the sun leaves them on an afternoon until it reaches them next morning. Fifthly, Frequent skills from the syringe just to damp the foliage, if that will prevent the necessity of shading. And, lastly, At present using no bottom heat or artificial heat whatever, for the generality of bedding plants, as though thus they take longer to strike, the plants are more hardy and stubby afterwards from being struck in cold pits or frames alone. It is too late now to strike the generality of Geraniums even out of doors; at any rate they will be none the worse of the protection of glass. The more succulent Scarlets will do well enough out of doors in the first fortnight of September. Ran a small Dutch hoe round the outside of flower-beds to prevent cracking, as there is little more than the outside exposed now.—R. F.

### TRADE CATALOGUES RECEIVED.

Select List of Hyacinths, Gladioli, and other Bulbs for 1862, by *William Paul, Waltham Cross, N.*  
A Catalogue of Bulbous Flower Roots and Tulips, by *C. Turner, Royal Nurseries, Slough.*

### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

FLOWER GARDEN (*A Constant Subscriber*).—There is no fault to be found with the flower garden if it suits the place and pleases you. One side consists of a group of circle in centre and four oblong beds round it (the space between the circles and beds being as wide as the width of the latter beds, which will give relief), and a long S-shaped bed. The other side consists of two groups each with a circle in the centre and eight clumps round it, four of these being circles, and four rounded four-sided figures. Nothing is told us of the size of these clumps. Two ideas strike us:—first, the size of the paths between the outer row of figures is too small; and if the figures are not large the planting will be too crowded. No simpler combination could be adopted; but with the exception of the S figure there is no attempt at the artistic. We can hardly make out the pencil writing on the tissue paper; but so far as we do so, we can find no fault with the individual clumps if training is well attended to. As far as we can see, the aim is to have every clump distinct in itself, whilst in such groups we would prefer a centre and the beds being balanced in pairs. This is not attempted at all, nor is regard seemingly paid to height and size. For instance: In one group of G the centre bed is edged with Cerastium, the higher bed opposite with Cineraria maritima, and the lower opposite with Centaurea, thus giving in a line three beds with white edgings. Besides this, the bed on one side of the one edged with Cineraria is to be filled with Verbena Mrs. Halford, also white, without any other white bed to balance it. So much for balancing. Many who aim at so much variety get confusion. Then as to size. We find in the centre clump rings of Baron Hagel, followed outside by Mangiesi and Campanula, which will be apt to smother it if not kept well down. We also find variegated Arabis as near the centre, with plants outside that will overtop it unless well kept down. It is important to avoid much of the pegging and clipping if possible. This has been a trying reason in this respect. In "Doings of the Last Week" it would be seen that "R. F." had been disappointed in the growth of some things. In relation to Putteridge Gardens we may state that the last day in which they were open to the public was Wednesday the 27th ult. At other times no admission is given without application to the gardener. On the north side Hitchen is the nearest station, 6½ miles; on the south, Luton, 3½ miles, per Great Northern by Hatfield. By North Western from Leighton to Luton.

WENTWORTH GARDENS (*A Gardener and Subscriber*).—No such place in Surrey as far as we know.

LOBELIA (*H. H. T.*).—White varieties of blue Lobelias have not been rare; but a really good one has not yet been out. The beautiful new one at the Crystal Palace, called Paxtoniana, is as much a white as it is a blue, and the fellow to it, called Gordoniana, is a particularly good white one with a little blue. Both these will be out next spring. A good white one has been sent to us from a gardener in the country, but the smoke round London would not allow us to judge it fairly, so we sent it down to Mr. Beaton, and we are daily in expectation of hearing from him about it. That is all that is on the card just now about white Lobelias. You ought to save yours and not work it too hard for cuttings in the spring, and try it against the rival white. We have seen these at the Crystal Palace and they are really an acquitition.

BOOKS (*O. R. J.*).—The book on training is published, and we think the price is 6s.

CARNATION SEEDS (*Christine*).—"Inoculation" is the grand secret for getting double Carnations. If you got the right thing to "inoculate" with. We should like to be in the secret. As to the "advantage" of sowing the seeds as soon as they are ripe, there is no secret; it is and has been of the utmost advantage ever since the flood, when the span of life was cut down to threescore years and ten. No man now, and much less a woman, can lose a single day in sowing experimental seeds like your inoculated Carnations. Sow them in pots quite thinly, and only just round the sides of the pot, and then they will not lose an hour, for they will not want transplanting or re-potting at all; then in April turn out the ball on the bench and make a slit in it on the top side the whole length of it; next take one side of the cut in each hand, and open the ball out into a flat network of roots, and put it on a board, and take the board to an open trench, and the transplanting is done without ever touching a leaf from first to last. This is our secret for gaining on old time.

POLYANTHUSES (*Annetta*).—The luxuriance of "ANNETTA" seedling Polyanthuses is a sure sign of her own luxuriance in garden experience; some cannot keep a leaf alive on their seedling Polyanthuses in June, July, and August. But to keep them as "ANNETTA" keeps them is just the way to give them the disposition she aims at—a disposition to bloom, which they have not shown yet. But every one of them will bloom next April if they are done exactly as they have been hitherto, and then what a quantity of new flowers and strange faces you will have.

PROPAGATING RHOPALAS (*Medicus*).—The best answer is this. When a party has to ask how such difficult things are to be effected, to tell him or her in plain words that he will not succeed in the first six trials; but if "MEDICUS" can get cuttings of M. de Jonghe's Rhopala, and of the one named after the great mountain Corcovado, on the north-west of the town of Rio Janeiro, he will very probably succeed in the seventh trial—seven being a lucky number. First, he must visit some one of the great London nurseries, and see the propagating department, for that kind of knowledge cannot be taught by books; secondly, imitate the ways of such London firms to the very letter, then almost any half-ripe joint of these Rhopalas will root at the seventh hit as sure as a Rose-cutting of Manetti.

BEE PLANT (*A. H.*).—Your plant is Centaurea nigra. Bees gather both honey and pollen from it.

GRAPES CRACKING (*A. K.*).—It is a peculiarity of the variety, unless the Vines are grown in a shallow border, and kept moderately dry at root when the fruit is ripening.

FERNS (*Patelin*).—The Ferns might live, but it is not a good place for them. Try the commonest and freest-growing sorts you can get—such as Nephrodium molle, Pteris serrulata, &c. Why not put in a layer of soil and plant it over with Lycopodium denticulatum, which would grow and look green and neat?

NAMES OF PLANTS (*Patelin*).—1, Polystichum angulare; 2, Athyrium filix-femina; 3, Lastrea filix-mas; 4, Blechnum spicant; 5, Adiantum setosum. (*B. B. T.*).—Stachys lanata. The sport of variegated Alyssum is not uncommon, and it will not maintain that colour. (*C. T.*).—1, Polygonum amphibium; 2, Ceanothus fistulosa; 3, Pteris aquilina; 4, Artemisia vulgaris. (*J. D.*).—1, Bartsia odontitis; 2, Origanum vulgare; 3, Aster trifolium; 4, Tanacetum vulgare. (*F. H. A.*).—1, Tropaeolum speciosum; 2, Tropaeolum pentaphyllum. They are increased by cuttings, or occasionally by seeds.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

SEPTEMBER 2nd. POCKLINGTON, Yorkshire. *Sec.*, Mr. T. Grant. Entries close August 26th.  
SEPTEMBER 3th. WAKEFIELD and WEST RIDING. *Sec.*, Mr. J. Crosland, jun., Entries close August 23rd.  
SEPTEMBER 9th. WORSLEY and ARMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.  
SEPTEMBER 10th and 11th. MANCHESTER and LIVERPOOL. *Sec.*, Mr. T. B. Ryder, Church Street, Liverpool. Entries close August 11th.  
SEPTEMBER 25th. STAFFORDSHIRE. *Sec.*, Mr. W. Tomkinson, Newcastl. Entries close August 25th.  
SEPTEMBER 25th. MIDDLETON. *Sec.*, Mr. T. Mills. Entries close September 10th.  
OCTOBER 28th and 29th. CALNE. *Secs.*, A. Heath and F. Bailey. Entries close October 15th.  
DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 13, Temple Street, Birmingham.

### CRYSTAL PALACE POULTRY SHOW.

HUMAN nature is an odd thing. Man has been called a reasoning biped. Buffon says truly he is the only animal in creation that walks upright, and that his God-like gift of reason places him at the head of all beings. Others complain that he is crooked, and made up of angles and sharp corners that have to be rubbed off or down before he is half so approachable as he should be. There is a real superiority that raises its possessor, makes him indulgent to those who know less than himself, or do not agree with him. This would induce him to forward the enjoyment of others in the same spirit that a very learned man, a parent, will, like Henry IV. of France, crawl on all fours to be his children's horse, or patiently toil at the construction of a pyramid of cards. Others, superior men also, believe their pursuit alone to be worth notice, and affect a feeling between pity and contempt for those who are content with humbler things. This is well described in the humorous piece of "Sir J. Banks and the Butterfly." The great man visiting at hi

friend's house can hear nothing but the praise of tulips; he is taken to see them in the morning; he hears their names, their value, and their peculiar merits. He is perfectly satisfied his friend is mad, and wishes him and his tulips at the bottom of the sea. But a butterfly passes. "An Emperor! by Jove," says Sir Joseph, and rushes in pursuit, overturning and trampling all the flowering treasures. "Mad," says his friend, "to tread down my tulips in pursuit of a trumpery butterfly."

We are led to make these remarks from the fact that in some quarters the poultry pursuit has been disparagingly spoken of in connection with this Show. Those who do so are generally utterly ignorant of it, and require elasticity in their sympathies. The poultry fancy is inherent in some people, however high their rank may be, and they carry it out. In others of the humbler class a few fowls, or a few Pigeons, or Rabbits are the only objects within reach of their means or their accommodation. In them is centred the natural desire to be the owner and breeder of stock. Many of those who turn up their noses at beautiful specimens of animated nature cannot contain their joy at the acquisition of a spotless teapot of undoubted antiquity. They will resort to all sorts of shifts and contrivances to "pick up" a cracked cup and saucer, and are in ecstasies at the unrolling of a mummy. Many a young man spends days in blackening a pipe. We might continue for hours, but it would not help us. We only want to show that all have their hobbies. We may if we like laugh good-humouredly at any of them, and we grant them the same privilege.

"Or, puisque chacun a les siens,  
Nous avons tous les notres.  
A votre trésorier les miens,  
Et je rirai des vôtres."

As it has been notoriously a bad season for poultry-breeding we were not prepared for large entries, not so large as we found. We have not only had trying weather, but we have had new diseases. We have had such a demand for poultry for the table, and owing to its scarcity it has been dear; the temptation to sell it has been so great that promising early chickens died because "the bird in the hand is worth two in the bush." For these causes we looked with interest to the Crystal Palace Show, to show us what we might expect during the autumn. We will give the result of our expectation in our review of the classes.

Mr. Rodbard's *Spanish* pens were very good ones, and Mr. Lane's young cock deserves notice. Some young cocks had the sprigs of their combs removed so clumsily it would have been better had they remained.

All the classes of *Dorking* were beautiful, and no plea of weather, season, or disease was necessary. Given all things in their favour, they could not be better. The Hon. W. Vernon's was a beautiful pen, the pullets rather better than the cock. It would also be unfair not to mention Messrs. Frest and Tudman, and Sir J. Paxton. Mr. Wakefield's Pullets in Class 5 were perfect; the same may be said of those exhibited by Miss Milne, and of the Whites shown by the Rev. G. F. Hodson and Mr. Lingwood.

The class for *Single Cocks* was a noble one. We must point out two things which interfered in some instances with success, and will interfere if it is not guarded against—the first is swelled toes, and the second the growth of the spur on the outside instead of the inside of the leg, both these will cause failure where the competition is close.

The Buff *Cochins* were excellent, and the prize birds among the best we ever saw in the month of August; we would especially mention those belonging to Mr. Kelleway, with respect to which we have not a fault or shortcoming to remark upon. The Whites were not very good. The Grouse were excellent, but they show better when older. It was a hard run between Messrs. Tudman, Cartwright, and Musgrove.

The *Cochin Cocks* were weak. It is well to remind exhibitors that crooked or falling combs are fatal to success in these classes.

The *Brahmas* were very good.

Among the *Game* fowl there is always a larger entry of White and Piles at the Crystal Palace than elsewhere. The present was no exception, and the prize birds, especially those of Messrs. Crofts and Ewen, deserve especial commendation. The next class of Black Reds was equally good. Mr. Fletcher distanced all others, although eight pens were mentioned in the prize sheet, and he was distanced in Class 16 by Mr. Archer, who showed a pen of exquisite birds, achieving an easy victory in a highly meritorious class. Mr. Vernon's Duckwings were very good; they deserved their first prize. This gentleman was successful in the *Single*

*Cock* class; he was here hard run by Mr. Fletcher, who took second and third.

We now come to that which we believe to be the best show of the breed ever seen at this season of the year. There were twenty-four entries of Golden-pencilled *Hamburgh* chickens, many of them perfect; Mr. Nuttall performed no mean exploit in taking first and second prizes. Many of the pullets were perfectly marvellous in their markings, every feather in the tail being as well pencilled as a body-feather. We can say little for the Silver-pencilled; there is nothing to remind us of Mr. Archer's days in this class. Messrs. Locke and Munn showed good *Hamburgh Cocks*. All the Spangled were good; but, reversing the order of things, the Silver were better than the Golden. Messrs. Brooke and Collinge deserve special notice.

The *Polands* were not numerous. Mr. Ray showed an excellent pen of Blacks, Mr. Beldon a very good pen of Golden. By far the strongest class were the Silvers, and our old exhibitor, Mr. Adkins, was successful in taking prizes both for pens, and also for the best bird in the *Single Cock* class.

It is enough to say the *Mulays* were excellent.

The "Various class" was very strong. Mr. Wakefield headed it with the best pen of Crève Cœur chickens we have seen. The Silkie were excellent, and the Black *Hamburghs* sufficiently numerous to be judged as a class.

Mr. H. D. Bayly took nearly half the prizes offered for the different breeds of *Bantams*. The Game formed a very good and numerous exhibition. Eight pens were in the prize sheet, and Mr. Kelleway well deserved his second prize. In the *Bantam Cocks* Messrs. Lenox and Locke were successful.

Mrs. Seamons' first-prize pen of *Ducks* weighed 22 lbs., her second 19 lbs. Mr. Fowler took all the prizes for *Rouens*; but even he has not succeeded in getting these to large weights. The feather is now understood, and we hope the weight will be accomplished. The Blacks or *Buenos Ayrean Ducks* proved this class to be a success; eight pens figured in the list.

Mrs. Seamons' first-prize *White Geese* weighed 47½ lbs., Mr. Manfield's second, 40½ lbs.; Mr. Fowler's first-prize *Greys*, 48½ lbs.

Three first-prize *Turkey* poults weighed 29½ lbs., the second 23 lbs.

The "Various classes" showed *Sebastopol*, *Egyptian*, and *Chinese Geese*.

The *Pheasants*, *Calege*, *Bohemian*, *Chinese*, *Gold*, *Silver*, and *Pied*.

It was a most successful Show, and, as usual, well managed in all respects by Mr. Houghton. The sales were numerous, and there was one singular event—the whole of the pullet class of *Dorkings* was sold on the first day. It was matter of general regret that the numerous entries of a French exhibitor arrived too late for competition.

Mr. Hewitt and Mr. Baily were the Judges.

## PIGEONS.

THE Pigeons at the Crystal Palace Show numbered rather less than two hundred pens, divided amongst twenty-nine classes.

The *Pouters* as usual headed the list, and were exhibited in two classes—namely, single cocks of any colour and single hens. The first prize for cocks was awarded to a very fine Blue of Mr. Fulton's; the Mealy cock of Mr. Evans' that took first here on a previous occasion being second. Mr. Rake's Red Pied that won the third was a very promising young bird, long-limbed and clean-thighed. In hens Mr. Rake won with a magnificent Blue hen, Mr. Fulton being second, and Mr. Evans third with a Yellow Pied. As an example of the chances of the exhibitions, we may state that a very long-feathered, slender, and long-limbed Mealy hen of Mr. Evans', that won here last year, was not even honoured by a commendation on this occasion.

The *Carriers* were about as poor a class as was ever seen at a large show. In the cocks, Major Hassard's third-prize Dun was a very fair bird. The second prize was awarded to a mean-looking broad-skulled animal that was scarcely worth thirty pence, and was only priced at so many shillings, at which sum it found an unfortunate purchaser. As *Carriers* good enough to win at a large show realize readily from £10 to £15, the value of the character of the bird in question may be imagined from the price.

From the general condemnation of the *Carrier* classes, we must except that for Dun and Black hens. Mr. Corker's first and second prize hens were magnificent in head, beak, and eye.

The carriage of the second-prize bird was much the best, and though not so stout some judges would have transposed their position. Mr. Rake's two hens were also very good.

*Dragons* are always an uncertain class, varying from the sheary character of the Skinnum to the heavy style of a half-bred Carrier. No two fanciers exactly agree as to what constitutes their points of excellence, and, consequently, the decisions are ever varying. The present awards were to rather heavy birds, wanting in that racehorse-looking style we ourselves admire; and the hooked beak of the Yellow prize cock was still less to our taste.

In Almond *Tumblers*, Mr. Corker won with the birds that we have remarked upon before, as owing much to nature and a little to the early training of their wonderful heads and beaks. The same exhibitor also took the first prize in *Mottles*, with a very good pair of *Blacks*.

The best pair of *Beards* in the class, belonging to Mr. Esquilant, were disqualified from a snip in the wing having been used to mark one of them. If such a rule is enforced it should be rigidly carried out on all alike. Mr. Esquilant has some ground of complaint at losing his prize, when the prize *Powter* cock had both his wings cut; and Mr. Baker's *Brouzewings* that took a prize in the "Variety class," had marks tied around their legs.

The *Owls* were a splendid collection; the Blue cock in Mr. Rake's prize pen being the best for shortness of beak and roundness of head that we have seen for years. The little White and Black African birds were also very excellent—in fact, this class of little Toy Owls is rapidly superseding the older larger variety; but no Bluea have yet been imported.

*Nuns* were good. In this class was shown a very good pair of White-barred *Black Priests*.

*Turbits* were also good; the first-prize Reds were sold directly at £3 10s. The round owl-like head of the third-prize Yellow hen wanted altogether the frog-like appearance so characteristic of the class. The *Fantails* were good. *Barbs*, as a whole, very poor. *Maggies* numerous and good. *Trumpeters* showed a sad falling-off, both in Whites and *Mottles*. Mr. Morris's self-coloured *Blacks* were singular, and also good. *Runts* were about as usual.

The "Variety class" was numerous, and very interesting. The first prize was awarded to the same Silvered Chequered birds that won at Sheffield last month; the second to Blue *Priests*; the third to Australian *Bronzewings*, a very tame and good-plumaged pair; and the fourth to a pair of Australian *Wonga-Wonga Pigeons*. It would be interesting to know if these have bred or ever laid, as the Acclimatisation Society have them down on their list of *desiderata*. Several birds from Mr. Charles Bocquet, a Parisian dealer, arrived too late for competition, amongst which may be mentioned two pairs of small *Owls*, under the title of *Cravates de Smyrne*, and a huge pair of Roman *Runts* entitled *Romains Figres*, very tall, heavy, and scanderon-like.

Considering the time of the year (the worst that could be selected, as every bird, old and young, is in moult), the Show was very good. Mr. Harrison Weir's first appearance at the Crystal Palace in the character of Judge was satisfactory to all who value the opinion of an enthusiastic fancier, whose practised artistic eye enables him to detect alike beauties and blemishes that would be overlooked by an ordinary observer.

## SELLING CATALOGUES BEFORE THE AWARDS OF THE JUDGES ARE MADE.

I was at Driffell Show a month ago, and walked up with the Judge, whom I met after leaving the station, and they were examining the catalogues in the street. The Judge might buy one if he chose, and know the name and number of every exhibitor, and he might as well be set to judge by catalogue at once. I do not care for my part, because I give our judges, generally, credit for honesty as well as integrity in their decisions, and make some allowance for the hurry of the moment—the difficulty sometimes of judging twelve to twenty pens of birds of the same kind, where a very small trifle, perhaps, makes the difference between first and highly commended. But then, we must confess it, however loth to do so, the little weakness of our nature may lead us astray, and our judges are but men, and if six had the same work to do there would be three or four different decisions, perhaps. Many people stumble at these things, and perhaps a

word or two from you condemning the practice (unless approve of it) will put it right.—J. R. JESSOP.

[The practice is decidedly wrong, and should be at once put a stop to.—EDS.]

## COTTINGHAM POULTRY SHOW.

THE annual Exhibition of Poultry, Pigeons, and Rabbits, was held at Cottingham, on the 27th August. About two hundred pens were entered, and in many of the classes there were specimens of great merit. The Show is only for Chickens of 1862, except in the classes for Single Cocks, Pigeons, Guinea and Pea Fowls.

The *Spanish* class was represented by some fair birds. In *Dorkings* there was some rather close competition, all the birds entered receiving prizes or high commendations. In the class for *Dorking Cocks*, the prize went to a fine bird from Capt. Hornby's yard; and two others were highly commended. The *Cochin-China* classes had some beautiful Whites, and some fair Buffs, but they, as a class, were hardly of average merit. In the *Game* classes, Mr. Adams as usual brought out some good birds, but he had to be content with a first and third position, as there was more competition in this class than in any other in the Show. Among *Polands* there was nothing calling for remark, most of them being Silvers. There were some really good specimens among the Golden *Hamburghs*, and some capital cocks, as may be inferred from the fact of two extra prizes being awarded in the Spangled Cock class. There were some good pens also among the Silvers. We thought the Laced *Bantams* inferior; but there were some nice *Game Bantams*, and some good Whites. The Extra Stock class for "Any other distinct variety," was composed of *Brahmas*, *Black Hamburghs*, and *Malays*. There were some good-sized and good-looking useful birds among the farmyard crosses. The best, to our fancy seemed to be a cross between *Game* and *Hamburghs*.

Only one pen of *Pea Fowl* and two of *Guinea Fowls* put in an appearance on the Show day.

The prizes in *Turkeys* went to some beautiful Whites, and the other two pens were highly commended.

In *Goslings*, Mr. Tate secured first prize with some White Embden. The second going to a pen of Toulouse belonging to Mr. Jessop, only twelve weeks old. The two birds weighing 26 lbs.; and the third to Embden.

There were some good *Aylesbury* and Rouen *Ducklings*, and in the "Any other variety" class there were a pen of *Carolinias*, three pens of *East Indians*, and some cross-bred Ducks. We thought the owners must be under some mistake with regard to the points of *East Indians*, as they looked more likely to compete with *Aylesburys* for size and weight, if, as a lady once said to us, "they could only be painted white."

Among the *Pigeons* there were some very good birds, but *Croppers* were nothing remarkable; and in *Carriers* we should not like to say that one prize pen did not contain two cocks. The first prize in *Trumpeters* went to a pair of *Mottles* with a very good purl; Mr. Key coming second with a good pair of young ones with heavily-feathered feet. The *Jacobins* were very good, and also the *Fantails*; the first-prize birds having very good tails and carriage. The *Tumblers* and *Barbs* were not first-rate; and in *Nuns* there was no competition. In the "Any variety" class the first prize was given to a pair of White *Dragons*, and the second to some Blue *Owls*, about twice as large as we should like them. *Turbits* and *Maggies* made up the class.

There were some good *Rabbits* shown.

The weather was all that could be desired, and there was a good attendance of the neighbouring gentry and others. The arrangements seemed to be very good; and there is only one particular to which we take exception—and that is, that two or three days before the Show a catalogue of the entries was published and sold to any person who was disposed to buy it. We know of another case in the East Riding where the catalogues are sold prior to the Show, and we humbly think the practice of selling catalogues before the Judges have made their awards is bad in principle and likely to cause a little more petty jealousy among exhibitors, of which there is sadly too much already.

SPANISH.—First, J. Holmes, North Cave. Second, H. A. Hudson, York. Third, R. Tate, Driffell. *Single Cock*.—Prize, R. Tate.  
DORKINGS.—First, W. Watson, Bishop Burton. Second, Mrs. Maw, Eppleworth. Third, F. Key, Beverley. Highly Commended, O. A. Young, Driffell; W. Stanton, Cottingham. *Cock*.—Prize, R. M. Stark, II. Highly Commended, Mrs. Maw; O. A. Young.

**COCHIN-CHINA** (Black or White).—First, R. Tate. Second, and Third R. Loft, Woodmansey. *Cock*.—Prize, R. Loft.

**COCHIN-CHINA** (any other variety).—First, R. Tate. Second, E. Witty, Cottingham. Third, Mrs. White, Shearman. *Cock*.—Prize, R. Tate. Highly Commended, E. Witty; T. C. Trotter, Sutton.

**GAME** (Black-breasted and other Reds).—First and Third, H. Adams, Beverley. Second, R. Tate. *Cock*.—Prize, H. Adams. Highly Commended, Mrs. Patrick, Beverley; D. Pickering, Hull.

**GAME** (any other variety).—First, H. Adams. Second, H. Merkin, Driffield. Third, W. Walker, Lockington. *Cock*.—Prize, H. Adams.

**POLANDS**.—First and Second, R. Loft. Third, Mrs. Proctor, Hull. *Cock*.—Prize, R. Loft.

**HAMBURGONS** (Golden-spangled).—First, W. Cannon, Bradford. Second, W. Charter, Driffield. Third, R. Tate. *Cock*.—Prize, J. Murgatroyd, Bishop Burton. Extra Prize, H. A. Hudson and R. Tate. Highly Commended, T. Ross, Cottingham.

**HAMBURGONS** (Golden-pencilled).—First and Third, J. Bilton, Cottingham. Second, R. Voakes, Driffield. *Cock*.—Prize, J. Widdall.

**HAMBURGONS** (Silver-spangled).—First, W. Cannon. Second, S. Campion, Cottingham. Third, W. Johnson, Bishop Burton. *Cock*.—Prize, S. Campion. Highly Commended, R. Tate.

**HAMBURGONS** (Silver-pencilled).—First, J. Falkner, Hammanby. Second, W. Charter. *Cock*.—Prize, R. Tate. Highly Commended, J. Falkner.

**BANTAMS** (Gold or Silver).—First, R. Tate. Second and Third, G. Stephenson. *Cock*.—Prize, W. Charter.

**BANTAMS** (Game).—First and Third, R. Tate. Second, R. Voakes. *Cock*.—Prize, R. Tate. Extra Prize, J. Bilton.

**BANTAMS** (any other variety).—First and Second, Mrs. Foster, Beverley. Third, withheld. *Cock*.—Prize, T. Gawan. Highly Commended, R. Tate; C. S. Brittain.

**EXTRA STOCK**.—First, J. Pares, Leicester (Brahmas). Second and Third, R. Tate (Black Hamburgs and Malays). *Cock*.—Prize, H. Adams (Black Hamburg).

**FARMYARD CROSS**.—First, G. Bromley, Cottingham. Second, R. Loft. Third, Mrs. White. *Cock*.—Prize, Mrs. White. Extra Prize, J. Bilton. Highly Commended, R. Tate.

**PEA FOWLS**.—First, Mrs. Haworth, Hull Bank. Second, no competition.

**GUINEA FOWLS**.—First, H. Merkin. Second, R. Tate.

**TURKEYS**.—First and Second, O. A. Young. Highly Commended, Miss Wallace.

**GEES**.—First, R. Tate. Second, J. R. Jessop, Hull. Third, O. A. Young. Ducks (Aylesbury).—First, R. Tate. Second, O. A. Young. Highly Commended, R. M. Stark.

**DUCKS** (Rouen).—First, R. Tate. Second, O. A. Young. Commended, R. M. Stark.

**DUCKS** (any other variety).—First, J. Kingrose, Cottingham (Carolinas). Second, T. Ellington, Woodmansey. Highly Commended, Miss White; O. A. Young.

**PIGEONS**.—*Croppers*.—First, H. Yardley, Birmingham. Second, T. Ellington. Highly Commended, W. Witty. *Carriers*.—First, T. Ellington.

Second, J. A. Richardson, Hull. Highly Commended, H. Yardley. *Trumpeters*.—First, J. R. Jessop. Second, F. Key. Highly Commended, T. Ross. *Jacobins*.—First, T. Ellington. Second, W. Carlton, Howden.

*Fantails*.—First and Second, T. Ellington. *Tumblers*.—First, J. A. Richardson (Almonds). Second, T. Ellington. Highly Commended, W. A. Summers; H. Yardley; R. Bell. *Barbs*.—First, W. Witty. Second, T. Ellington. *Nuns*.—First, Miss Charter. Second, no competition. *Any Other Variety*.—First, W. A. Summers (White Dragons). Second, R. Moll (Blue Owls). Highly Commended, W. A. Summers, H. Yardley.

**RABBITS**.—First, J. E. Eglington. Second, T. Rousby.

The Judges were Mr. Blyth, of Birmingham, for Poultry; and Mr. Ferguson, of Walkington, for Pigeons.

## BEES DESERTING THEIR HIVES.

THE cause, a very small parasite. The remedy, new hives, floor-boards, &c., and no communication allowed with old hives, houses, &c.—AN OLD WATERLOO PENSIONER.

[This is a novel statement to us. Bees will desert their hives when overpowered by wax-moths, but we know of no minute parasite that will cause them to do so.]

## TRANSFERRING AND UNITING STOCKS— HIVING A SWARM IN A FRAME-HIVE.

BEFORE troubling you with a few more questions, allow me to offer my sincere thanks to the Editors, and their correspondent "A DEVONSHIRE BEE-KEEPER," for the very full reply to my former letter in your number of July 8. The answer was exactly what I wanted, practical and particular, giving just the minutia so necessary to a beginner, though so simple to an old hand. I have already acted on some of the advice given. I have bought indiarubber gloves, but I doubt if they be of the right kind. I fancy they should have been real indiarubber like the tobacco-pouches, but I could only get some covered with an indiarubber coating. Also, when I was in town for the Exhibition, I got a glazed bar-super and a bar-frame-hive at Messrs. Neighbours'. Now, I want to know, 1st, whether I can make use of the latter this autumn, or had I better wait for a swarm in the spring. The bees in my King's box, concerning which I consulted you, were soon after attacked by robbers, and for a day and a half the battle was most fierce; I therefore fumigated,

and found only a very few bees, little honey, and no brood. This box is, therefore, empty. I have now a Neighbour's cottage, a bar-box, and four common straw hives, all very strong in point of numbers. I do not care to keep quite so many stocks, and I wish to get some honey.

Please advise on query 2. Shall I keep my old stock and one other in straw hives, and destroy two new straw in the old way? It strikes me, as this has been such a prolific year, but so bad for honey-gathering, it would not be wise to join two strong stocks with small stores.

Query 3. In hiving a swarm into a bar-frame-box is it necessary or advisable to remove all the frames and insert them when the bees are in? It strikes me they would make it difficult to get a large swarm in.

Query 4. The bees in a common straw hive lately cast out heaps of grubs. I added a super and the destruction ceased. Was this from want of room?—A. W. B.

[We have never been able to obtain gloves made entirely of indiarubber, but use those covered with vulcanised caoutchouc, and manufactured for photographers.

As you appear to have two surplus stocks in straw hives you may transfer one of these at once into your new frame-hive. If the latter is fitted with "compound bar-frames"—i.e., bars which can be detached from their frames, turn to page 149 of our present volume and provide yourself with a reel of binding-wire, a score of zinc clips, and half that number of trough-shaped slips of wood, each 12½ inches long, for the purpose of supporting the combs in the manner therein described. If, on the other hand, yours are simple frames, you will only need the score of zinc clips, and a few slips of wood, each 13½ inches to 14 inches long, five-eighths of an inch wide, and one-sixteenth of an inch thick. These are required to support such combs as are not deep enough to fill the frames from top to bottom, and are to be sprung in between the sides in the form of an arch, the crown of which supports the comb in such a manner as to keep its upper edge in close contact with the underneath side of the top bar. Having provided these little requisites, drive all or nearly all the bees out of their straw hive into an empty one, in the manner described in pages 45 and 46 of "Bee-keeping for the Many;" and, having placed them on their original stand, convey their old domicile in-doors out of the reach of robbers, and there carefully extract all the combs, without breaking, and cut them to fit your frames, in which they must be fastened and supported by means of the zinc clips, &c., and hung one by one in the box as completed. If any be crooked they may be slightly warmed before the fire and set straight; and if any are too thick the projecting parts must be pared down. Having completed the job to the best of your ability, convey the hive to the apiary and put it on the old stand, shifting that containing the bees on one side; then remove the crown-board, and by a smart blow dislodge the cluster of bees from their temporary domicile on the top of the exposed bars. They will "skedaddle" between the combs with as much alacrity as the Yankees did at Bull's Run, or the Federal ironides on the Mississippi at the approach of the Arkansas, so that you will find no difficulty in replacing the crown-board. In forty-eight hours all artificial supports may probably be removed, and if the combs are firmly fixed, a sufficiency of food may then be administered to last the winter.

Do not on any account set your workmen so bad an example as to destroy stocks in the old way. If any one thing relating to bees has been proved beyond cavil, it is the fact that two or more stocks united in the same hive consume scarcely any more food than one of them would do if suffered to winter single. All reliable apirians proclaim this from the time of Jonas de Gelien down to the present day, and amongst them our correspondent "A DEVONSHIRE BEE-KEEPER," whose experiments to prove this fact are detailed in THE COTTAGE GARDENER of the 3rd of May, 1859. The best mode of uniting bees is by driving, as described in the before-mentioned pages of "Bee-keeping for the Many." It is somewhat doubtful if stupefaction by means of fungus is not ultimately quite as fatal as the murderous brimstone-pit.

When placing a swarm in a frame-hive the frames should not be removed; the bees must be hived at first in a common straw skep, and then either knocked out upon a sheet spread on the ground in a shady place close in front of the frame-hive, which should be raised about an inch on wedges, and into which they will speedily enter; or the crown-board may be removed, and the cluster knocked out on the exposed bars, between which they will rapidly disappear, and allow the crown-board to be

replaced. The last-mentioned plan is the one we adopt, whilst the first is recommended by Mr. Langstroth.

The discarded grubs were probably embryo drones; if workers, the loss is much to be deplored, and may probably be traced either to cold or starvation, not want of room.]

### PASTOR DZIERZON AT HOME.

THE following sketch is translated from the "Gartenlaube," an illustrated periodical published at Leipzig, of which 150,000 copies are sold weekly. It is a graphic description of an unpretending country clergyman, who has succeeded in elevating bee-keeping in Germany to an importance which it never before attained, and whose discovery of parthenogenesis in the honey-bee and thorough insight into the hidden mysteries of bee economy proclaim him the worthy successor of the illustrious Huber, and undoubtedly the first apiarian of the age.—A DEVONSHIRE BEE-KEEPER.

#### THE GREATEST BEE-FATHER IN THE WORLD.

WHEN arriving either from the east or from the west at the Brieg station on the Upper Silesian Railway, and there crossing the Oder, we are in the country of the water Poles. Having travelled over poor sandy plains and through dark pine forests about two miles and a half,\* we reach the Polish village of Karlsmarkt. This little village, with its small Catholic parsonage, has been for the last ten years the destination of travellers from all parts of Europe—and even from the new world, for from hence went forth a reform in bee-keeping which has elevated this branch of agricultural science to a height which it never before attained.

Crowded in the parsonage garden are hundreds of bee-hives of different descriptions, some of them being of a perfectly novel form, whilst the air is filled with thousands of humming bees. Walking about amongst them, attired in a simple house-coat and skull-cap is a plain active man, as unconcerned as if surrounded by tree-blossoms only. Bees are resting on his neck and back, his breast and his hands, and even in the sleeves of his coat, but that does not disturb him in the least; he takes them off gently here and there and lets them fly, smiling if his visitors run from the bees, or cry "Ach!" or "Web!" at a bee-sting. Him they scarcely ever sting; and, if they do, he cares no more for it than for the sting of a gnat. His attention is constantly directed to the hives and the flying bees, and if his visitors ask questions, his answers are generally very short. One must know how to ask interesting questions if one wishes him to enter fully into the subject. He who would there profit by his great knowledge of bee-keeping, must first see and observe so as to understand the man himself whose face is full of kindness, and, if somewhat commonplace, not without a certain spirit, whilst his demeanour is modest, almost to shyness unless more than ordinarily interested.

This is Dzierzon, the Pfarrer † (curate, as they call him here) of that place, the name of which has already designated him as belonging to the Polish nationality; one who understands bees as well as if he himself were a bee—who knows how to train them, as it were. What he wishes, they must do; if he wants honey, they must collect honey; if he wants wax, they must make wax; if he wants more bees, they must be busy with the increase of their species. This power over his bees he has obtained by a thorough knowledge of their nature. By means of this knowledge he makes use of their instincts and inclinations, avoids everything which is contrary thereto, defends them from their enemies and from the inclemency of the weather, takes care of them in disease, and, so to speak, makes their life comfortable. It follows from all this that they are able and willing to work for him with all their might, like workmen in a manufactory whose master cares for their welfare like a father. One must have seen Dzierzon watching his little darlings to have a perfect picture of the "bee-father," as he ought to be. Nothing escapes him; whether it be necessary to add to or to alter his hives, or whether shelter from rain or from sun is required. Every tired bee which he sees he takes up carefully and conveys it to its hive. In cold mornings he carries a queue-cage with him, in which he gathers chilled bees from the ground and warms them on his person. His activity in this way is not a little remarkable, as he has other apiaries besides that at Karlsmarkt, all of which he superintends with the same zeal.

\* 2½ German miles are equal to twelve miles English.

† Anglic, parson or minister.

When inspecting them, he takes in his hand hammer and saw, gimlet and pliers, and improves and repairs his hives and utensils in the most workmanlike manner.

Bee-keeping conducted after the manner of Dzierzon, as indeed it ought to be conducted, may be termed the very poetry of agriculture. Wherever there are trees and flowers, Dzierzon thinks there should be bees to animate and complete every such rural scene. He is also certainly right in his assertion that intercourse with bees improves a man, incites him to order and diligence, and keeps him from idle conversation. But without mentioning this, the poetical side, which is always worthy of notice, bee-keeping is also of great material value. First, the productiveness of a country is increased by it to an incredible extent since the fertilising pollen is divided and widely distributed by bees in a far more equal and lasting manner than by the wind. Next are honey and wax, so necessary and valuable, that by their universal production the national prosperity is very much increased. As a good stock may gather 10 lbs. of honey, † and make a proportionate quantity of wax, it may be observed that such produce is clear profit, since bees, unlike other domestic animals, do not require to be provided with food.

Sagacity and power of observation are two qualifications which Dzierzon possesses in a degree that is seldom equalled. By means of these he has penetrated so deeply into the mysteries of bee-life that very little if anything essential remains to be discovered.

### UNITING BEES—COMB BEE-FEEDER.

I ALWAYS feel interested in reading over the different articles which appear from time to time about bees, but must confess that for the most part they are too scientific for us countrymen who rarely see anything but the common straw hive, and, therefore, would be glad of a little of your valuable advice.

I kept three stocks through the winter, one of which seemed very weak as regards bees, not many to be seen at any time, but was always as heavy as both the others. This stock swarmed on the 5th of May, and again on the 17th; the others swarmed once each, so that I have now seven in all, and like most of my friends in these parts (Gloucester), find they have little or no honey, the old heavy stock being the only weighty one among them. Now, I only want to keep three stocks through the winter, and would be glad to know if I had better keep the old ones and destroy the young, reserving the comb in the hives for next year to put in fresh swarms, or could I unite them to be of any advantage. They are in straw hives, with wooden tops 8 inches or 10 inches diameter, with a hole 1½ inch through.

I send you my plan of bee-feeding as it differs from your other correspondents', and I find it answer the purpose very well. I save some empty combs (of which, since I began bee-keeping I have had too many), cut off the cells on one side, then cut it round the size of a basin or flower-pot saucer, make a hole through corresponding with the one in the top of the hive, lay in on the top, and, with a spouted jug, fill the cells with syrup, and turn over the basin or saucer, then put on the covering. If fed a few times regularly, they will come up when you give it them as ready as a lot of fowls. I need hardly say the holes are corked up at other times. I find they are very fond of sweet cider—that is, cider before it is fermented, with a little addition of sugar.—G. C. UPTON.

[By all means unite your condemned bees to your other stocks by driving, as recommended in pages 45 and 46 of "Bee-keeping for the Many." Yours is a good contrivance for feeding, but we believe no feeder is equal to the inverted bottle recommended by—A DEVONSHIRE BEE-KEEPER.]

### WINE-MAKING.

AS the season is approaching when attention will be turned to making wine, many people may be glad to obtain information in regard to the process which will insure the best article.

It is not always that a fine table grape will make a good wine; indeed, there are many excellent wine grapes which are unfit for the table, and many of the finest table grapes are unfit for wine. A good wine grape should give an abundance of good colour, with astringency enough to give character and tone to

† About eleven English pounds—not a very large honey harvest from a good stock.—A DEVONSHIRE BEE-KEEPER.

the wine, but not so much as to give it a disagreeable flavour. It should contain sugar enough to make the wine keep well; but this is not indispensable, for sugar may be added if the grape possess the other qualities proper to a good wine.

I will state the method I pursue in making wines from grapes containing the proper qualities for that purpose, and will show in another place by what methods excessive harshness may be ameliorated, and unpleasant flavours removed, or so qualified as to yield a palatable and wholesome wine.

The first necessity in wine-making is to prepare your casks. These should not be new, for the new wood would give an unpleasant flavour to the wine. It is better to use casks which have already held wine or spirit; they should be perfectly clean and sweet, well made and strong. The press—which should be a strong screw press—must be perfectly clean, and care must be taken to keep it so during the whole process. Few grapes are so tender as to yield their juice without bruising; you will therefore need a mash-tub and a long wooden pestle to break them. I do not strip the grapes from the stems, for I believe they give to the wine a tonic property and make it keep well. The grapes should be gathered in a dry day; gather and press them as rapidly as possible, remembering that fermentation never goes back, and it is important to have the whole body of your wine start at one time if possible, lest a portion of the must should grow sour before the rest is fermented into proper wine. The grapes should be ripe, but not over-ripe; green berries should be removed; they give to the wine a sour taste which is a long time in passing away. A bushel of grapes should give four gallons of juice; but few grapes, however, yield so much as this, the product varying from two and a half to four gallons. It, however, they are rich in wine-making properties, the measure may be made up to four gallons by the addition of water and sugar. Sugar must be added to the must from grapes grown in this latitude, for although a sound light wine may be made from some of our best wine grapes, the proportion is never sufficient to make a full-bodied wine which will keep well; 24 per cent. is the least the new beginner should allow, but 20 per cent. and even 15 per cent. will allow a skilful operator to make a sound wine; the sugar should be the best refined white, as brown sugars give a coarse taste to the wine. If you have not got a proper instrument to ascertain the per-centage of sugar contained in the must, add the sugar until the must will float a new-laid egg with about one-quarter of its diameter above the surface. It is much better to have a little excess of sugar than to take the venture of the wine running into acetous fermentation for want of enough sugar to save it.

Fermentation, as I have said, never goes back, but it is liable to fluctuations through changes of temperature; you should therefore, if possible, have the temperature under control. This can only be accomplished by having a stove in the pressing-room. With the aid of this you may keep the heat at the point necessary to secure active fermentation, and it should always be active, and to gradually increase the temperature to 80° or 85° at the close, bearing in mind that the more active the fermentation ("stormy," a German friend calls it), the sooner it will be completed and the better will be the wine. Keep the air from the must as much as possible, and when the fermentation subsides put in the bung, and if there is any strain on the cask, relieve it by taking out the spigot occasionally. After the wine is still, keep it as cool as you can until it is convenient to put into your cellar. Take this occasion to draw it off from the lees; throw these away, rinse out the cask, and replace the wine. If the fermentation has been thorough, the wine will probably be clear; if otherwise, it will be likely to ferment again in the spring, when it must again be racked-off, and, if necessary, fined.

To refine wine you may use isinglass or the white of an egg; one-quarter of a pound of isinglass is sufficient for a barrel of wine. Dissolve it in a little hot water, and mix it with five or six gallons of wine which you have drawn from the cask for that purpose; then return it to the cask, stirring it well into the wine and stop the cask tightly. In a week or two it will be perfectly fine, then draw it off, throw away the lees, and return the wine to the cask. If you use the white of eggs, take seven eggs for a barrel of wine, whip the whites thoroughly, mix with the wine as above, whipping it with a clean whisk, and return to the cask. The wine is now made, and should be kept in the cask until ripe. It will be fit for use in two years, but will improve with age. It should not be bottled—that is, it should not be taken out of the wood, where it ripens much more

rapidly than in glass, unless it is so light as to make it necessary in order to save it from going sour.

I now propose to show by what measure the harsh flavour—commonly called foxy—of our wild grapes may be ameliorated, and a good wine obtained from them.

The wild grape contains much more acid, and a tougher and more mucilaginous pulp than the wine grape. The excess of mucilage causes a violent fermentation which it is difficult to check, and it is necessary to dilute the acid to make a palatable wine. The proportions of acid, sugar, and water which are found to give the best wines, are as follows:—in 1000 parts, 240 sugar, 6 acid, 754 water. All these proportions fail in the wild grape. It contains more acid, less water, and less sugar. With the aid of proper instruments and experience in the manipulations, one can restore these proportions exactly; but as this article is written for those who have neither time nor inclination for critical experiments, but would be glad to be able to make a good and wholesome wine out of the wild grapes of their fields, I offer them the following formula:—

To every gallon of the grape juice add a gallon of pure water. Take the cheese or pressing from the press, and restore it to the mash-tub, and bruise it thoroughly again; then add to it as much water as you got pure juice from it at the first pressing; let it stand for an hour or two and press again; then put the liquid into your cask with the first pressing and the water which you have added to it. To every gallon of this mixture add three pounds of the best white sugar, let this be dissolved in the water before you add it to the grape juice, and give it a thorough fermentation. Keep your cask full if possible, and let the yeasty substance work over at the bung, for this is the best way to get rid of the excess of mucilage, taking care to fill up the cask frequently with the must saved for that purpose. If, however, you have not a sufficient quantity of must to fill your cask and supply the waste from the bung, the following method may be adopted:—

Take strips of cotton cloth, half an inch wide and 12 inches or 15 inches long, wet them and dip them in flowers of sulphur, light them at one end and put them into the cask, one end being secured at the bung; when the cask is filled with the vapours of the sulphur, pour in the must until the cask is about one-third full; put in the bung and roll the cask until the vapour is thoroughly mixed with the wine; repeat the process until all the must is in the cask; this will throw down the mucilage and colouring matter in which is contained the offensive taste and odour; as soon as this takes place, which will be in two or three days, draw off the must carefully, clean out the cask, replace the wine, and proceed with the fermentation as above.—(*Boston Cultivator.*)

OUR LETTER BOX.

FEEDING CHICKENS (*A Subscriber, Bray*).—Your chickens have been properly fed, but we suspect the wet weather has been against them. If they have been kept on a cold, damp floor, that would account for your loss.

FEEDING DUCKS FOR EXHIBITION (*A Constant Subscriber*).—The food generally used for fattening these birds is tallow-chandler's greaves, and oat and barley-meal. The great weights read of are the result of long feeding, and he who wishes to show Ducks weighing from 8 lbs. to 9 lbs. must always have that object in view, and never allow them to fall off in condition. In order to keep the bills pale, they must never go into pond-water. Small pebbles, called "grit" in familiar language, must be put in the water they have for drink and food; and they may be allowed on cold mornings, when the white frost is on the grass, to go out in search of food.

ROUEN DRAKE (*Old Subscriber*).—The colour of a Rouen drake's bill should be exactly that of a wild Mallard. It is neither orange nor olive; the former is too bright, the latter too green. It should be a sort of yellow, washed over with a very pale green. There is more latitude allowed in bills of drakes than ducks; but if not a disqualification, an orange bill must be a disadvantage.

FOREIGN SONG BIRDS (*W. A.*).—You will probably find the information you require in "Bechstein's Song Birds."

LONDON MARKETS.—SEPTEMBER 1.

POULTRY.

The trade at Leadenhall is fast sinking to the low ebb of September; and if we have not to chronicle a glut, it is because the unusual demand has thinned the yards as fast as their denizens were fit for market. Grouse remain scarce, and we see nothing to alter our opinion that it is a very bad year for them.

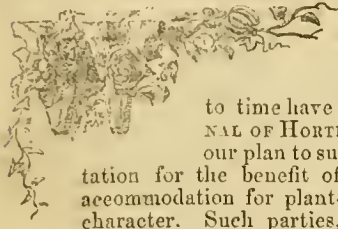
Large Fowls .....	3 0 to 3 6	Ducks .....	2 0 to 2 6
Smaller do .....	2 0 ,, 2 6	Hares .....	0 0 ,, 0 0
Chickens .....	1 4 ,, 1 6	Rabbits .....	1 4 ,, 1 5
Geese .....	6 0 ,, 6 6	Wild do .....	0 8 ,, 0 9
Grouse .....	3 0 ,, 3 6	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 9-15, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.		Moon Rises and Sets		Moon's Age.	Clock after Sun.		Day of Year.	
			Barometer.	Thermom.	Wind.	Rain in Inches.	m.	h.	m.	h.	m.		h.			
9	Tu	Blandfordia intermedia.	29.896-29.870	73-41	W.	—	27	af 5	28	af 7	26	a 6	15	2	44	252
10	W	Bossia linophylla.	29.906-29.846	73-33	N.	—	28	5	28	7	46	6	16	3	4	253
11	Th	Bouvardia versicolor.	29.928-29.887	72-34	N.E.	—	30	5	21	7	9	7	17	3	25	254
12	F	Brachylema neriifolia.	30.080-30.053	75-40	S.W.	—	31	5	21	7	35	7	18	3	46	255
13	S	Browallia speciosa, &c.	30.049-29.776	66-47	S.W.	.06	33	5	19	7	6	8	19	4	7	256
14	SUN	13 SUNDAY AFTER TRINITY.	29.710-29.649	64-41	S.W.	.02	35	5	17	7	41	8	20	4	28	257
15	M	Brugmansia.	29.721-29.697	65-46	W.	.02	36	5	14	7	30	9	21	4	49	258

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 68° and 46° respectively. The greatest heat, 86°, occurred on the 12th, in 1858; and the lowest cold, 25°, on the 11th and 12th, in 1860. During the period 137 days were fine, and on 168 rain fell.

THE CAMELLIA AND ITS CULTURE.—No. 8.



HEN laying the foundation of those chapters which from time to time have appeared in THE JOURNAL OF HORTICULTURE, it was part of our plan to sum up with a brief dissertation for the benefit of small growers whose accommodation for plant-culture is of a limited character. Such parties, doubtless, find themselves occasionally not a little perplexed at some unforeseen and unexpected difficulty that may arise when success has all but crowned their efforts. Such difficulties, forsooth, do not always vanish at the bidding of even the most successful cultivator.

"The best-laid schemes of mice and men  
Gang aft a-gae."

The best practical skill at all times will not be surety for the prevention of the inroads of a host of little maladies. All the essays that have flowed from the pens of the best literary and practical gardeners on this or any other subject, all the preventive measures and means and all the cures which have been recommended, supposing they were to be presented to the horticultural and horticultural-loving community in a tabular form, so as to be cognisable at a glance, will not be sufficiently elaborate in detail to come within the range of these little difficulties which perplex the amateur in the management of his pet plants and subjects.

Fully intending, then, to implement our bargain, we shall have something to say on the adaptability of houses containing miscellaneous subjects for the cultivation of the Camellia. In many cases, let it be understood, more depends upon the proper management of the plants located in the house than upon any malformation or inadaptability of the structure itself for retarding their proper development. It is far easier for persons of lymphatic disposition to make excuses for ill success than it is for them to persevere and surmount difficulties, and there is no end to this sort of thing if we allow ourselves to presuppose them.

To be successful in the growth and to promote the blooming propensities of this favourite flower, it requires at least three months' warm and moist temperature during the year towards aiding the perfect formation of the growing shoot. This, then, is the most cardinal point, practically speaking, for the amateur to consider in the annual routine of cultivation; and the first question that naturally arises is how to assist such development with the means at command. Putting your finger upon the map, you could point to a few places in our sea-girt homes, cold as the general character of our climate undoubtedly is, where Camellias grow and bloom out of doors—and accordingly in such a climate there will be little difficulty in inducing bud-formation with very limited means; but to those places where the thermometer descends almost to zero, substantial shelter must be afforded.

The greenhouse viney of the amateur is one of the best mediums for promoting their growth; for the artificial heat requisite to bring away the Vines, especially from the time the branches are partly developed until they are properly set and the berries beginning to swell, suits their wants to a nicety. This sort of house is particularly well suited for a great many of our fine popular foliage plants, which will present a very ornamental appearance under the shade of the Vine during summer, and is as well suited for the cultivation of the Camellia and Azalea, which in their turn, when the Vines are in their deciduous state, will ornament the house during the dull cheerless months of winter. It is worthy of observation that with such plants as these, if the amateur confines himself or herself to them, and a few others, such as Gloxinias, Achimenes, Cockscombs, and even Balsams, which could be put upon the shelves near the glass, and Fuchsias, which could be grown on until the middle of May in such a structure, and afterwards transferred to some arbour or sheltered place out of doors where they would bloom well—one could have a most interesting house during the year, and be nearly as successful in a cultural point of view as many good gardeners are with quadruple accommodation. Of course, it must be under the management of some one who is passionately fond of flowers, else failure will not be long in staring him in the face. If the Camellias, for example, are allowed to get too dry, off go the buds, probably not for some weeks after the damage has been done, and hence arise the surmises and wonder why the failure has occurred. The very same result may occur, but not so very readily, unless there be bad drainage and continual deluging, if they are kept too wet. It is not wisdom, as the most earnest of our amateur friends will not be slow to concede, to get a house stocked with plants, and then leave it at the mercy of some careless person, who may forget to do a great many things which he has been instructed to do. And yet how often is this the case! and how often are the consequences such as may induce the business man to pen some letter of inquiry to his friends at 162, Fleet Street, to know the cause of such mishap and the remedy! Prevention is not only better than cure among the great vegetable family, but is positively one of the smoothest roads to success. To be ever on the alert, and to have the knowledge to administer the proper antidote at the right time, is one of the greatest points in gardening.

Shade is very essential to the well-being of the Camellia, as has been indicated in former chapters, and should be an object of solicitude on the part of the amateur. If they are removed out of doors—a practice which we have abandoned, in consequence of such a continuation of heavy rains—it must be in some place sheltered from the more scorching rays of the sun; and the only attention requisite is to water them when necessary, and to keep their foliage clean so that their stomates may be in perfect working order.

Cleanliness is another very grand point in cultivation. More failures result from inattention to this apparently

simple matter than most people would credit. Sparging must be occasionally resorted to; and if scale should by any means have found their way among them, a little soft soap diluted in water about 180° will soon effect a riddance. Thrips do not often make an attack on *Camellia* collections unless among those which are all but totally miaguided, but frequent syringings and occasional fumigation will effect a remedy. Houses of a mixed character, albeit, are far more liable to be attacked with this pest, especially where *Azaleas* dwell, than any other; and our remarks would almost require qualification, only remember "prevention," and begin to effect a cure forthwith. The mealy bug is by far the most insidious pest of them all, and requires constant vigilance—once allowed to get in amongst a collection of any kind of plants it is very difficult to keep under. Gishurst Compound is one of the best means of reducing these marauders, but it requires to be frequently applied; and, as has been suggested in the pages of this Journal, it should be reduced into a liquid state and allowed to remain twenty-four hours before application, which has the effect of nullifying that peculiar and disagreeable tint which remains upon the plants if applied immediately after liquefaction. In the words of the proverb, "It is a good servant but a bad master," and positively it is a good antidote and preventive to most insects.

In the wintering of the plants in the greenhouseinery, they may be kept as cool as you please, only remember 32°, the freezing-point. It is a great mistake which has been frequently practised by gardeners, and the more ready to be accepted as high-class gardening by amateurs, to allow Vines to be subjected to frost on the plea of giving them a proper rest. No good authority on Grape-growing will maintain that to do so is sound practice; and no good authority on vegetable physiology will maintain that it is necessary towards the resting period to allow the sap, dormant though it be, to become frozen. The temperature suitable for resting the Vine is also suitable for the blooming period of the *Camellia*, only the amateur would require to study that the moisture of the house should never be in excess of proportion to the heat, else sporting of choice flowers will take place, which effectually mars their beauty. This is a rule that ought to be observed throughout the season where flowering plants are in the highest consideration, no matter what the temperature of the house may be. Artificial heat in this miscellaneous house should be given according to the severity or "openness" of the weather. It is a great mistake, which cannot be too loudly proclaimed to all your subordinates, to keep the thermometer at a certain heat all weather. Regulate the amount of heat in proportion to the amount of cold; 33° is a very good temperature in such a house, if the thermometer indicates zero out of doors. Twice within the last two years has it fallen under this point in this locality and many others besides, and this is why we particularise the minimum amount of heat for all in-door ornamental plants.

In the mixed greenhouse proper, a great many hints embodied in the above remarks will be found suitable; and in the general treatise contained in former chapters throughout, much may be deduced by the careful reader and the anxious amateur which will help them over some of their difficulties. A great deal is to be learned by one's own experience in the exact position in which the plants may be individually placed; but, as a rule, more out-of-the-way and anomalous things occur from an infringement of sound practice than from any other cause. In this house it will be requisite at bud-setting time to have all the plants in one position in the house, where ventilation must be only occasional, and where you can ply the syringe without interfering with the flowering plants. It is absolutely necessary, at this time in particular, to keep the young growths from the intensity of the sun, and it is as absolutely necessary to keep the atmosphere at that point as moist as possible to be in the highest degree successful. Once buds are properly formed, a very moderate share of attention will serve; but it is really worth all the extra attention you can give, and all the lecturing we could imagine, to administer to their wants for the sake of the beautiful flowers.

If bud-dropping takes place afterwards it must be the fault either of the drainage, the soil, the moisture, the locality of the plants themselves, all of which it is in your power to prevent if proper means be used.

One more reminder and I have done. Let the plants have all the light at your command, and keep them as near the glass as possible, so that the lower branches may not suffer by comparison with the higher ones. This is sound advice, although

my right-hand neighbour may turn upon me and say that he has flowers and plants quite equal to mine without all this fatherly advice. We have no inclination to rebut the statement, but it is a question whether plants in such a position will always maintain so satisfactory a character.—JAS. ANDERSON, *Meadow Bank, Uddingstone.*

## CRYSTAL PALACE FRUIT AND FLOWER SHOW.

SEPTEMBER 4TH AND 5TH.

THIS was a thoroughly good September show. Dahlias were grand indeed; and the grandest Dahlia there, after Lord "Darby" and Charles Turner, was an immense dark purple one called Donald Beaton. You have only to put Charles Turner in the centre, Lord Derby on his right, and Donald Beaton on his left, and you will have nothing left to desire but that all the world would agree and be as agreeable as these three Dahlias would be when so put. It was in the high collection of Mr. Keynes, of Salisbury; and if it were only for these three noble and most agreeably honourable names and flowers, that collection ought to have had the first instead of the second prize.

The next most remarkable Dahlia there was a light French lilacy flower with pale blue lacing all over the edges, as in Lady Eleho's style of Picotee. This was from Mrs. James Stoddard, the only lady I have ever seen or heard of who by nature a thorough Geranium florist; and Mrs. Stoddard has a stand for these and all her flowers immediately on the right side, or on the west side of the great Handel Orchestra. Only go and see them, and if you do not find them as I say I shall pay for the journey, be it from Caitness or from Cork. And the third most remarkable Dahlia there was mucronate with pure gold, to speak botanically. When a leaf ends in a sharp point or bristle, botanists say it is mucronate instead of it will prick you. Well, the points of all the forets of this most remarkable Dahlia are a little peaked as one might say, and that will do for mucronate. The very peaks are of the colour of refined gold, but the merest specks only—they stand as regularly as anything in Euclid; and the ground colour of the Dahlia is a rich new shade of scarlet with a tinge of cerise or magenta in it. The name is Gem (Stafford), and it was exhibited by Mr. Sladden, of Ash, near Sandwich.

I must next blow the horn and sound "the Campbells are Coming" in the cause and interest of all the best men in the three kingdoms, and in the islands of Jersey and Guernsey, at raising, growing, rearing-up, and dressing the *Chrysanthemum*. The Campbells are coming upon them as sure as you or I was ever born. The growers of the China Asters—the Sandford Brothers, and Mr. Betteridge, of Meldon Hill, Steventon, Berks, are on the eve of becoming just as formidable rivals to *Chrysanthemum*-growers as ever the Campbells were to the rest of the clans or to the government of His Majesty the King. I recollect the very night before Mr. Sandford, gardener to T. Thomaset, Esq., Walthamstow, was born, his father being my foreman at the time, and I had to ring the bell and answer it myself for the rest of the day. Well, this is the sixth occasion in succession in which he has taken the first prize for French Asters; and his brother came up this time very hard upon Mr. Betteridge, who has been equally successful with the German or Quilled, or rather, now, honey-combed Asters.

The flat floretless Asters are the French; and now they have them in globes and evenly flat over the face, also recurved, and quite as much so as the globes, flats, and recurves of the *Chrysanthemum*. If you recollect the old *Chrysanthemum Lucidum*, it was about the first and the best recurved flower we had at that time; and the white incurved Asters are, or were, in Mr. Sandford's first-prize collection exactly of the same size, shape, and substance as that *Lucidum*. Like once a boy always a boy, the brothers Sandford are still my boys, and, of course, they tell me all about the Asters, and how they do them; but it is all a natural gift they inherited from their father. They buy the seeds every year from the Messrs. Fraser, of Lea Bridge Nursery; and all who do the like have the chances the same, but not the gift of inheritance, and that makes all the difference.

On the other side of the line of the Asters, comes Mr. James Betteridge aforesaid, whom I have never seen to my knowledge, but I should like a leaf out of his knowledge of German Asters. The busy bee does not more mathematically construct her cells and her royal chambers, than does Mr. Betteridge the floretless tubes of the quilled Asters—all but one row, or

ray of them; and that row is the outside row, which has one-half of the floret to each tube; and these half-florets in a ray all round the flower are technically termed the "guard petals," and the guard petals of the quilled Asters are now of as much importance to them as the Horse Guards are to us and ours.

Gladioluses were the flower of the day for half the thousands who thronged the glades and avenues of the arrangement for fruit and flowers on the present occasion; and it was a game I have often seen played in the theatre at Perth, to which I one winter had a free ticket. The manager of the theatre and his party had flowers and free admission at the Messrs. Dickson and Turnbull's nurseries, and a lot of us both men had these free tickets from Mr. Bell and Mr. Brown, the then foremen. Perth at that time was the natural residence, as it were, of all the best of the half-pay officers and bachelors in Scotland; and when they mustered in full, or bespoke a play, we nursery chaps were sure to be in that night to see that part of the play called "A Bold Stroke for a Wife," and it was that part of the play which was played at this Show: t the Crystal Palace. It made one laugh, of course; but I will just tell you what it is. There is nothing in this world, or in Perth yet, better than a bold stroke for a wife, or for any mortal thing. If you "go in" sheepish about it, you will lose as surely as you ever lost a hand at whist.

Mr. Youell, of Yarmouth, got the first prize for Gladioluses from the best judges of the flower in the land, from merely playing a bold stroke for a first-hand prize. The schedule for Gladioluses was on the free-trade principle, so you might put up ten spikes, or five spikes, or three, or two, or one of each kind. The more usual way was to chance it with one spike only; and when you wanted to make a blaze for fame and for fortune, to put up lots of bunches of spikes, and to send them in gratis for the good of the house or the concern, and all the customers, and say nought about it, which would make the blaze burn the brighter in the scented satin note-books of the well-to-do, and you had your reward, if not an award, for the flowers. I would, therefore, hint to Mr. Houghton, that, as these flowers are the sword Lilies, that each party should know beforehand how many swords he would be allowed in the battle, so that the south and the north of the Thames, or of the Tweed, I mean, should enter the field on equal terms.

Mr. Youell put up his sword Lilies in threes of each kind; and at either end of his collection, on both sides of one corner of the transept, he placed three rows of threes, and eight in a row, of the spikes of Gladiolus Brenehleyensis—that is, three times eight spikes at this end, and ditto at the other—a bold stroke for a prize. The general collection was in three spikes, in addition to the guard array of Brenehleyensis, while the rest had no guard, and only one spike of each kind in the collections. We are all so fond of playing at swords in these days, that the visitors went all in with Mr. Youell, hand and glove, in the sword Lilies.

Then, if I were Mr. Houghton, whose kindness and prompt attention I all so much admire at these Shows, I would take that as an indication of coming events, and I would arrange the schedule for the next throw at swords of Lilies, so that all might put up so many of a sort, not exceeding a certain number. Then be it three spikes, or four spikes, or two only, be it so; and if you or I happened to have but one spike of any new kind, of course we would be entitled to set it up as part of our collection, at our own risk. I would also make it open for each exhibitor to put up in addition a certain number of spikes of two, three, or more kinds of any of the more popular varieties, just as Mr. Youell put up his splendid groups of Brenehleyensis, but not give them a prize as is now given for the baskets of twelve pounds of grapes.

The most royal lady-like Gladiolus there was Mrs. Standish, a pure pearly white flower, but tinged all over from the reflection of the rose-and-crimson markings of the front sepals, to be botanical. The next lady in the land with us all, after Her Majesty the Queen, is Gladiolus Reine Victoria, then Alice Grey, and following it Lady Mary Wood. The four are in the same strain and not much different in their degrees of merit. Miss Howell, a rosy salmon; and Lady E. Seymour, a rosy cream, are the best in the next shade from white. Edith Dombain is a lovely warm colour, a creamy ground colour tinged all over with the blush of bashfulness. Madame Rabourdin is another out-of-the-way colour—a fine flower, the nearest tint to a lilac yet in the family, with a richly-marked front. Mrs. Menzies, Eugène, Basil, Rosenberg, a new colour, a crimson cerise, and Garibaldi, are all splendid flowers. Napoleon III., a bright orange scarlet; and Ensigen, ditto, are two very gay flowers. Pluto seemed the

best of the Ramosus strain bred down from Colvilli. Couranti Fulgens was the darkest there; and Vulcan the next. Vesta, Penelope, Hebe, Madame de Vetry, Isoline, Impératrice, and Ninon de l'Enelos, would make a group or bed of nearly all white sorts; or a bed of Penelope alone for a white might be better. Canary would make a good yellow group, row, or bed. Conite de Morny would also make the same in Cerise Unique colour, well lighted up with white markings; and Galathée would match a rosy Nosegys colour to a T, tinged as it is like them with shades of carmine. All this, recollect, is merely a flower-garden view of the family as there presented. If you want to follow the fancy, go to Deal and you will do well, my word for it. The very sea breeze down at Deal would put you in a better fit than all the fixings I could do for a whole season. But have it your own way, nevertheless, and I shall go on to the French Gladioluses, of which there was a very large assortment; but instead of them I shall put in a note of hand which I received at the last meeting of the Floral Committee, from three of our very best swordsmen in this line, who were over to see them, and who buy them in heaps, and who live by selling them to us and ours. That note begins and ends thus:—"We are all of us here in England just three years behind the French in Gladioluses. What you see brought over to our shores are as milk and water to their best sorts. Our prizes will not cover their expenses, but buy their five-shilling roots, and their roots at 3s. 6d., and you may take them without more ado, and you will be sure to do as you have been done by—you will beat as you were Beaton." I took all this as quietly as I now wrote it. But I want room some day for a paragraph to transfer my experience in crossing pure white flowers with scarlet and crimson ones, for the use and benefit of a rising race which is to go in to beat the Lilies.

This brings me to the best flower at this Show, the great Lilium auratum of Japan, which Mr. Standish brought out here just as Mr. Veitch did over the water. And here Mr. Standish had a second form of the flower—another variety of auratum, with all the spots on it of a bright rosy colour; and roseum punctatum, being a distinguishing name already for a variety of lancifolium, this one should also have roseum punctatum after auratum, so that all may know the extent and the meaning of the application of the name, instead of loading the memory by a new one which could not give the meaning for it one-half so well. But the roseum punctatum of this Auratum Lily is more manifest in the face of the flower than the same is seen in that variety of lancifolium.

Mr. Standish had also my favourite Japan golden netted-leaved Honeysuckle, which I mentioned as at the July Show of the Horticultural—Lonicera reticulata. But, by-the-by, have you seen the September Number of the *Florist and Pomologist*? These identical plants, *Lilium auratum* and *Lonicera reticulata*, are both figured, and the figures coloured in that Number; and instead of puzzling my brains to explain the extraordinary beauties of these plants, just order them to send you that; and the looks of the Lily itself are just worth double the money to any one who can enjoy and appreciate the beauties of a really fine flower. I shall, therefore, do the next best thing on my part, and that is to tell you a fact which is yet known to but a very few practicals. It is this: that this golden netted-leaved Honeysuckle, and all other variegations in climbers, or in permanent wall plants, should be seen on a north aspect, as the best place for seeing the effect, an east aspect the next best, a west aspect the next; and that no such plants should ever be put on a south aspect, as the glare destroys the whole of the effect, and, not only so, but makes it uncomfortable to a good eye, that being the key to what "D., Deal," told us the other day about the French avoiding such bright colours in their glaring atmosphere, as put ours in a tingling of delight in our northern aspect. So you see we are on the right side of the wall, as of the channel, for really enjoying the blessings of Providence.

The Hollyhocks and the Phloxes were not so fully or so well represented as I have seen them. But there were two collections of good spikes of Hollyhocks—the one from the Messrs. Downie, Laird, & Laing, the other from Mr. W. Paul, the author of the best treatise we have of their management; lots and lots of five-bunched trusses of Verbenas; and a bright scarlet Verbena, called Lord Leigh, from Messrs. Perkins & Sons, of Coventry, an excellent sort as far as one could judge from cut blooms. This promises to make a lordly bedder.

#### FRUIT.

We now come to fruit. The largest fruit there was a Cucumber from Mr. Poulter, gardener to G. Hooper, Esq., Lawrie

Park. It was the very Goliath of Lawrie Park. But the best gardening in fruit was a one-bunch-of-Grapes plant in a pot from the Rose Leviathan of Great Berkhamstead—Mr. Lane, and the kind was Mr. Ivery's Buckland Sweetwater. It was more than twice the size of the largest bunch I ever saw in a pot. The battle for the fruit was very severely contested; and our two best generals, Mr. Henderson, of Trentham, and Mr. Hill, Keele Hall, were beaten by a commander from Liverpool—Mr. Meredith, Vine Cottage, Garston, near Liverpool, who took the first sweep with the twelve-pounds basket, and the first for the best three bunches of Black Grapes. The battle was so closely contested that the ruling passion struck me at once, and I went over the field to see what might have led to the decision of the Judges; and I should take it that it must have been the uniform size of all the berries in all the bunches which sent the victory to Liverpool, for better Grapes were never yet exhibited than those from Staffordshire, which were both awarded the second prize.

Mr. Chapman, Hill House, Streatham, had the first prize for Queen Pines. His specimen was remarkable for a Queen, being as much across under the crown as at the bottom—a barrel shape, in fact. And the first-prize Pine, not a Queen, from Mr. Henderson, of Trentham, was also a remarkable fruit, not so much for the size as for the rich colour and for the fullness of all the pips which were next to bursting the skin.

For a Dessert Collection Mr. Henderson was first. For top he had a fine Montserrat Pine; for bottom a Trentham Hybrid whiteflesh Melon; and for the centre Peaches and Nectarines cross-covered one way, and White and Black Grapes crosswise to suit. The Grapes were magnificent Muscats of Alexandria ambered over with richness, and Mill Hill Hamburgs black as you please, and bloom on them to relieve it. The Peaches were *Violette Hâtive*, and the Nectarines *Elruge*. Mr. Bailey, of Shardloes, was the second-best competitor. *Enville Pine*, *Hamburgs* and *Muscats*, *Elruge Nectarines*, *Magdalen Peaches*, and *Moorpark Apricots*; but it would take a blue book to get them all in, and mine was only a brown one.

I saw one new move which pleased me much, and I really wondered that it never occurred to myself.

When I was an experimentalist in fruits twenty-eight years back I used to keep a memorandum of the size of the flowers of the Peaches and Nectarines. In the spring and in the autumn I sent fruit and leaves of them to Mr. Thompson, of Chiswick, with a note of the size of the flowers of each kind to save him trouble, because the size of the flowers and the glands at the bottom of the leaves is just like looking a gift horse in the mouth—you know the sort of the one and the age of the other that way. Mr. Cunningham, gardener to the Lord Bishop of London, sent Peaches and their leaves to this Show, in order that the Judges might not lose time about knowing the kinds; and if ever you have Peaches or Nectarines and want to know their names, do the like, and you will save some one a world of trouble; and if you learn nought else of this review of the Show, pray learn to be on the look-out when you mean to send fruit or flowers to be named. As for the rest of the fruit, it would actually fill an ordinary fruit-room and keep one in Apple-dumplings to May-day.

D. BEATON.

UNMISTAKEABLE proofs of the exceptional character of the season were afforded by the appearance of the flowers exhibited on this occasion. It was not to be expected after such a sunless summer, and the occasional storms and rains that we have experienced, that flowers which are so much influenced by weather as these autumn ones are should be seen in perfection; and although the Dahlias were wonderfully fine, and *Gladioluses* far better than I expected to see them, other flowers were inferior. Asters were certainly not what they have been for the last two years; *Hollyhocks* I never saw so bad, and *Roses* were miserable in the extreme. Yet, taken as a whole, the Exhibition, especially of fruit, was a wonderful one; and while Mr. Beaton discourses of its general features, I must add my impressions of those flowers which come under my own peculiar province. I never saw a season so fatal to the *Hollyhock* as this has been. I do not mean merely as to growth (and many of them have gone off very rapidly), but as to the absolute ruin caused by the rain. About a fortnight ago we had a very heavy and continuous down-pour, lasting, in some places, thirty-six, in others, fifty hours; and after it the splendid spikes of *Hollyhocks* were absolutely melted together. This, which I had observed in my own garden

was confirmed by Mr. Laing, of Stanstead Park, and Mr. George Paul; while my friend Mr. Chater has fared no better. Under such circumstances, it would be only misleading to give the names of flowers; for probably exigency, and not choice, led to the selection. From what I have been able to observe in my own garden, I think Joshua Clarke the finest *Hollyhock* I ever saw, not excepting, perhaps, Stanstead Rival. *Roses*, as I have said, were miserable; and the state of the season can best be judged by the fact of such stands being set up by men who grow them by acres. The best 24, and there were none of them in character, were contributed by Messrs. Paul & Son, of the Old Nurseries, Cheshunt, and contained *Louise Peronne*, *Léon des Combats*, *Souvenir de la Reine de l'Angleterre*, *Souvenir d'un Ami*, *Archbishop of Paris*, *Colonel de Rougemont*, *Gloire de Santenay*, *Comtesse Cécile de Chabillant*, *Dr. Bretonneau*, *Souvenir de la Malmaison*, *Victor Verdier*, *Mademoiselle Eugénie Verdier*, *Pauline Villot*, *Belle de Bourg-la-Reine*, *Duke of Cambridge*, *Céline Forestier*, *Madame Charles Crapelet*, and *Madame Vidot*.

*Gladioli* formed one of the leading features of the Exhibition, and were contributed by Messrs. Youell and Co., of Great Yarmouth; Mr. John Standish, of Bagshot; Messrs. Carter & Co., of High Holborn; Messrs. Paul & Son, of Cheshunt; Mr. W. Paul, of Waltham Cross; and a very large collection by Monsieur Loise, 3, Rue de la Paterie, Paris. The most noticeable of these were the two first; Messrs. Youell's being composed mainly of varieties of foreign origin, and Mr. Standish's of his own seedlings. Some alteration is needed, and, I believe, will be made, in the exhibition of this fine autumn flower; for it is impossible to know how to exhibit, and equally so for any amateur to do so. This has arisen, I know, from the feeling that so few persons grow them, that it was desirable to get as many as could be. But the case is altered now, and the increased popularity of the flower will enable the authorities to divide them into two classes—for amateurs and growers for sale, as in other flowers; and we shall then, I believe, see a much more numerous and varied selection than at present is exhibited. When a grower advertises having three acres under *Gladioluses*, what hope can a poor amateur have of competing with him when he is enabled to cut such "wisps" of blooms as Messrs. Youell did yesterday? My own taste is decidedly against such a method of exhibiting them. One bunch hides the other, and there is not the same possibility of judging of the individual merits of a flower. What would be thought of exhibiting *Asters*, *Hollyhocks*, or *Dahlias* in bunches?

The most remarkable in this large collection were *Brenchleyensis* (by-the-by, I do not think this is half so brilliant as I recollect it when it used to be shown as an intense glowing scarlet without any green in it), *Advocate*, *John Bull* (why name a light-coloured flower with a name so redolent of fresh colour and portly person?) *Hebe*, *Linné*, *Mademoiselle Eugénie Verdier*, *Pegasus*, *Don Juan*, *Madame Binder*, *Princess Mathilde*, *Clemence*, *Lælia*, *Dr. André*, *Egerie*, *Achille* (a lovely flower, the colour an exquisite currant colour), *Duc de Malakoff*, *Pegasus*, *Othello*, *Vulcan* (very dark, but badly shaped), *Isoline*, *Striped Queen*, *Galathée*, *Penelope*, *Mons. Keteleer*, *Helen*, *Daphne*, *Aristotle*, *Endymion*, *Comte de Moray*, *Vesta* (white, with violet purple blotches), *Le Poussin* (clear red, lower petals blotched with white), *Madame Rabourdin* (white, with large blotches of rosy carmine), *Pluton* (deep scarlet), *Isoline*, *Goliath*, *Solfaterre* (bright yellow), *Madame Leseble* (pure white, striped with carmine), *Courant*, *Fulgens*, *El Dorado* (pure yellow, lower petals striped with red), *Aglæa*, *Osiris* (violet purple, a curious shade of colour).

Mr. Standish had a fine collection mainly of his own seedlings, including *Basil*; *General Cabrera*, dark red; *Lady E. Seymour*, pale buff; *Guido*, vermilion red, yellow throat; *Mr. Menzies*; *Eugène Domage*, rich crimson, dark-coloured throat; *Lady M. Hood*; *Daphne*; *Whipper-in*; *Mrs. Standish*, pure white, with feathers; *Rosenberg*, deep scarlet blood colour; *Mrs. Peach*; *Belle of Bagshot*, beautiful white; *Elfin*; *Earl Carlisle*, bright rose, deep lake feathers; *Adèle Souchet*; *Bacchus*, light crimson; *Rose of England*; *Adam Bede*, peach, deep scarlet lower petals; *Don Juan*; *Mrs. Siddons*; *Reine Victoria*, large and fine white; *Sir I. Newton*; *Edith Dombrain*, beautiful delicate fawn colour; *Alice Gray*; *The Cardinal*; *Donald Beaton*; *Lady Marhead*, very dark; *J. W. Lane*, fine; *The Ensign*; *Miss Howell*, beautiful light peach; *Miss Glegg*; *Oberon*; *The Dauphin*, and *Mademoiselle Patti*.

Amongst the other stands were some very fine flowers; while

the French collection before alluded to was remarkable for its great variety. The flowers were small, and by no means so well done as our English ones.

Dahlias were exhibited in considerable numbers. There being in the class for 12 blooms (Amateurs), twenty-nine competitors the higher numbers had, of course, fewer entries. The best flower in the Show I thought to be Pope's Lord Derby. It was exhibited in many of the stands, and some of the blooms were of surpassing excellence, while the most taking flower was a fancy Stafford's Gem, a lovely light crimson with a golden tip to each petal, which gave it a most attractive appearance, and made it very distinct in character.

In 48 Dahlias (Nurserymen), the race was of a neck and neck character, Mr. Turner winning by half a length. His flowers were Bob Ridley, Delicata, George Brown, Golden Drop, Andrew Dodds, Umpire, Warrior, Juno, Lord Dundreary (new seedling), Norfolk Hero, Mrs. H. Vyse, Cherub, Marquis of Bowmont, Chairman, Jenny Austin, Mr. Stocken, Mrs. Pigott, Mr. Boshell, Sir George Douglas, Lord Eversley, Miss Pressley, Lord Derby (a glorious flower), Duke of Wellington, Perfection, Hugh Miller (very fine), Dinorah, Pluto, Hope, Volunteer, Pioneer, Lady Elcho, Lord Cardigan, Ivy, Capt. Harvey, Cygnet, Chieftain, Sidney Herbert, Model, Commander, Hon. Mrs. Trotter, Madge Wildfire, Goldfinder, Earl of Shaftesbury, Lord Palmerston, Lady Franklin, Criterion, and Lady Popham.

In 24's Mr. Turner was again first with Earl of Shaftesbury, Marquis of Bowmont, George Brown, Mr. Stocken, Golden Drop, Bob Ridley, Mrs. H. Vyse, Mrs. H. Pigott, Model, Hugh Miller, Andrew Dodds, Lady Popham, Lord Derby, Umpire, Chieftain, Norfolk Hero, Mrs. Bush, Lord Dundreary, Lord Palmerston, Cygnet, Capt. Harvey, Criterion, Pioneer, and Delicata.

In 12 Fancies Mr. Keynes, of Salisbury, was first with fine blooms of Harlequin, Elegance, Miss Jones, Countess of Bective, Queen Mab, Mrs. Crisp, Pauline, Confidence, Nora Creina, Starlight, Lady Paxton, Madam Sherrington.

In class of 24 blooms (Amateurs), Mr. Corp, of Milford, Salisbury, was first with Jenny Austin, Lady Elcho, Sidney Herbert, Hugh Miller, Andrew Dodds, Lady Popham, Baron Taunton, Earl of Shaftesbury, Maria Carter, Donald Beaton, Mrs. C. Waters, King of Sweden, Juno, Lord Palmerston, Chairman, Emperor, Mr. Boshell, Pioneer, Peri, Lilac Queen, Mr. Critchett, Marquis of Bowmont, Lady Franklin, and Sir J. Oatram.

In 12's, the first prize was awarded to Mr. H. Thorneycroft, Floore, near Weedon, for Chairman, Cherub, Earl of Shaftesbury, Hugh Miller, Lord Derby, Jenny Austin, Hon. Mrs. Trotter, Golden Drop, George Elliot, Admiral Dundas, Lord Cardigan, and Umpire; while my friend Mr. Sladden, of Ash, took third with Juno, Mrs. Dodds, Beauty of Hilperton, Hugh Miller, Lord Cardigan, Chairman, Sidney Herbert, Marquis of Bowmont, Lord Bath, Andrew Dodds, Earl of Shaftesbury, and Dinorah. He was also good with 12 Fancies, having good blooms of Queen Mab, Lord Stanley, Jessie, Summeride, Mrs. Crisp, William Corp, Elegance, Gem, Confidence, Madame Alboni, and Lady Paxton.

Phloxes were not first-rate, and I believe never will be anything but rubbishy at a show, as they shatter so soon.

Verbenas were shown, considering the season, in good condition by Mr. Turner, of Slough, Mr. Smith, of Hornsey Road, and others. Mr. Turner took the first prize with Gen. Simpson, Kathleen, King of Verbenas, Madame Herman Steiger, Anglaise, Springfield Rival, Nemesis, Snowflake, Foxhunter, Delicatisimum, Lady Taunton, Firefly, Great Eastern, La Gloire, Lady Seymour, Ariosto Improved, Lady Middleton, Rose Imperial, Prima Donna, Warrior, Lord Elgin, Géant des Batailles, Zampa, and Fireball.

One cannot close without referring to the splendid *Lilium auratum* from Mr. Standish, about which Mr. Beaton will have a say, as there seem to be at least two varieties of it. There was also a collection of *Helichrysum* from Mr. Cattell, of West-terham.

As usual, everything was done to contribute to the comfort of all concerned, and a fine day brought a large number of visitors, the grounds looking very beautiful, and leading consequently to many somewhat caustic remarks on the gardens at Kensington Gore. Certainly there is no place which one can show to our French neighbours with so much real satisfaction (arising, I suppose, from the consciousness that they have nothing like it), as the Crystal Palace.—D., Deal.

## A NEW AMARANTHUS TRICOLOR.

MR. ROBSON has written in praise of *A. melancholicus ruber*, lately introduced by Mr. Veitch from Japan, and now growing in the gardens of the Royal Horticultural Society. He seems to think the name more grave than appropriate. I must say I think it deserves its name, for it is of a very melancholy red indeed.

But leaving *A. melancholicus* to stand on its own merits, I beg to bring to the notice of your readers another *Amaranthus*—viz., *A. tricolor*. It is one of the most beautiful variegated plants I have ever seen. There has been an *A. tricolor* advertised in catalogues, and, doubtless, some of our readers may have tried it and been disappointed. The seed of this of which I am writing was brought from Italy only a year or two ago, and though not always true from seed in the open air, sown in gentle heat sufficient plants can be obtained true. I understand that Messrs. Carter, at whose nursery at Sydenham I saw it, are reluctant to bring it forward, as they have for years advertised an *A. tricolor* in their catalogue—a very dingy affair indeed, and not at all to be compared to the new one. The plants of the new kind which I saw were in pots, about 10 inches high. The leaves are formed of exactly three colours—green veined with red at the tips; middle, blood red shot with green; the base, stalk, and stem of the most delicate cream colour, slightly veined here and there with red, forming one of the most perfect and effective combinations of three colours.

As variegated plants are Mr. Beaton's special *protégés*, he being the person who first drew public attention to them, I hope he will have an opportunity of seeing this one, and I am sure he will endorse all that I have said in favour of the new *Amaranthus tricolor*.—F. W. ADEY, *Merkgate Cell*.

## NOTES WHILST RESTING.

(Continued from page 432.)

THE Roman agriculturists sneered at their brethren of the garden, saying that like bacon it was only fit for perpetual slices—that is, I presume, that there were no great returns. They would have said the same of the Guernsey farming. But this and gardening may retort with the proverb, "Many a pickle makes a mickle;" for the Guernsey farms, like our gardens, return a large annual amount of produce in the aggregate. I believe among that produce no equal space in the world yields so much butter and milk, and that nowhere could so many cows be found upon a square mile.

Now, for the winter keep of those cows a large supply of Parsnips, Mangold Wurtzel, and other moist food is needed, and as the manure the cows produce is deposited almost solely upon the grass whereon they are tethered, the question naturally arises, Whence comes the manure for the root crops; sheep, horses, and pigs being so few that there may be said to be no other stock than cows on the island?

That manure is found solely in the *Vraic*, or seaweed, and it is of such vital importance to these islanders that it is placed under special governmental regulations. Without it the island would be nearly unproductive, and it more deserves from the inhabitants the name of *Corban*—a gift—a providential gift, which they bestowed upon the Vazon peat, rather than the inappropriate name *Vraic*, which means no more than wreckage. So well impressed are the islanders with the value of the seaweeds as a manure, that they have a saying—*Point de Vraic, point de hautgard* (No seaweed, no cornyard).

Whether right or wrong in their conclusion, it is nevertheless certain that these island cultivators value only the brown, or rather olive-coloured seaweeds; they neglect the green-coloured, but this may be only because of their comparative deficiency in quantity.

The olive-coloured seaweeds extend from high-water mark to one or two fathoms beyond low-water mark, and are chiefly of the genus *Fucus*—namely, *nodosus*, *canaliculatus*, *vesiculosus*, and *serratus*. *Laminaria digitata*, Sea Tangle or Oarweed, however, supplies much, its fronds being sometimes 8 feet in length and 2 feet in breadth; whilst *Laminaria bulbosa* is sometimes torn up from its home in deep water, and thrown in stormy weather upon the south-western coast, and is a prize to the vrazier, for its large bulb and wide-spread frond are quite a man's load.

There are two states in which seaweed is obtained. When it is floating and thrown ashore it is called *Vraic venet*, and may be collected whenever found; but when it is reaped or cut with

a small billhook it is called *Vraic scic*, and must be collected only at times appointed by the island regulations.

One load of reaped *Vraic* is considered by the islanders equal as a manure to full two loads of the floating. About two or three loads of the former, and from four to five loads of the latter, are considered necessary for manuring efficiently one *vergee* of land.\*

I copy the following from the published observations of a native Guernseyman. "The *Vraic venant* is used almost exclusively as manure, whilst the *Vraic scic* is first used as fuel; the poorer inhabitants, unable to afford coal or to obtain wood, relying upon this provision throughout the winter. The ashes are used as a manure, twenty bushels of them being the most approved allowance for one *vergee*." The ashes, I may observe, are preferred by the islanders for Barley, and, I think, for other corn crops; but for all other cultivated vegetables the *Vraic* itself is alone applied, and the fresher and wetter with sea-water the more beneficial it is considered.

"The *Vraicing* harvests are fixed by the island legislature, the winter harvest commencing at the spring tide of the first new or full moon after Candlemas Day (Feb. 1), and continuing to the 15th of March. The summer harvest, beginning on the second spring tide after the 24th of June, and continuing during two moons, produces what is considered the most fertilising harvest of seaweeds.

"That every class may share equally the benefit of these harvests, poor persons, possessing neither horse nor cart, are allowed exclusively to cut the *Vraic* during eight days of the first spring tide immediately preceding the summer harvest, provided they carry it on their backs to the beach.

"These restrictions apply only to the *Vraic scic*. The rules relating to the *Vraic venant* allow all persons throughout the year to mark, rake, or cart it away, from sunrise to sunset, with the addition that in the winter months the time is extended till eight o'clock in the evening.

"The manner of cutting and gathering in the *Vraic scic* is amusing even to those who are not strangers to the practice. On the mornings of the days appointed for this harvest, thousands of the country people, old and young, male and female, uniting in companies of two or three families, some with their carts, and others with horses bearing strong panniers, slung on each side, proceed joyously to the beaches, and, as the tide recedes, scatter themselves on the different rocks—the boldest, either in a boat, or on foot or horseback, wading to rocks where they consider the *Vraic* is thickest and longest—and begin to cut away in right good earnest, collecting it in heaps, upon which they place a smooth stone chalked with their initials. Thus they continue collecting the *Vraic* until the tide begins to flow, when the men carry it on horseback at full speed either to the beach above high-water mark, or to the carts belonging to their respective companies, which are in waiting as low down in the bays as the nature of the ground will permit.

"The gathering of the *Vraic venant*, though much briefer, is quite as exhilarating. It may be gathered either by marking or raking. When by *marking*, after a gale has thrown much on the shore, the neighbouring country people hasten to the spot before sunrise, each armed with a three-tined fork, and each posting himself where he thinks the most *Vraic* is to be secured. They wait for the sun's rising, watching until one of the company raises his fork as a signal, when they set to work with all their might, collecting the *Vraic* into little heaps, and cart these away as the tide compels them. The *raking* mode of collecting *Vraic* is adopted when the tide is up at sunrise, or at any other time when it ebbs. This is done mostly in stormy weather. Where the *Vraic* happens to be abundant, sometimes forty or fifty men may be seen in a space of as many yards, up to their middle in the water, extending large rakes as far as they can reach, and dragging ashore by their aid masses of the *Vraic* beyond the reach of the waves.

"It has been ascertained that nearly 24,000 loads of *Vraic venant*, each worth, on the beach, 2s. per load; and about 1200 loads of *Vraic scic*, each worth 12s., are thus obtained annually."

No better testimony of the fertilising powers of seaweed could be rendered than by the entire of the field and garden crops of this island. They are all vigorous and abundantly productive. Especially as evidence let the Mangold Wurtzel, Potatoes, and Parsnips produced around Vazon Bay be accepted. The soil

\* A *vergee* contains 40 perches, and 2½ *vergees* are rather more than an English acre.

there is merely a drifting sea-sand, yet I saw Mangold and Parsnips, a full average in size; and the Potatoes, though small, abundant, the return obtained by a large application of *Vraic*.

As I have already noted, it is preferred to be applied quite fresh, is dug or ploughed-in as long stable dung would be in England, and at the time of inserting the crop next to be grown.

It is not difficult to explain how seaweeds are so beneficial on the light soils of Guernsey. The salts those weeds contain, such as the chlorides of calcium and magnesium, absorb moisture from the air, and keep the soil healthfully damp for vegetation, even in the driest season. Others of the salts which they contain, phosphate of lime and chloride of sodium, enter into the composition of cultivated crops, and so does the carbon of the seaweeds. It is true that their carbon is small in quantity, but it is quite enough for the demands of one crop, and, as to each in succession fresh seaweed is applied, the supply is constantly maintained.

The cows in this island being universally tethered, they have no opportunity of following the example of their order in the Isles of Jura and Skye, where the cows come down regularly at the ebb-tide, and browse on the *Fucus vesiculosus* left uncovered by the water. In Gotthland the peasants boil it, mix with it a little meal, and give it to their pigs. In Jura, and others of the Hebrides, the cheeses are not salted, but are covered with the ashes of this plant, which impart to the cheese a sufficiently saline flavour. I do not find that the Guernseyers apply this *Fucus* to any such purpose; but Mrs. Carey, of that beautiful spot the Vallon, puts the vesicles, or bladders, of the plant into rum, which forms from them a thick jelly, having a high repute among her colder neighbours, as a curative application to wounds, rheumatism, and glandular swellings.

*Rhodomelia palmata*, the *Dulse* of the Scotch, is abundant in places on the Guernsey rocks: indeed, one variety of it was mistaken by Mertens for a species, and called by him *Fucus sartiensis*, or Guernsey *Fucus*. It is not employed here as a food, as it is in Scotland and Ireland, and as it was by Soyer in preparing his "St. Patrick's Soup" for the starving Irish.—*QUIS.*

(To be continued.)

## HOW TO USE LIQUID MANURE.

I SHOULD like to see a few words in your paper on the right use of liquid manure. The drainage of my house and stable is received, together with the rainfall on a yard and part of the house, in a tank. With the liquid contents of this tank, in my first experiments, I managed to kill four trees lately planted in the orchard, and to cauter the survivors. Pyramidal Pears were found to shed their blossom on its approach, and the young shoots of Rose trees had their points scorched. In this way I was convinced of its potency; and, at the same time, learned not to apply liquid manure in April before the growing rootlets have gained a little strength.

Will you tell me during what months it may be safely applied to Roses and small garden fruit trees, Cherries, Pears, Apples, &c.; at what season the dose should be the strongest, and when the supply should diminish? Is it altogether injurious to such trees in winter, or to full-grown orchard trees, or to Asparagus and Strawberries in the same season? Strawberries seem most enriched by it. Six dressings in spring brought a magnificent crop, and the corner which was double-dressed was the most fruitful. Is it of use to Strawberries in September, or to fruit trees after the crop has been gathered? Let us have a lecture, not on the value but on the judicious application of liquid manure.

Two maiden Apples, planted among my Strawberries, have been half killed with aphids. I attribute this attack to the manure water. Some plants there are more capable of benefit in this way than others.

As there is much water carried into the tank with the drainage, I dilute it with water, half and half.—*WYESIDE.*

[There are but two rules requiring attention as guides for applying liquid manure:—1, Do not apply it too strong; 2, Apply it only when the plant is growing.

1. It cannot well be too strong when applied to the soil of Cabbage-beds, Rhubarb, Asparagus, and other plants which cannot be too luxuriant, one bucketful of sewage to two bucketfuls of water would not be too much; but for Roses, fruit trees, and other plants which are required to produce flowers and fruit as

well as vigorous foliage, the liquid manure should be very much diluted. It is quite impossible to state absolutely how much water should be added to the sewage of a house, for this must depend upon the number of the inmates and other circumstances; but we never knew such sewage rendered too weak for either flowering or fruiting plants by mixing four bucketfuls of water to one bucketful of the sewage. For potted plants twice the quantity of water would be nearer correctness—weak and often is the best rule in all cases.

2. It is perilous applying it to newly-planted trees or plants of any kind; and is useless or injurious if applied when they are at rest, as in winter. We will vouch for its not having caused canker in your fruit trees; but applied either too strong or when newly-planted it might make them shed their leaves, or even kill them.

From March to September, or later to growing Cabbageworts, is the period of application to out-of-door plants. If the liquid manure made your maiden Apple trees sickly, it would promote their liability to be attacked by aphides.]

“TIS VERY GOOD, BUT MUST BE  
CIRCUMSTANC'D.”—SHAKSPEARE.

I WILLINGLY give you credit for seeking to make your paper useful as well as entertaining; but it occurs to me that you would more effectively do this, and at the same time avoid creating disappointment, were you to urge upon your contributors and correspondents fulness and precision in their statements.

Not very long ago there occurred a glowing account of the wonderful crop of Peaches which the writer gathered from trees planted the previous season. And in last week's Number there is a similar account of the success attending the efforts of a lady with her Peach trees grown in a beautifully painted and paved orchard-house, where it is stated that the first season she gathered a fine crop. Now, both accounts, in my humble estimation, are calculated to mislead. What do the authors mean by “previous” and “first” season? There is something more than the time of planting involved; there is the age of the trees as well; and no mention is made of that—how old they were from the graft in the one instance, and how long they had been grown in the pots in the other. That I think was an important point to have explained.

Communications such as these are only valuable as they give precise information on all the details affecting the individual cases, and not merely the results, leaving out of view the several previous years of careful culture, which I suspect must have been devoted to the trees before they could possibly yield fine crops.—A SUBSCRIBER.

[We quite agree with our correspondent's opinion that when any great success in culture is attained it would be very beneficial if full particulars of the circumstances were given, because such particulars throw a light on the path to be trod, and point the way to it. At the same time the mere record of such successes is beneficial; for what one man can effect another can imitate, and it rouses others to inquire after the means to be adopted, of which our correspondent himself is an illustration. We shall be glad of more information concerning the Peach culture to which he alludes.—EDS.]

EXPEDITION TO VANCOUVER'S ISLAND AND  
BRITISH COLUMBIA.

At a meeting of gentlemen interested in arboriculture and horticulture, members of the Association and of the Committee of the Oregon Botanical Expedition, held at Edinburgh, on the 21st of July, 1862, George Patton, Esq., of the Cairnies, in the chair, the subject of re-organising the Oregon Association, with a view to the employment of a botanist to collect the seeds of hardy trees and plants, and the seeds and roots of flowers, was brought before the Meeting.

The Committee formerly appointed reported that they were at present enabled to obtain the services of a collector, in every way qualified, in the person of Mr. Robert Brown, a gentleman devoted to natural science, whose merits were attested by high authorities, and whose successful prosecution of science had already been proved by contributions to botanical and various other learned societies. They stated that Mr. Brown was pre-

pared to proceed immediately upon the performance of his duties, and to prosecute the object of the Association in whatever part of the world the Association might direct.

After deliberation, it was unanimously resolved that the Oregon Association be revived, and,

First, That an Association, to be called “The British Columbia Botanical Association,” be formed, for the purpose of having an exploration made of British Columbia, Vancouver's Island, and the countries adjoining the Rocky Mountains, with a view to the transmission of seeds of hardy trees and plants, and the seeds and roots of flowers, to the members; the field of exploration being subject to modification or extension according to the direction of the Committee.

Second, That members should subscribe in shares of £5 each, payable yearly, in proportion to which shares the seeds, &c., sent home should be distributed at the sight of the Committee; it being understood, unless otherwise expressly conditioned, that subscriptions should be continued for three years; and that no member shall be called upon to pay more than the amount of shares subscribed by him.

Third, That Mr. Brown be appointed Collector, and be requested to hold himself in readiness to leave this country for Vancouver's Island so soon as he may be directed by the Committee.

Fourth, That Professor Balfour, with the assistance of Mr. M'Nab and Mr. M'Intosh, prepare such instructions as may be thought necessary to the botanist.

Fifth, That Sir Wm. Gibson-Craig, Bart., of Riccarton, be appointed chairman; Mr. Isaac Anderson-Henry, of Woodend, secretary; and Mr. James M'Nab, of the Royal Botanic Garden, treasurer.

Sixth, That the management of the affairs of the Association be placed under the following Committee, with power to add to their number, and to sub-commit:—Sir Wm. Gibson-Craig, Bart., chairman; the Hon. Viscount Dalrymple; Sir William Jardine, Bart.; Sir David Dundas, Bart.; J. H. Balfour, Esq., Professor of Botany in the University of Edinburgh; Archibald Campbell, Esq., of Blythswood; Colonel Ferguson, of Raith; T. A. Hog, Esq., of Newliston; Humphrey Graham, Esq., of Belstane, W.S.; Isaac Anderson-Henry, Esq., of Woodend, secretary; Charles Lawson, Esq., of Borthwick Hall; Charles M'Intosh, Esq., Murrayfield; James M'Nab, Esq., Superintendent of the Royal Botanic Garden, Edinburgh, treasurer; T. Gambier Parry, Esq., of Highnam Court; George Patton, Esq., of the Cairnies; David Smith, Esq., Manager of North British Insurance Company; Wm. Thomas Thomson, Esq., Manager of the Standard Insurance Company; and W. Ivory, Esq., of St. Roque.

Seventh, That the Secretary be requested to get the foregoing minute and resolutions printed and circulated among the members of the Oregon Association, and others interested in arboriculture and horticulture; and that the parties so written to communicate immediately with the Secretary, and, if desirous of joining the Association, pay to the Treasurer, Mr. James M'Nab, Royal Botanic Garden, the amount of their first year's subscription, so as to enable the Committee to despatch Mr. Brown in time to obtain the seeds of this season.

THE ARCHERFIELD EARLY MUSCAT.

You will, doubtless, have observed, that Mr. Rivers has publicly given it as his opinion, founded on mere description, that the Muscat Précoce du Puy-de-Dôme is identical with the Archerfield Early Muscat. I take the liberty of asking whether you, as an acknowledged authority in pomology, know the Muscat Précoce du Puy-de-Dôme, and whether you consider it the same as the Archerfield Early Muscat?

If the Précoce du Puy-de-Dôme ripens as early as the Royal Muscadine, which Mr. Rivers says it does, my impression, or, in fact, conviction is, that it cannot be the same as Archerfield Early Muscat.—D. THOMSON, *Archerfield Gardens, N.B.*

[We do know the Muscat Précoce du Puy-de-Dôme, and we can state most decidedly that it has not the slightest resemblance to the Archerfield Early Muscat, which we have also seen. We know farther from our own observation, that Muscat Précoce du Puy-de-Dôme, Muscat Eugénie, Muscat de Syrie, and Isaker Daisiko, are synonymous, and that they bear as much relation to Archerfield Early Muscat as a White Frontignan does to a Muscat of Alexandria.]

## WHAT TO LOOK FOR ON THE SEASHORE.

MOLLUSCA—(Continued from page 437.)

We now proceed to notice the ASCIDIÆ, or Simple Ascidie.

These creatures are characterised by being enveloped in a close oval or cylindrical sac, which is called the cloak. This sac is fixed at its base, or by its side, either to rock, shell, or seaweed. It is of a leathery substance, and is terminated by two unequal openings—the one branchial, the other anal. From these openings, if the animal be handled or otherwise disturbed, the sea-water is expelled with very considerable force. These animals are entirely deprived of the power of locomotion; indeed, the principal evidence of vitality displayed by them is the alternate absorption and expulsion of the water. They are by no means attractive objects, save in one particular—they are occasionally found of a very brilliant colour. The leathery sac or cloak in which they are enclosed, is frequently seen covered with small shells and stones, ornamented with pretty little tufts of corallines; occasionally even the thick cloak itself is perforated by certain bivalves, which seem to find their strange lodgment much to their taste. There is an inner as well as an outer cloak, which, however, is only attached to the outer one near the openings above mentioned. The branchix, or gills, form a largish bag, at the bottom of which is placed the mouth, and near this opening lie the viscera.

The sexes of the Ascidiæ are quite distinct. The species are extremely numerous, and are found in all localities; in some places perhaps they are more abundant than in others, but they are so common everywhere that it would be useless to designate any particular places. They are one and all, however, inhabitants of salt water. It is said that in some districts there is a species of Ascidia used as an article of food; this may be possible, but it appears to me vastly improbable.

ASCIDIA INTESTINALIS.—This creature occasionally reaches a length of five or even six inches—its ordinary length, however, being about three. It is common on most parts of our coast, but is found in large quantities in the North. Wherever it is met with, however, it adheres to shells, rocks, or seaweed at various depths. It has a long cylindrical body, with a soft, clear, outer tunic, mostly yellow or of a pale green.

ASCIDIA COMMUNIS.—As this is the commonest of all the British Ascidiæ, it is as well to designate it by that name instead of the scientific one. The body is oblong, having a translucent outer tunic which varies in colour, sometimes being of a pale greenish-white, and sometimes of a dark brown. This creature grows to a length of six inches, frequently more, and is found on most parts of our coast in large quantities, at about fifteen fathoms depth.

ASCIDIA ARACHNOIDEA.—So called from the tunic being "marked with reticulating lines as if it were covered with a spider's web." In form it is oval, like the foregoing specimen; the tunic very thick and smooth, and either quite white or marked as above mentioned. Its length is about three inches. This beautiful species is found on the south coast of England, and is "not uncommon," says Mr. Alder, "on the Cornish and Devonshire coasts."

ASCIDIA PRUNUM is another species common to our coasts, where it is found adhering to the under surface of stones at low water. The body is ovate; the tunic smooth and semi-transparent. Its length is about one inch.

MOLGULA TUBULOSA, or ASCIDIA TUBULOSA.—(*Molgula* representing a little bag of skin, as *Ascidia* represents a little bag of leather.) The body of this creature is quite globular, and is found buried in sand or mud. The outer tunic is semi-transparent, encrusted with sand when found, and of a bluish colour. "This curious species," I quote from Messrs. Forbes & Hanley, "occurs abundantly in muddy lochs and bays on the west coast of Scotland. When it comes up in the dredge it resembles a little ball of sand; when the sand is rubbed off it seems like a little transparent bullet, in the interior of which the viscera are seen winding."

CYNTHIA RUSTICA.—This species is about one or two inches in length. The body is globular or clustered, and generally of a deep rusty red colour. It is common on most parts of our coast, where it is found adhering to seaweed.

CYNTHIA GROSSULARIA.—On Oysters in all localities, and on stones also will be often found disks about a quarter of an inch across, and of a rose-red colour. This is the *Cynthia grossularia*, a creature having a flat, smooth, oval body, adhering

by the entire undersurface. It is supposed generally to be the fry of the previously-mentioned Ascidian, *Cynthia rustica*, but it is said by Messrs. Forbes & Hanley to be probably a distinct species.

We now proceed to the SALPIDE, another order of the Tunicata.

The genus *Salpa* differs in one very material point from those Ascidiæ we have just disposed of. It is *free* instead of fixed; the body is of an oblong shape, and of a gelatinous substance; it has both an outer and an inner cloak or mantle, the one adhering to the other throughout; there is an opening at each end of the tube-like body—the openings, however, are somewhat different; the anterior one being a simple orifice, whereas the posterior one closes with a valve, so that the water which enters from behind, and serves to propel the creature forward, cannot return in a contrary direction; in addition to which, further means of progress are supplied by means of certain muscular bands with which the cloak is surrounded. The gills are in the form of a ribbon, attached by one extremity to the tubular cavity of the cloak in such a manner that the water in its passage through the tube continually strikes against them. Numerous small crustaceans take possession of the cavity of the *Salpa*, and are there lodged and conveyed without trouble or inconvenience. These little creatures constantly emit a phosphorescent light. The mode of reproduction of the *Salpæ* is very remarkable. It had been noticed that the animals were sometimes seen singly, at other times in great numbers united together in long chains. The chains glide along the water with a serpentine motion, each individual of which the chain is composed contracting and expanding with perfect precision, and with a simultaneous movement. Each chain, therefore, seems at a distance but a single individual, and is frequently regarded by sailors as a reptile, and *Salpa* chains get the nickname of *Sea-serpents*. The discovery of the mode of reproduction by the *Salpæ* is due to the German naturalist Chamisso.—W.

## THE INTERNATIONAL EXHIBITION.

(Continued from page 380.)

## VICTORIA.

THE colony of Victoria was formerly a dependency of New South Wales, but was erected into a distinct government in 1851. It occupies the whole of the southern extremity of Australia lying to the south of the Murray river, and east of long. 141° E., the boundary of South Australia on that side, and includes an area of 86,831 square miles, or 55,571,840 acres, of which less than half a million are under cultivation. Certainly no colony has ever risen so rapidly in population and wealth as Victoria, the discovery of the gold fields having determined an unprecedented immigration from all parts. In 1836, the whole population only amounted to 177; in 1851, previous to the discovery of gold, it was a little over 77,000; and 1861, just twenty-five years after the first census, it had reached 540,322; whilst it is computed that the value of the gold which was obtained in the colony up to the end of 1860, was £104,000,000.

Taking Melbourne, the capital, as the representative of the colony generally, the climate may be stated to approach most closely to that of the south of Portugal; the northern parts, however, are considerably warmer, resembling Algiers in temperature. At Melbourne the mean temperature of the year is 57.8 or 8½° warmer than in the neighbourhood of London; but the thermometer frequently rises to a much greater height in summer than here; whilst in winter, except in the hilly districts, it seldom falls much below freezing. The soil, too, is on the average nearly 10° warmer than with us, a circumstance which greatly accelerates the process of vegetation. Being thus favourably situated with regard to climate, Maize, Tobacco, Melons, Cucumbers, Figs, Grapes, and most of our hardy fruits, are cultivated with success. Apples and Pears in particular attain a very large size, and from the strength of the sun a high colour. Vegetables, such as the Potato, Turnip, Beet, Carrot, Cabbages, &c., are also produced in great perfection; but the Gooseberry, Currant, and Raspberry, do not succeed well, the climate being, in most parts, too hot for them.

In order to give a just idea of the character of the fruits and vegetables produced in Victoria, a numerous collection of models has been prepared in gypsum, coated with wax or gum tra-

gacanth, and coloured so as accurately to represent the natural hue of the fruit.

The Apples, of which there are forty-eight models, include many of our best varieties, some, however, not being the true sorts, and are generally remarkable for their large size and high colour, as compared with the same varieties grown in this country. The Blenheim Orange, Alexander, and Lord Nelson, are noticeable in both these respects, and the Holland Pippin, Red Quarrenden, Red Astrachan, Golden Pippin, and some others, are very richly coloured.

Of Pears there are thirty-seven models, among which are fine specimens of Uvedale's St. Germain, Bishop's Thumb, Napoleon, Duchesse d'Angoulême, and Forelle. Cherries are of fair size, and so are Plums, the Quinces very large. A White Ischia Fig, and a few Oranges and Lemons, are likewise shown. Among the vegetables are Vegetable Marrows, Onions, Carrots, Beetroot, Potatoes, and Sweet Potatoes, all of which are of good size.

As Victoria is not a grain-exporting country, but, on the contrary, produces not more than sixty per cent. of the Wheat necessary for her own requirements, we need only mention that from the quality of the samples of grain exhibited, there is no question of the capabilities of the climate and soil as regards the production of cereals.

With respect to other crops, we find from the valuable statistical sketch of the colony prepared by Mr. W. H. Archer, the Registrar-General of Victoria, that "an increased breadth of soil has also been each year devoted to minor crops, such as Maize and Sorghum, Rye and Bere, Peas, Beans, Millet, Turnips, Mangold Wurtzel, Beet, Carrots, Parsnips, Cabbage, Onions, and Tobacco, all of which thrive luxuriantly in Victoria. The demand for fruit and vegetables, and the eminent capabilities of the soil and climate for bringing such productions to perfection, have had the effect of causing about 7300 acres to be laid out as orchards and market gardens, making an increase in three years of nearly 2500 acres, or upwards of a third."

The cultivation of the Vine is as yet in its infancy in Victoria, but it is steadily on the increase; and there were last year upwards of 1100 acres in vineyard, which produced 8000 cwt. of Grapes for sale as such, 11,643 gallons of wine, and 260 of brandy. Several samples of different vintages are exhibited, some of which are said to be very good.

Of the other vegetable productions timber forms the principal feature, about eighty specimens having been collected by Dr. Mueller, the government botanist. The most valuable are the Blue, Red, and White Gums, Ironbark, Box, Stringy Bark, Casuarinus or She Oaks, Myall, and Beech or Myrtle (*Fagus Cunninghamii*), and some others, all of which have been previously noticed. Of the rest there are several species of Acacias which would apparently answer well for cabinet work; the Murray Pine (*Callitris verrucosa*), is an extremely useful wood for the same purpose; and the Sassafras tree (*Antherospermum moschatum*), is capable of taking a high polish.

Barks of Acacias and Casuarinas, of which Victoria exports considerable quantities, with a collection of essential oils and resins obtained from various species of Eucalyptus, Melaleuca, and other plants indigenous to the colony complete the list. Some of the oils are likely to prove of considerable importance in the preparation of varnishes; others are stated to be excellent for illuminating purposes; and a few may be useful in medicine and perfumery. A detailed account of these substances as well as a vast fund of other information respecting the colony, is to be found in the catalogue of the Victorian Exhibition of 1861.

(To be continued.)

## THE PROPAGATION OF CONIFERÆ.

(Continued from page 411.)

The following are the principal kinds of Coniferæ requiring particular modes of propagation:—

*Araucaria*.—The propagation of this genus varies considerably as regards the ease with which cuttings are struck. The species which strikes most readily is *A. Cunninghamii*. To obtain young plants of this, select the cuttings in February or March from half-ripe side shoots about 3 inches long; the terminal shoots of side branches may also be used. Let them lie till they are somewhat dry, and having carefully cleaned the cut end, put them in six-inch pots of clean, moist sand, and keep them covered with a hand-light in a greenhouse. When they have grown a few inches, bend the plants gently down towards the surface of the soil, and secure them in this position by small pegs; this

will induce them to break out at the base. When the shoots which have thus pushed out have grown to a few inches, and have become somewhat strong, it will be necessary to cut off the branch which was bent down, which may be used again as a cutting. This mode of treatment is applicable to all Coniferæ. *A. Cunninghamii* may also be propagated by roots; and if there be any old shabby plant, it is as well to sacrifice it for the sake of obtaining a stock of nice young healthy plants. Cut the roots in pieces of 4 inches or 5 inches in length, and choose those that are the thickness of a common quill; put them in pots filled with sandy peat, keeping the cut level with the surface of the soil; treat them afterwards like cuttings of ordinary plants, but do not cover them with anything. As seeds of *Araucarias* are easily obtained, only the better or more choice sorts should be grafted on seedlings about a year old, which will produce good strong plants in the shortest time—at least sooner than from cuttings, especially if they are grafted as near the roots of the stock as possible. The best mode of grafting *Araucarias* is side-grafting; but the graft must be placed near the roots, and the operation performed in July or August. It is advisable to select only fine young terminal shoots. In nurseries, one good old strong plant should be kept for the purpose of producing cuttings. This may be attained by cutting down the heads of such plants as are less serviceable for any other purpose. This will induce them to send out numerous young shoots near the cut, and on the stem.

*Cephalotaxus*.—This very closely resembles the *Taxus* in habit, and may be readily worked on it. The large-leaved species are best propagated by cuttings.

*Cupressus*.—These are best raised from seeds, as seedlings are found to make the finest plants. *C. sempervirens*, in particular, is not so successfully propagated by any other mode; cuttings grow very slowly. August and September are the most suitable months for grafting the better sorts on seedlings of *C. sempervirens*.

*Dammara*.—All the species of this genus are somewhat difficult to propagate by cuttings; they are, therefore, best grafted on *Araucaria imbricata* or *A. braziliensis*. It sometimes happens that a tenacious substance gathers on the incision made on the stock; and, it may be well to observe here, that such substance is not detrimental in the development of the graft, and it may therefore be allowed to remain.

*Pinus*.—This is a very rich tribe, and includes the following section:—*Pinus*, *Picea*, *Abies*, *Larix*, and *Cedrus*. Propagation by cuttings is very difficult, and they are much more readily raised by grafting on those to which they are allied. They are also freely propagated by seed. *Abies*, *Picea*, and *Cedrus*, however, can be propagated by cuttings more readily than by any other means. The best time for taking cuttings, and performing the operation of grafting, is in February and March, or September and October. The stock and graft should be of equal size, as they then join much better, and sooner than when unequal. Only such *Pinus* as are quite hardy should be selected for grafting on, and the strongest stocks should always be used. *Pinus strobus* and *P. sylvestris* grow very well in the open ground, but *P. Mughus* is the best adapted for exposure in places where the climate is cold. *Cedrus* grows freely from cuttings, and is also readily grafted on the hardy species of *Pinus*. *Larix sibirica*, *L. americana*, and others, can only be propagated well and readily when grafted on *L. europæa*, and its varieties. *Picea* and *Abies* may be readily worked on stocks of each other, but the best stocks to graft upon are *Abies excelsa* and *P. pectinata*.—M. COURTIN, *Bordeaux*.

## THE EFFECT OF CLIPPED TREES IN DECORATIVE GARDENING.

BY H. NOEL HUMPHREYS, ESQ.

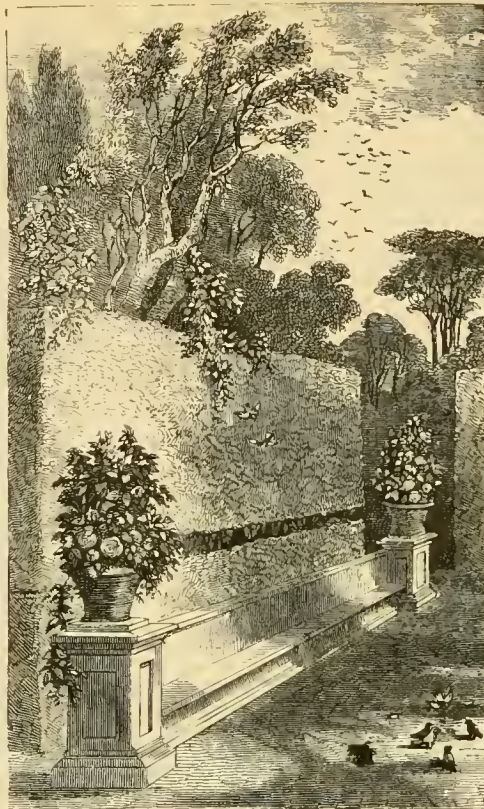
THE first attempts at decoration, in many branches of art, consist in simply subduing the irregularity of natural forms to geometric shapes, in the regularity and repetition of which the eye of the most untutored recognises at once the existence of certain laws of order, which are necessarily the earliest steps of every advance in civilisation, whether social, political, or artistic. Thus, the Indian savage pares away the rugged bark of his club, and in its place carves with laborious care a series of zigzag or serpentine lines, the evenness and regularity of which constitute, in his estimation, their greatest merit. But there arises, sooner or later, an epoch in the advance of art when formality in its turn gives way, and a return to natural outline takes

place. It is then that we find another race of artists disdaining the regular patterns of the half-savage, and positively imitating, by laborious and painstaking manipulation, the rugged bark and knots which were pared away by the earlier carver to make way for his symmetrical notching. So in gardening, the first steps in the direction of ornament have always been clipping and cropping; first, merely to obtain regularity of line, squaring and levelling being the highest aim of the earliest practitioners in the art. These simple ends are soon accomplished, and more ambitious views succeed, when temples and amphitheatres, colonades and porticoes of verdure become the great objects of a race of architects in foliage. In Italy the art rarely passed these bounds; but in the north, especially in Holland, Belgium, and England, trees were clipped into human figures, and these leafy monsters became a positive rage: the Yew, the Box, and other trees whose close-growing foliage rendered them most suitable for torturing into these unnatural shapes, being cropped and sheared till it was supposed they resembled shepherds and shepherdesses, dogs, peacocks, and other forms; to add to the reality of which, painted faces and hands, &c., were added—such additions rather increasing the absurdity than aiding the wretched imposture. The return to nature (as in the case of the carver of the club, and his successor of a later period) was as violent as its departure; and a race of "landscape gardeners" arose, who swept away with relentless hand the avenues,

the bowers, and the quaint figures which the foliage of the slow-growing Yew had, with the most careful clipping and tending, been a century in producing. We have in England but few old gardens remaining which can show remnants of this exploded taste; but in Holland many may yet be found revelling in all their pristine formality and stiffness; and in Han-

over the curious gardens created by George the Second for his too famous mistress—mentioned in the entertaining memoirs of Lord Hervey—are still in their original state, a kind of German Trianon, in which all kinds of cropped absurdities are still carefully maintained and trimmed.

But the object of the present article is to suggest the partial revival of the best features of this taste, in proper situations and under suitable circumstances, and it is from some of the best Italian gardens that we shall be furnished with the best hints for the partial re-adoption of architectural and other simple and severe forms in foliage. The garden-seat, from the Villa Strada near Rome, backed by a screen of carefully-cropped Limes, the outlines of which harmonise with that of the seat itself, is a good example of a style, and an extent to which symmetrical cropping may be safely resumed with good effect. Let us imagine a tolerable extent of shrubbery formed of well-grown timber trees, with an undergrowth of Laurels and other evergreens, intersected in various directions by means of winding walks. In the midst of this shrubbery, let us suppose an open space of quadri-



GARDEN-SEAT OF THE VILLA STRADA, NEAR ROME.



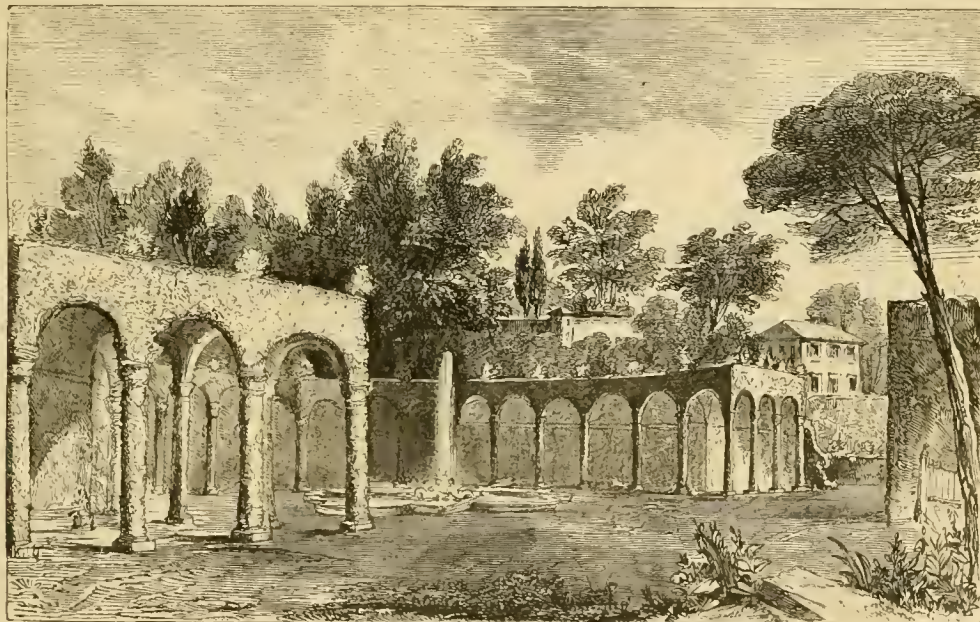
THEATRE OF CYPRESSES.

lateral form, each side occupied by a seat and cropped screen of foliage similar to the annexed engraving—a square plot of grass, with a fountain, a sundial, or merely a large vase filled with flowering plants in the centre, surrounded by a broad trimly-kept gravel-walk, and it will be easy to conceive that such a combination of regular forms occurring in the midst of a shrubbery similar to the one described would create a most pleasing contrast, and be a spot often sought during the summer months for quiet meditation; as there would always be one shady side, and the surrounding trees would diffuse a pleasing general coolness.

The engraving, also from a celebrated Italian villa, is termed “the Theatre of Cypresses.” With or without its dressings, in the form of fountains, statues, &c., such a disposition of forms might be made successfully available in an English garden in many ways; but there is one which I more especially wish to suggest. Our modern geometric flower gardens, when of considerable extent, generally produce a same and unsatisfactory effect, from their uniform flatness of surface, few of the plants cultivated for the purpose of producing masses of colour growing to any considerable height. I recollect noticing particularly how conspicuous this defect of flatness appeared to me in the otherwise fine flower garden at Trentham. In addition to the defect of flatness—that of seeing over all the surface at one glance, destroys to a great extent the eagerness and curiosity to examine the more distant parts—which should always be considered a fatal defect in gardenesque compositions. To remedy this, I propose introducing, in a geometrical flower garden, either one, four, or more examples, according to space, of such a composition as the annexed “Theatre of Cypresses.” I will imagine the space only suitable to one group, which, in that case, would of course be central. The hedge might be formed of Privet, or some other quick-growing evergreen—some of the new Ber-

berries for instance; instead of the Cypresses, in our climate some hardy tree of spiral growth, but considerable size, might be selected, as great height is necessary to the effect I wish to produce. In Italy, the “sky-cleaving Cypress,” as Shelley has so picturesquely termed it, attains to the size of the Poplars of the north, and forms a most characteristic feature in Italian scenery; indeed, an Italian landscape without Cypresses, or an English one entirely without Poplars, might be compared to the view of a city without steeples, the monotony of which would be insupportable to an eye seeking artistically for agreeable and striking combinations of form.

From this it will be understood that the writer would prefer a geometrical flower garden, the monotony of which was broken up and varied by a few lofty and finely-grouped objects, to one of uninterrupted flatness, varied only by patches of colour. Other advantages would also be obtained; for instance, within the newly-enclosed circuit of the group of tall trees, there would be a space where certain plants, which suffer from too much sun, might be more successfully cultivated than elsewhere, and even on the north side of these trees certain shade-loving flowers would find an appropriate situation. In addition to these advantages, and the improvement to the first general view, a certain legitimate degree of intricacy would be attained, which is always agreeable. All could not be seen at one superficial glance—something choice would be imagined within the well-hedged circle; and beyond it, and on either side, would be certain partially-concealed portions of garden, which one would be thus tempted to explore. In the midst of an irregularly-planned flower garden I would scarcely recommend such an object as the “Theatre of Cypresses,” but as a good centre to a geometric plan I think it could not be otherwise than effective and agreeable, and at this time, when all effects to be produced by cropping have been so completely abandoned, it would be a positive novelty.



AMPHITHEATRE OF VERDURE.

The above example is also from an Italian garden, and is styled an “Amphitheatre of Verdure,” “*amphiteatro di verdura*.” The introduction of a somewhat similar feature in an English garden might in some instances be very successful, but more especially, as in the former case, in a geometric one. Let us suppose a secluded flower garden terminated on one side, perhaps, by a terrace near the house, and on the three others by shrubberies. From either side of the terrace an arcade of cropped Limes might separate the trim flower garden from the free-growing shrubbery, and at the end, opposite the terrace, the garden might with good effect terminate with the *amphiteatro di verdura*. Trimness of form thus exhibits itself, not only on the ground, in the turf, and the form of the beds, &c., but also above the eye, in the outline of these sculptured Limes, thus giving greater comple-

ness to the geometric character of the general composition. The trunks of the Limes might either be covered with hardy climbing Roses, or, by a little careful management, clothed with their own foliage as in the Italian amphitheatre, above which, as in the garden before described, the trees of the surrounding shrubberies, appear softening the rigid outline of the cropped trees, and forming a soft and irregular “sky-line,” which would gracefully complete the composition.

It will be seen by the above remarks that, in resorting to the abandoned custom of reducing foliage to arbitrary forms, only the most severe and simple are advocated, and even then only in well-considered situations, where the contrast or the harmony of forms would be artistically aided by such means.—(*Gardeners' Magazine of Botany*.)

## WORK FOR THE WEEK.

## KITCHEN GARDEN.

The weather still continues favourable for the growth of the autumn crops, and the whole of such as require it should be kept well earthed-up. As young weeds will now be making their appearance in thousands where they have been allowed to ripen their seeds, the whole of the garden, if possible, should be scuffled over on a fine day with Dutch hoes, to destroy them by exposure to the sun. Exhausted crops, as Peas, Beans, &c., to be cleared away as soon as possible after they are done with, and the ground to be manured and trenched, when it will be in readiness for planting. There is but little in the way of sowing required this month, presuming that all the Cauliflowers, Cabbages, Lettuces, Spinach, &c., had been sown last month. *Cabbage*, prepare ground for the main spring crop; it should be highly enriched with manure. A quarter on which the Onions have been grown would be very suitable for the purpose. *Cauliflowers*, prick-out the young plants as soon as they are sufficiently large to fix properly in the soil; some may be pricked into a sheltered border, and others into frames. *Endive*, plant plenty by the sides of walls or wooden fences to stand the winter. *Lettuce*, plant in a warm, sheltered situation some of the Bath Cos for an autumn supply. *Onions*, pull up those that have done growing, and house them in a dry state; to be sorted before they are stored away, and the thick-necked ones used first. *Spinach*, thin the plants to about 9 inches apart, and work the hoe well between them. *Turnips*, to be thinned as soon as they have made a couple of rough leaves. To prevent the attacks of slugs, sprinkle the ground occasionally with soot or lime.

## FLOWER GARDEN.

At this season the beds of flowering plants will require frequent cutting-back to prevent the free-growing sorts from straggling or sprawling about. Decayed flowers and seed-pods to be removed. By careful attention to these little matters the season of blooming may be prolonged until the plants are destroyed by frost. Lawns to be well swept in dry weather to remove worm-casts, and afterwards to be well rolled. Where worms are troublesome water with clear lime water of full strength. Evergreens of all sorts to be propagated by cuttings in the open ground, also *Wistaria sinensis*, *Virginian Creepers*, *Jasmines*, *China Roses*, *Heartsease*, &c. Beds and borders deficient of *Snowdrops*, *Crocuses*, *Jonquils*, *Narcissus*, and other early spring-flowering bulbs should have some introduced.

## FRUIT GARDEN.

Fruit-gathering should now receive frequent attention. The fruit which ripens rather hastily and that possessing aroma to be gathered somewhat under-ripe, whilst sorts that ripen with difficulty or which are slow in obtaining colour should remain much longer on the trees. When gathered, to be kept in a cool and airy situation to allow the moisture that arises on the fruit for some time after being gathered to evaporate.

## STOVE.

As the nights become cold, a little fire heat may be advantageously given more to assist in ripening any wood that may be still succulent than to promote growth. See that every plant is free from insects, and keep the foliage of *Isoras*, &c., clean by washing with a sponge and soapy water.

## GREENHOUSE AND CONSERVATORY.

Climbers will require frequent attention to keep the shoots in their proper places. When *Japan Lilies*, *Gladioli*, and plants of like habit have done blooming, remove them to the sunny side of a hedge or to the foot of a wall facing the south to ripen their growth. To be watered but moderately until their tops show signs of decay, when they may be laid on their sides till potting time (November) arrives. *Heliotropes*, *Verbenas*, *Scarlet Geraniums*, *Roses*, *Ageratum*, &c., required for decorative purposes to be progressively shifted; stopped and trained, they will be found useful to a late period of the year. The *Pelargoniums* cut back some time ago when they have made shoots an inch or two in length to be shaken out of their old soil, the straggling roots trimmed, and to be repotted into smaller pots. If plunged in a slight bottom heat it will assist to give the roots a fresh start. Continue to shift *Cinerarias*, *Chinese Primroses*, *Calecoularias*, *Humeas*, and other seedling plants for next season's blooming. Attend to *Mignonette* by thinning it in time, and sow another batch. Pot Ten-week Stock for early blooming. *Tropeolums* to be started, and no time must be lost in procuring and potting such *Hyacinths*, *Tulips*, and other bulbs as may be required for forcing.

## PITS AND FRAMES.

Give diligent attention to the propagation of bedding-out stock, and get cuttings that are sufficiently rooted potted-off at once, keeping them close and moist until again established. Those which have been potted-off some time, and are established in their pots to be gradually exposed to the open air, stopping the shoots to keep them dwarf and stocky; they also derive great benefit from exposure to night dews. W. KEANE.

## DOINGS OF THE LAST WEEK.

As a fit of weariness from hard labour comes over us, we would be tempted to say, Read our old friend Mr. Keane's suggestions, and you will not be wrong; more especially as our work for the last week has been chiefly of a routine character, and closely resembling that of the preceding two weeks.

## KITCHEN GARDEN.

The work has been chiefly earthing-up the forwardest Celery, so as to have it fit for use in the second week; planting-out Broccoli, Cauliflower, and Cabbages for autumn and winter; pricking-out Cabbages for spring; sowing Cauliflower for spring under hand-lights; sowing Onions in rows for salads, and others to be transplanted for the first bulbs in summer, preferring for this the Lisbon and the Tripoli; watering late Peas to keep them green, and pulling-up others to make way for Celery-beds and other necessaries in winter; sowing a last crop of Red Top American Turnip, with Radishes between the rows—that Turnip, to our taste, being as yet unapproachable for sweetness in flavour, leaving, in this respect, many a good-looking Melon far behind. Sowed also some Lettuces on hard ground to stand the winter, being persuaded that if the ground is merely hoed for this purpose, and the seed scattered over it and raked-in, the plants will stand so much better than if the ground were dug and pulverised in the usual manner.

Planted-out Endive in the open ground, and a quantity also in turf-pits, where a little protection can be given; watered Lettuce when necessary, though on north banks, to keep them crisp, as, though they are less used than in the dog-days, the users of them get more fastidious as to quality. Note here, that a little fault-finding is not a bad thing for all concerned. My own idea of a first-rate Lettuce is to have a firm heart, the centre seed-stalk scarcely to be seen, and the heart-leaves almost as white as a well-got-up shirt front. This is by no means, however, a general feeling. Some prefer them green but crisp—nay, I have known frequent instances in which greenness was preferred one week, and whiteness in the next, to the great chagrin and mortification of the gardener, "who never knew what to be at!" The man of worry will always find something to worry him; the man of prudence will so far trim his sails to the prevalent gale, and, as receiving money for his services, try to meet the best way he can the varying tastes of his employers. Half, and more than half, of the unpleasantnesses between employer and employed arises from such trifling matters as these. "Employers will be so fickle and changeable." Have you ever, brother of the apron, seriously and closely investigated what a creature of whims and changes you yourself are? If so, you need not expect anything like infallibility or unchangeableness in matters of taste even among the highest in station. The real pith of the matter is just this: If a white, firm Lettuce is preferred for one month, try and get it; if the next hobby should be a crisp, green Lettuce be as anxious to send that to table, waiving all tastes and opinions of your own. A cook, an eminent *artiste*, who disdained to see after the boiling of Potatoes—the only vegetable the employer cared for, found a difficulty at last to have a Potato to boil; and many good gardeners have found their services at a discount, because they did not think it worth while to notice what kinds of vegetables and fruit were taken to their employer's table.

Gathered Tomatoes against walls, and regulated those in a turf open pit by stopping above the blooms and young fruit, and removing a good portion of the larger leaves. These plants have so much succulence in their foliage, that, after the fruit shows, the ripening process is much accelerated by a pretty free disleafing of the larger foliage. Cut Vegetable Marrows before they got too large, as they will keep several days quite fresh if laid on damp moss; and thinned and regulated the plants, cutting down those shoots that were showing little or no fruit. Gathered Gherkins, or pickling Cucumbers; and as the plants were a little dirty, and we had as many as we wanted, pulled

them up. Find that young plants of Cucumbers in one bed, growing and bearing freely, have a little trace of the gum disease; whilst in another bed no traces of it have as yet appeared, and the fruit is large and clean. In this last case the plants have nothing but moderately sandy loam from the roadside. The whole of out-door Cucumbers, if not affected with gum, have had less or more of the dingy yellow spot on the foliage. How these came here I shall never know, as previously Cucumbers were less trouble than Potatoes. All that I can suggest in the way of remedies, as proved here, are frequent successions of plants, and fresh hungry soil until all traces of the malady disappear.

Exposed the Mushroom-beds in the sheds during the day, as they were coming in too plentifully to suit our purpose; and just put in a mixture of straw and droppings to form the first shallow bed in the Mushroom-house. I would advise those thoroughly fond of Mushrooms to grow them. I have seen parcels carried home as rarities that I would have been sorry to touch. When remonstrated with, the possessors said "They will do for catsup at any rate." Well, possibly they may; if it be true, as I once was told by an eminent maker of that article, that a goodly portion came from the thick drainings of dunghills, well boiled up and spiced. No wonder therefore some gentlemen will not touch or meddle with Mushrooms or their produce, unless they come from their own beds.

#### FRUIT GARDEN.

Much the same as previous weeks. Gathering the earliest fruit; packing Peaches in cold house for preserving, as they came in too fast for use; made most of the extra Nectarines come in for tarts, &c., as preserving them is more expensive, requiring the presence of brandy to soak them in, which at 6s. 6d. a-bottle is no joke. Would some friend oblige me with a cheap mode of keeping these fruits—I mean in something like a whole state? Besides the preserving alluded to above, I know they make excellent jam and jellies, when treated much the same as Plums and other fruits. It seems a pity when a glut comes and you do not know what to do with them, whilst, perhaps, a week before, or a fortnight afterwards, there would scarcely have been enough for a party. Employers who wish their tables set off to the best advantage, should condescend to consult their gardeners as to the time they intend to have their chief visitors, as it is often practicable to retard or to accelerate, and those who are above thinking of such things cannot expect to be so well served, especially in moderately-sized places, as they otherwise would have been. Regulated fruit trees, gathered Plums ripe enough for keeping to prevent them being holed by flies, &c. The wasp nuisance is past its worst, and a great number of them and large flies have been trapped and done for by the double hand-light which we described last year. Our small Fig-house, which has given us a daily supply since the 1st of June of fine luscious fruit, is now getting thin, and, therefore, we have forked over the soil, giving a top-dressing of horse-droppings and fresh loam, then a good watering, and shut up the house about two P.M., in order to accelerate and ripen the second crop. A very few have ripened out of doors, and the bulk will come in before the second crop in the Fig-house. The wasps first appeared there, showing that they have no bad taste for what is good. Not one, owing to the precautions taken, has found its way into the vinery, though I have heard of some houses where not a bunch was left but was disfigured or eaten up, and employer and employed looked on with philosophic apathy, considering it as one of those events against which the power and contrivance of man were vain and powerless.

#### ORNAMENTAL GARDENING.

Potted Cinerarias and other plants, but the chief work was keeping the walks firm and smooth, the lawns short and firm like a thick carpet, and the beds clean and trim, and propagating wholesale as we could get at them. For general ideas on the latter subject, so much in unison with my own, allow me to refer to pages 417 and 418, to an article signed "D. T.," but which I could as easily fill up with all the letters, as some of our readers can supplement our own "R. F." Thanks to our own good friend Mr. Beaton for teaching them the way. Now, here, on this propagating business, we wish, if possible, to answer a host of complaints as to our lateness in striking bedding plants. In the first place, we will guarantee success to those who are not later than ourselves, if they adopt means at all similar. The first reason, then, for being rather late in taking cuttings is, that we wish our plants to be small until March, in order that we may house them in little room. Our second reason

is, a great dislike to mutilate in the least beautiful symmetrical beds, which you must do less or more, when as yesterday we took more than two thousand cuttings of Scarlet Geraniums from a row, and it would have required rather close scrutiny to find the places they came from. Now this lateness of propagating is not necessary where the owners start in August for the moors, but it is a matter of importance where the proprietor and his company stay with you all the season through, and there is the constant strain to make the beds and borders better to-day than yesterday. The other day an eminent lawyer, agent for a gentleman, and who like Mr. Hamilton, of Ham Wood, has taken keenly to gardening of late, on seeing this cutting-taking process, stated he had quite made up his mind, that after this season not a single flower or cutting should be taken from the flower-beds. "No sooner," said he, "do the beds begin to look nice than in goes the knife for cuttings, and the symmetry is wholly destroyed. I have plenty of kitchen garden of which I care nothing, and there spare plants must hereafter be grown for what flowers and cuttings that are needed." We find that the double idea is a first-rate one; but we can take little help from them, as, unfortunately, while our flower garden is large, every inch of the kitchen garden is wanted for its legitimate purpose. In all such cases the cuttings should be taken off so carefully as not to injure the general outline of the beds, even if the plants should be gone about several times instead of once.

Had I sufficient room, I would prick-out the greater portion of bedding plants where they might remain until March or April. Many of them, such as Scarlet Geraniums, might be struck in the open air in July and August but for the reason stated above. At this season, we prefer shelter of glass or calico when it can be given. Last week we described the essentials of propagating. This season we use little but soil from the roadside, mixed with drift sand and small charcoal from our charring-heap. When either dung or leaf mould is used at the bottom, there is a risk of fungus annoying you in winter. To prevent this still further, we use a little lime in the compost, because that is the great enemy of all the fungus tribe. This mixture is our great stock in trade.

For small bedders, as Verbenas, we use 48-sized pots—two rows round the sides. The first batch are struck and are hardening-off, with plenty of air night and day. These are chiefly for stock to get cuttings from in spring. The great bulk of other things are pricked-out at once into beds, where they will stand the winter, or into wooden boxes, averaging 3 feet in length, 4 inches deep, and 8 inches wide. These are bottomed with rough pieces of soil, from Walnuts to Peas in size, placed at the bottom, finer-riddled material over, and a little drift sand at top. The cuttings have, as in the stronger Geraniums, about 1½ inch; common ones and variegated ones about 1¼ inch. We thus avoid all trouble of raising cuttings. We give a little protection before struck, and all the air possible, afterwards to make them bushy. As a sort of compromise with work to be done in making these Geranium-cuttings, we size them as large, lesser, least, and put them in boxes in sizes accordingly; and we also remove most of the leaves, except the terminal ones, though something unscientific, just because if we leave more leaves on, there is the trouble generally of picking them off. All these we keep cool, so as not to elongate the tops before roots are produced downwards. We agree with Mr. Thomson in never allowing a cutting to flag, but we use the nozzle of a syringe instead of his fine-rosed pot; and for some time past we insert all cuttings as soon as made, having proved that drying the cut ends was better in theory than in practice. September, for the reasons given, is our great cutting-month for this season, so far as flower-gardening is concerned; and, being pretty successful, we shall be glad to give any information to those who have had less experience.—R. F.

#### TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

CORWERS (*Doodar*).—The spiders are lurking all day on the rods, rafters, or other supports of the climbers, as fishers watch their set nets. Hunt them up and destroy them, and there will be no more cobwebs. We have often been so annoyed with them.

Mr. Fish would wish to heartily thank an unknown friend, somewhere about Springfield, Massachusetts, for American papers and seeds, there just being internal evidence that he owes the honour to the privilege he enjoys as a writer in THE JOURNAL OF HORTICULTURE, and more especially for "Doings of the last Week"—a slip of the paper which seems more thought of at home and abroad than ever he could have supposed it merited himself. Earnestly does he pray that the blessings of peace may soon be enjoyed by brothers across the big water.

**PROPAGATING VARIEGATED IVY (O. F. J.).**—If your plant be in a small pot, turn it out into a shallow box or good-sized seed-pan, and peg the shoots down to the soil, water moderately, and in a short time most of the joints will have rooted into the soil, when the shoots may be half cut through, and a week or two afterwards they may be separated and each one potted. If, however, your plant be creeping against a wall, cuttings of two joints each, put into sandy soil and slightly shaded, will root freely enough; but the first-named method is more expeditious.

**MELONS CRACKING (S. T. F.).**—Your case is far from being a solitary one, as most Scarlet-fleshed Melons of the Persian breed are more or less addicted to splitting, and under circumstances so widely different from each other, that the cause and remedy are alike difficult to make out. Generally speaking, keeping the plants dry at the roots checks it most, with merely sufficient syringing of the foliage to keep it healthy. Shading does not seem to be attended with any benefit; a bright sun, and warm close hotbed or Melon-house are less likely to cause cracking than an airy situation—the variety being more tender than the Green-fleshed varieties of the Egyptian breed. The cracking occurs from some atmospheric cause not allowing the rind to enlarge in proportion with the centre: hence it bursts, and decay sets in before it is quite ripe.

**FASTOLFY RASPBERRY FAILING (Narcisse).**—It is difficult to account for your Raspberries failing so suddenly after a mild winter. Had there been a gradual decline for some years, we should not have been surprised, as in the case of one of our correspondents who grows a considerable quantity, the Fastoff (which was originally the very best he had) is now dwindling away, scarcely producing canes of sufficient length to tie up. He is therefore convinced that the variety is worn out, and last year he procured some seedlings from a hedge or thicket, and amongst them selected one of robust habit and good bearing qualities which the past season has far outstripped the Fastoff. As you say your soil is a stiff deep loam, which is the very soil for a Raspberry, it is difficult to account for the failure from any other cause than constitutional decay, unless some local evil—such as an escape of gas or other poisonous matter into the border, can have given rise to the disease. If not the latter, it would certainly be better to trench the border well, and subject it to other cropping for one year or more before planting again, and then to plant another kind. If, however, you have reason to believe some pernicious matter has recently found its way into the border, it must be remedied before planting again. The Prince of Wales is a good Raspberry, and Carter's Prolific and Cornwell's Victoria are also well spoken of.

**DOUBLE-FLOWERING PEACHES (H. A. D.).**—If they are the old kinds there is no novelty about their fruiting; but if they are the recent ones got over by Mr. Fortune for the Royal Horticultural Society, this is the first time we have heard of their ripening fruit.

**PLUM LEAVES DISEASED (T. L.).**—The leaves are covered with fungoid warts, the result of rich feeding and a deficient evaporation owing to the coldness of the season. Use less water, especially in the orchard-houses, and paint the trees with a paint made of water, clay, and sulphur, during the autumn months.

**FLOWER GARDEN (R. Eastlake).**—Good Scarlet Verbenas are as good for panelling as Tom Thumb.

**LEPIDODACTYLONS (Wyeside).**—Strike them just like cuttings of the blue Lobelias, in a close heat; in sand and peat, of course. We do not understand what Capsicum you mean. All the kinds we know are safe enough to eat in moderation.

**GRAPE CRACKING AND SHANKING (T. T.).**—To remedy the cracking of the Frontignan, you must keep a drier atmosphere and protect the borders from heavy rains. We suspect the cause of shanking in the Muscats is too heavy a crop, or the roots are in too rich a soil, which encourages them to make large roots in autumn which die in winter. Poorer soil, more moderate growth, and a moderate crop would be the remedies. The leaves have the appearance of being blighted and parboiled by a high temperature, extra atmospheric moisture, being placed too near the glass, and not having air given early enough in the morning. If fuel is comeatable, leave air on all night.

**SEEDLING FUCHSIAS (A Young Gardener).**—Not one of them is so good either in size or form as many already in the market. Merely sowing Fuchsia seed which happens to ripen is not the mode offering a good chance of obtaining superior varieties. You must cross-breed, endeavouring to combine the good characteristics of superior parents.

**BOILERS (W. G.).**—If your new boiler will boil with the same fire the same quantity of water in ten minutes that requires thirty-five minutes in the boiler you name, that is a merit; but other merits are required—namely, continuing the heating with a small consumption of fuel, cheapness, and simplicity of form. When we know more particulars we will give our opinion.

**VINES (A Young Hand).**—The Charlsworth Tokay is an excellent Grape. The length of rafters will be an improvement, and the consequent management. The width of the inside border is quite sufficient, and, if properly drained, we would not care about the outside border. If, however, you build your front wall on arches, and contemplate taking a bunch every square foot of glass, we would advise making also a narrow border outside, unless you mean to enrich the inside one with top-dressings of dung, bones, &c. If you take that number of bunches, you must not let them grow large. We have no doubt the border inside would suit all practical purposes. There is nothing gained by mere extent of feeding-ground.

**DROSER A ROTUNDIFOLIA (Nemo).**—This will most likely do well in a north or south looking rockery, planted in cocoa-nut refuse pressed very close together, and kept quite damp with the rose of a watering-pot till the plants get established; and many more of the little gems of our flora and of those of similar habits are more likely to do well in this stuff than in any other way they have ever yet been tried. A thousand alpine plants from temperate zones would most probably succeed in this stuff made up in ridges

and valleys, hoed or held up with stones, provided there were no trees near for their roots to get hold of it. With regard to the charge of 2s. 6d. for the carriage of two bags of cocoa-nut refuse six miles and a half by rail, we think it too much. The South-Western would only charge 6d. per bag for the same distance.

**SCROPHULARIAS (North of Ireland).**—The box was smashed in the post, and the two specimens were in bad condition; but we could see little difference between them. Mr. Williams's stock came from your part of Ireland, from the garden of the Archbishop of Armagh, and the character of it is just the same as in your neighbour's garden, "disposed to grow as a weed;" but there is a kind of it about which is a stiff stinging grower. As to Roses being propagated on the plants in balls of moss, THE COTTAGE GARDENER was the very book which sent a knowledge of the fact to the ends of the earth about twelve or thirteen years since, and we are glad the fact has not been forgotten; but we believe you are the first to tell of Camellias and Rhododendrons being propagated the same way. Your seedling Carnations are all Picotees, and most beautiful; they are too—far better than the plain-faced washy Picotees we see about London. The best is the one in the colour of Rosa Ophire, and you ought to name it Mount Ophir. The true yellow one is a dangerous colour in Ireland. The other two ought to have good names, certainly.

**MORPHOLOGY (W. H. Hatcher).**—Many thanks for the extraordinary specimen of morphology. We never saw anything like it. We sent it to Mr. Beaton to hear if he had, and we have since heard he has been playing sad pranks with it at the Crystal Palace Show, by actually betting that judges, exhibitors, and other practicals, and some better folks if such there be, that none of them could tell the name of the plant he should hold in his hand, till he opened his fist and showed them a Sweetwilliam. But to atone for such levity, he has promised to send the specimen to Dr. Masters, the Botanical Lecturer at (we forget where near Kingston), who is studying this branch of physiology, but he, too, is going to try if the morphologic parts can be increased from cuttings; and, if they can, he will first inquire of you how you would like them to be disposed of.

**NAMES OF PLANTS (M. C. D.).**—It is *Ajuga reptans purpurascens*. (*Nemo*).—Probably *Lactuca dilatata*, but too immature for us to be certain. (*P. P.*)—1, *Phlebodium aureum*; 2, *Gymnogramma tartarea*; 3, *Nothochloa nivea*; 4, *Athyrium strigilloseum*; 5, *Asplenium pinnatum*. (*A Six-years Subscriber*).—1, *Acropera Leddigesii*; 2, *Rhus cotinus*; 3, *Gongora fulva*; the other is not recognisable.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

SEPTEMBER 9th. WORSLEY and ARMLEY (near Leeds). *Sec.*, Mr. Robert Hoyle, Armley, near Leeds.

SEPTEMBER 10th and 11th. MANCHESTER and LIVERPOOL. *Sec.*, Mr. T. B. Ryder, Church Street, Liverpool. Entries close August 11th.

SEPTEMBER 23th. STAFFORDSHIRE. *Sec.*, Mr. W. Tomkinson, Newcastle. Entries close August 23th.

SEPTEMBER 25th. MIDDLETON. *Sec.*, Mr. T. Mills. Entries close September 10th.

OCTOBER 28th and 29th. CALNE. *Secs.*, A. Heath and F. Baily. Entries close October 15th.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### FATTENING YOUNG FOWLS.

(Translations from *M. Jacque's work on Poultry continued*.)

You must procure a tin funnel holding the quantity necessary for a meal for each sort of fowl. The neck or pipe of it should be  $3\frac{1}{2}$  inches long. The top of the pipe should measure outside measure eight-tenths of an inch, and the end of it four-tenths. This end, destined to go into the gullet of the birds, should be diagonally cut, and turned round so as to form a rounded edge. This edge is also softened by a small layer of pewter carefully placed with the soldering-iron.

On the upper edge of the funnel there should be a small ring destined to receive the first finger of the right hand. It is important this ring should be in the right place, because while one hand holds the head of the fowl, the other should properly introduce the funnel. This is almost naturally accomplished if the ring is properly placed.

The orifice at the lower end of the funnel (which, as we have said, is diagonally cut) should be turned towards the person who is using it, for that reason the ring of which we speak should be soldered on the top edge of the funnel two-tenths inch to the right of the direction of the lowest opening of the neck.

Persons who have much practice use this funnel without danger; but those who are not accustomed to it, are apt to damage the lining of the gullet. For this cause it is an excellent plan to use an indiarubber end to the neck. It scarcely adds to the size, and this precaution will prevent accidents that may end in damage.

All this is very simple, and I dwell on this operation at length, in order that it may be well understood, and because it is most important. The food being prepared, is placed in a vase from which it can be easily taken with a spoon. Then when all is ready, take the bird by the wings close to the body, place its head outwards between your knees, so as to hold it firmly

without hurting or stifling it. It will twist about at first, but soon gets used to it. When it is quite quiet, pass the forefinger of the right hand in the ring of the funnel, take the head of the fowl in the left hand, and stretching out its neck open the beak with the help of the right hand, which holds the funnel. When the beak is conveniently open, manage to maintain it in that position, employing the left hand only; then rapidly introduce the whole of the neck or pipe of the funnel, taking care not to injure the lining of the gullet.

It is easy to hold the head of the fowl in the palm of the hand by means of the three last fingers, while the funnel is held with the thumb and forefinger.

Then fill the funnel with food, not quite to the edge, and be sure to keep the neck well stretched out. Place the right hand under the crop of the fowl till you feel it is full, and you may assist this by gentle manipulations. When this is done put back the funnelled bird, and pass on to another. The quantity of food put into the funnel, and which the fowl should eat, should be about the eighth of a quart; but the half only is given at the first meal, and it is three days before the fowl can take the complete ration, even then care must be taken to augment or diminish according to the strength of the bird.

The meals are given with regularity—three in twenty-four hours, at eight hours' interval; six A.M., two and ten P.M. in private houses; at four A.M., midday, and eight P.M. in farms.

To facilitate the operation of "funnelling," and to avoid accidents of forgetfulness, or handlings, which tire and frighten fowls, there must be a proper organisation, which consists in having two, three, or four cages made of close bars, according to the number of birds to fatten. They should never be more than ten together.

These cages, raised from the ground, should be put in a quiet place—such as a stable or an outhouse, completely sheltered from currents of air, and there should always be an empty one at hand. When everything is ready, the bottoms of the cages should be covered with clean straw, and the process of funnelling begins; each bird, as fast as it is fed, is passed into the empty cage. This is continued till all have passed from one to the other.

The straw should be changed every day, because most of our best breeders contend a bad taste is communicated to meat by contact with dirt.

The progress of the operation must be attentively followed, and if it is perceived a fowl remains stationary it should be killed.

In choosing birds to submit to this treatment, care must be taken to take only robust and healthy ones. It is lost labour to endeavour to fatten weak ones; instead of improving they would fall ill and perish.

The duration of the fattening is from fifteen to twenty days, according to the breed and condition of the fowls; a longer period would only cause fat ones to become thinner.

### POCKLINGTON POULTRY SHOW.

THE annual Exhibition of the Pocklington Poultry and Horticultural Society was held at Pocklington on Tuesday last, the 2nd instant. The weather proving favourable, large numbers of visitors attended, and the Show was successful in every respect. The arrangements of the Committee and Secretaries were very complete, and were carried out satisfactorily. Compared with last year, there was a slight decrease in the poultry department.

Mr. H. Adams showed good *Game* fowls; *Hamburgs* were very inferior; *Dorkings*, *Geese*, and *Ducks* were well represented, although not in great numbers. The show of *Pigeons* was very fair—the *Carriers* were excellent.

Mr. R. Tate obtained the medal for the largest number of prizes.

We subjoin the prize list:—

**SPANISH**—First, G. Robson, Hull. Second, R. Tate, Driffield. Highly Commended, J. Holmes, North Cave. *Chickens*.—First, R. Tate. Second, J. Holmes.

**DORKINGS**.—First, W. Watson, Bishop-Burton. Second, H. Adams, Beverley. Highly Commended, O. A. Young, Driffield. *Chickens*.—First, Messrs. E. & W. Witty, Cottingham. Second, W. Watson.

**COCHIN-CHINA** (Buff, Lemon, or Cinnamon).—First, Messrs. E. & W. Witty, Cottingham. Second, R. Tate, Driffield.

**COCHIN-CHINA** (any other variety).—Prize, J. Bell, Thirsk. *Chickens*.—First, Messrs. E. & W. Witty, Cottingham. Second, R. Tate, Driffield. Highly Commended, A. Cattley, York.

**GAME** (Black-breasted or other Reds).—First and Second, H. Adams, Beverley.

**GAME** (any variety).—First and Second, H. Adams, Beverley. *Chickens*.—First, H. Adams. Second, R. Tate, Driffield.

**HAMBURGS** (Silver-spangled).—First, S. Campling, Cottingham. Second, R. Tate, Driffield.

**HAMBURGS** (Golden-spangled).—First and Second, R. Tate, Driffield.

**HAMBURGS** (Silver-pencilled).—First, G. Robson, Hull. Second, R. Tate, Driffield.

**HAMBURGS** (Golden-pencilled).—First, W. Norwood, Everingham. Second, J. Holmes, Pocklington. *Chickens*.—First, —Pears, Everingham. Second, R. Tate, Driffield. Highly Commended, S. Campling, Cottingham.

**POLISH** (any variety).—First withheld. Second, O. A. Young, Driffield.

**BANTAMS** (Gold or Silver-laced).—First withheld. Second, Messrs. E. & W. Witty, Cottingham.

**BANTAMS** (Black or White).—First, H. Hodge, Hull (White). Second, R. Tate, Driffield (White).

**SPANISH COCK**.—Prize, R. Tate, Driffield.

**DORKING COCK**.—Prize, R. Tate, Driffield. Highly Commended, A. Cattley, York; R. M. Staik, Hull.

**COCHIN-CHINA COCK**.—Prize, J. Bell, Thirsk. Highly Commended, A. Cattley, York.

**GAME COCK**.—Prize, H. Adams, Beverley.

**HAMBURGH COCK**.—Prize, R. Simpson, Kilnwick Percy. Highly Commended, R. Tate, Driffield.

**GAME BANTAM COCK**.—Prize, R. Tate, Driffield. Highly Commended, S. Robson, Brotherton.

**FARMYARD CROSS** (Single Cock).—Prize, R. Simpson, Kilnwick Percy.

**GEESE**.—First and Second, R. Tate, Driffield.

**DUCKS** (Aylesbury).—First, R. Tate, Driffield. Second, O. A. Young, Driffield.

**DUCKS** (any variety).—First, R. Tate, Driffield. Second, O. A. Young, Driffield.

**TURKEYS**.—First, R. Tate, Driffield. Second, Master R. English, Meltonby.

**GUINEA FOWLS**.—Prize, R. Tate, Driffield.

**PIGEONS**.—*Carriers*.—First, H. Hodge, Hull. Second, S. Robson, Brotherton. Highly Commended, A. L. Silvester, Birmingham. *Cock*.—Prize, G. Robson, Hull. *Pouters* or *Croppers*.—First, S. Robson. Second, Messrs. E. & W. Witty, Cottingham. *Tumblers*.—First and Second, A. L. Silvester, Birmingham. Highly Commended, G. Robson; J. W. Edge, Birmingham. *Barbs*.—First, A. L. Silvester. Second, T. Ellington, Woodmansey. *Jacobins*.—First, W. Carlton, Howden. Second, T. Ellington.

*Fantails*.—First and Second, T. Ellington. *Trumpeters*.—First, F. Key, Beverley. Second, H. Yardley, Birmingham. *Owls*.—First, F. Key. Second, J. W. Edge. *Turbits*.—First, A. L. Silvester. Second, J. W. Edge.

*Any variety*.—First, J. R. Trenam, Helmsley. Second, J. W. Edge.

**CAGE OF FOREIGN BIRDS**.—First and Second, G. Haigh, York.

**CANARIES**.—*Yellow Belgian*.—Prize, Miss Small, Howden. *Buff Belgian*.—Prize, G. Haigh, York. *Yellow* or *Buff Common*.—First and Second, G. Haigh, York. Extra, R. Wilkinson, Warter. Extra, A. Wright, Pocklington. *Mule*.—First, R. Gilson, Pocklington. Second, G. Haigh.

**RECAP**.—First, G. Haigh. Second, W. Lawson, Pocklington.

**RABBITS**.—*Longest Ears*.—Prize, P. Wood. *Any variety*.—First, J. Noble, Boston Spa. Second, O. A. Young, Driffield.

A Silver Medal given to the Exhibitor obtaining the greatest number of Prizes for Poultry, Pigeons, Canaries, and Rabbits.—R. Tate, Driffield.

**EXTRA STOCK**.—Prize, J. Bannister, Fridaythorpe (Golden-pencilled).

The Judges were Dr. Boulton, Beverley, and Mr. T. J. Charlton, Bradford.

### POULTRY EXHIBITION OF THE SPARKENHOE FARMERS' CLUB.

AS most of our readers are doubtless aware, the Sparkenhoe Farmers' Club ranks among the oldest and best managed of our Agricultural Societies. The Committee have long made poultry an important feature in their annual gatherings, offering a very liberal prize list to encourage the general competition of amateurs and breeders. The constant result has been the exhibition of most excellent specimens from almost every important poultry-yard in the kingdom, combined with so great an accession of visitors, that from this source alone a very considerable portion of the amount received at the doors is undoubtedly derivable. Their arrangements also, in respect to the public dinner, are as unique as they are invariably successful. The dinner tickets are issued alike to the fair sex as to gentlemen, the result being productive both of the best possible order, combined with an amount of enjoyment unattainable in the old accustomed path of restriction to the male portion of those interested in such matters only. To those who have not witnessed such a meeting, it would indeed be a matter of surprise to view, for the first time, the numbers of ladies who avail themselves of this privilege; nor could they witness, but with approval and satisfaction, the snavity and kindly feeling that everywhere prevails. It is well here to add that this is not the result of a single trial, but during a long succession of years the same unvarying conclusion has been arrived at. At the Meeting just past, the demand for dinner tickets was nearly double that of even last year, and perhaps societies of a like character would do well to give more than a passing thought to this legitimate means of improving their exchequer; for, beyond question, the sum received at the doors for admission, consequent on this arrangement, is threefold what might otherwise be expected.

By parties who have attended most of the previous exhibitions of poultry in connection with the Sparkenhoe Farmers' Club, it was the universal opinion that the present collection was far

superior to any that have been competing in bygone years. The continued influx of visitors to this especial portion of the show-yard proved, too, that poultry had not lost any of its attractions.

For many years past the Society has offered a silver cup for the best collection of three pens, the exhibitor remaining perfectly free from restriction as to the variety of breeds he may select, always providing that no two pens shall be similar. We believe that the greatest amount of competition previously obtained has been four exhibitors; on this occasion, however, sixteen threw down the gauntlet, and the rivalry was most extraordinary. We noticed one entry of Black Red Game, Silver-pencilled Hamburgs, and Buff Cochins; a second exhibitor placed his reliance on Grey Dorkings, Buff Cochins, and Grey Geese; a third tried his luck with Aylesbury Ducks, Partridge Cochins, and Rouen Ducks; another exhibitor (the cup winner) with an entry of Grey Dorkings, Black-breasted Game, and Aylesbury Ducks. Other collections comprised White Game, Black Red Game, and Chinese Geese. A trial for success was made with Silver-laced Bantams, Silver-pencilled Hamburgs, and Grey Dorkings; a more varied trio still consisted of White Guinea Fowls, Golden-spangled Hamburgs, and Chinese Geese; whilst yet another entry comprised a capital pen of common Geese, Turkeys, and Japan Pea Fowls. That unusual difficulty must ever attend the arbitrator when so conflicting varieties all put in alike their claims for distinction will be obvious at a glance, still the decisions both for the cup and also second prize of £2 were carefully arrived at; and this portion of the Exhibition proved of far greater public interest than any other class whatever.

We cannot speak approvingly of the *Spanish* fowls, save of the first-prize pen, the remainder without exception being faulty. The Grey Dorkings, however, were a capital class throughout. The White Dorkings were also especially good.

The Cochins were a fair average collection, and a majority of the Game fowls were most commendable.

In Hamburgs, Messrs. Nutting & Fielding, it will be seen by reference to the appended list, actually took all the prizes in both Golden-pencilled and also Silver-spangled. This was indeed a triumph for Manchester, as the competition was excellent.

The "Variety class" was a good one, the Silky fowls being perfect. The Andalusians were also most praiseworthy. It should be borne in mind, that this class is provided exclusively for varieties that have had no chance of entry in the foregoing classes, and that disqualification is inevitable (however good the specimens), if this monition is disregarded.

The Golden and Silver Chinese Pheasants were well shown.

The Turkeys, Geese, and Ducks were remarkably good. Among the latter were a pen of Shell Ducks worthy of the highest praise. These truly beautiful and extraordinary birds we were told had been actually bred by their parents in confinement—a very unusual occurrence, the original birds being hatched from eggs taken on the coast and tame-reared. The pen of three shown (two females and a male), appeared as domesticated as could be desired, and were in the highest plumage.

The show of Pigeons was superior, and many of the Rabbits were of high merit.

The weather was, unfortunately, the most unpropitious possible—a perfect deluge from earliest dawn until late in the day—yet, even despite this mishap, accompanied as it was with a heavy wind, the attendance far exceeded the anticipations of the Committee. As the inhabitants of Leicester had not spared any pains in the erection of triumphal arches with an unprecedented amount of banners, it was really distressing to see so great an amount of trouble and outlay thus rendered valueless by the continuous downfall; the wind lapping the banners so that the mottoes were quite hidden. Weather, of course, is not controllable by any human foresight, but it is due to the Committee to add, that every comfort both to visitors and poultry that was attainable under the circumstances, was most willingly rendered.

Two prizes were awarded for the three best Pens of Poultry, and second-best of any variety, exhibited by and the property of one person.—Silver Cup, W. T. Everard, Leicester (Aylesbury Ducks, Grey Dorkings, Game). Second, H. Yardley, Birmingham (Buff Cochins-China, Black Spanish, Duckwing Game). Highly Commended, J. Faulkner, Burton-on-Trent (Game, Coloured Dorking, White ditto); J. Martin, Claines, Worcester (Various); Major Hon P. Keck, Leicester (Pea Fowls, Turkeys, Geese).

SPANISH.—First, J. Martin, Claines, Worcester. Second,—Morley, Sapeote, Hinckley.

DORKING (Coloured) — First, A. Guy, Grantham. Second, Major Hon.

P. Keck, Leicester. Highly Commended, H. Warner, Loughborough; J. Faulkner, Burton-on-Trent; Mrs. Wolferstan, Tamworth.

DORKING (White).—First, W. Chamberlain, Leicester. Second, Capt. Buckley, Leicester. Commended, J. Grundy, Nuneaton.

COCHIN-CHINA.—First, J. Martin, Claines, Worcester. Second, H. Yardley, Birmingham. Highly Commended, Capt Buckley; H. E. Emberlin, Leicester.

GAME (White, Piles, and Light Colours).—First, Miss Alkin, Atherstone. Second, W. T. Everard, Leicester. Commended, J. G. Ayre, Ashby-de-la-Zouch.

GAME (Red and other dark Colours).—First, Miss Alkin, Atherstone. Second, J. Martin, Claines, Worcester. Highly Commended, W. T. Everard, Leicester; J. G. Ayre, Ashby-de-la-Zouch; M. Tavernam, Nuneaton. Commended, H. Warner, Loughborough.

HAMBURGH (Gold-spangled).—First, H. E. Emberlin, Leicester. Second, H. Warner, Loughborough.

HAMBURGH (Gold-pencilled).—First and Second, Messrs. Nutting and Fielding, Manchester. Highly Commended, Mrs. Wolferstan, Tamworth. Commended, J. Martin, Claines, Worcester.

HAMBURGH (Silver-spangled).—First and Second, Messrs. Nutting and Fielding, Manchester. Commended, W. Chamberlain, Leicester.

HAMBURGH (Silver-pencilled).—First, J. Martin, Claines, Worcester. Second, H. Marshall, Nottingham.

ANY OTHER DISTINCT BREED.—First, C. Lowe, Atherstone (Blue Andalusians). Second, J. Meredith, Atherstone. Highly Commended, Capt. Buckley, Leicester (Sultans); J. Meredith.

GOLDEN PHEASANTS.—First,—Lenard, Leicester. Second, J. Buck, Leicester. Commended, Miss Alkin, Atherstone.

SILVER PHEASANTS.—First, J. Buck, Leicester. Second,—Lenard, Leicester.

DUCKS (White Aylesbury).—First, W. Carver, Leicester. Second, H. E. Emberlin, Leicester. Highly Commended, W. Carver; H. E. Emberlin.

DUCKS (any other variety).—First, Major Hon. P. Keck, Leicester. Second, C. Lowe, Atherstone. Highly Commended, S. Pool, Melton Mowbray; Mrs. Wolferstan, Tamworth. Commended, J. Choyce, Atherstone; J. Cowlishaw, Leicester; W. Chamberlain, Leicester.

GESE.—First, J. Faulkner, Burton-on-Trent. Second, S. Truelove, Hopesford. Highly Commended, J. G. Ayre, Ashby-de-la-Zouch.

TURKEYS.—First, A. Guy, Grantham. Second, J. Coxon, Lichfield. Highly Commended, J. Cowlishaw, Leicester.

GUINEA FOWLS.—First, J. Johnson, Leicester. Second, J. Cowlishaw, Leicester.

EXTRA.—Commended, Hon. Major P. Keck (Pea Hen and Young). BANTAMS.—First, W. T. Everard, Leicester. Second, W. Parcs, Leicester. Highly Commended, H. Marshall, Nottingham.

PIGEONS.—Pouters or Croppers.—First and Second, J. Langham, Leicester. Carriers.—First, W. Choyce, Atherstone. Second, H. Yardley, Birmingham. Tumblers.—First, W. Choyce, Atherstone. Second, H. Yardley. Commended, H. Yardley; W. Chamberlain, Leicester. Fantails.—First, H. Yardley. Second, J. Langham. Commended, W. Choyce. ANY OTHER VARIETY.—First, H. Yardley. Second, W. Choyce. Highly Commended, H. Yardley; W. Choyce.

RABBITS.—Heaviest Weight.—First, W. Choyce, Atherstone. Second, J. Bowles, Leicester. Greatest Length of Ear.—First, H. Yardley. Second, J. Bowles. Highly Commended, W. Chamberlain, Leicester. Any other Kind.—Prize, J. Bowles.

The Judge was Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, Birmingham.

## HALIFAX AND CALDER-VALE POULTRY EXHIBITION.

THE Halifax and Calder-Vale Agricultural Society held their twenty-fourth annual Show in Clare Hall Park, Halifax, on Saturday last, the 30th ult. It is highly gratifying to find so much interest taken in this Exhibition by the inhabitants of Halifax and neighbourhood. In fact, when we mention that about £260 were received at the gates for admission, some idea may be formed of the success of the Meeting. The show of poultry and Pigeons was decidedly the best the Society has ever had, numbering upwards of four hundred pens, most of our principal exhibitors competing.

Black Spanish stood first in the list. Amongst the old birds there were some good specimens. The hen in Mr. Fletcher's first-prize pen was remarkably good. Mr. Rodbard's second-prize birds were also much admired. The young birds were a nice lot. Game mustered strong. In Black-breasted Red adults, we liked the second and highly commended pens more than the first-prize birds, the cock in the latter pen being rather out of condition and somewhat coarse. Both prizes were awarded to Black Reds. Mr. Firth exhibited good Brown Reds, but in wretched condition. The Game chickens were a good collection, both prizes again falling to Black Reds. Some very young Brown Reds of great promise were also shown. Duckwings, old and young, were capital; Mr. Fell's first-prize chickens especially deserving mention. In any other variety of Game the first in adults went to a good pen of Piles shown by Mr. H. Adams, and second to Blacks. In young birds, very good Blacks were first; and a splendid pen of Piles second. Dorkings and Cochins formed excellent classes, which will be fully borne out by a glance at the prize list. Polanders were in greater force than we have seen them for some time. The first and second prizes

in old were awarded to White-crested Blacks. In chickens the same variety again took precedence, and good Silvers second. A very fine pen of Whites received high commendation. *Hamburgs* were numerous and good, as might be expected from the locality; the Golden-spangled, Silver-spangled, and Silver-pencilled forming most excellent classes. The first-prize pens in old and young Golden-spangled were the gems of the Show. The *Bantam* classes were well filled, containing many valuable birds. Mr. Crossland secured first honours in each class.

*Ducks, Geese,* and the first-prize *Turkeys* were very fine.

The show of *Pigeons* was large and good. Mr. Smith's *Powers* were superb. Mr. Cannon exhibited good *Carriers*. In *Turbits, Jacobins, Trumpeters, &c.*, Mr. S. Shaw as usual sent excellent representative.

The Poultry Cup, value five guineas, for the best pen in the Exhibition, was awarded to Mr. Cannon's celebrated pen of adult Golden-spangled *Hamburgs*.

The Cup for the greatest number of Pigeon prizes was awarded to Mr. Shaw.

The arrangements of the Committee and Secretary (Mr. Irvine), were excellent in every department, and the decisions gave general satisfaction.

**SPANISH.**—First, J. Fletcher, Stoneclough, Manchester. Second, J. R. Rodbard, Aldwick Court, Writington, Bristol. Highly Commended, J. Siddall, Halifax. Commended, E. Brown, St. Phillip's Road, Sheffield. **CHICKENS.**—First, T. Greenwood, Eastfield House, Dewsbury. Second, J. R. Rodbard. Highly Commended, T. Greenwood.

**DORKINGS.**—First, H. W. B. Berwick, Helmsey, York. Second, G. R. Tate, Driffield. Commended, E. Smith, Middleton; T. Burgess, Burleydam, Whitechurch. **CHICKENS.**—First, Rev. J. F. Newton, Kirby-in-Cleveland. Second, G. R. Tate, Driffield.

**COCHIN-CHINA.**—First, T. Stretch, Vine Cottage, Ormskirk. Second, E. Witt, Cottingham, Hull. Highly Commended, E. Mu grove, Aughton, Ormskirk. Commended, J. Fletcher, Stoneclough, Manchester. **CHICKENS.**—First, T. Stretch, Vine Cottage, Ormskirk. Second, H. C. McCrea, the Shaw. Highly Commended, A. Wilson, Forest Cottage, Ovenden; H. Yardley, Birmingham.

**GAME (Black-breasted and other Reds).**—First, J. Firth, Ellen's Grove. Second, R. Parkinson, Preston. Highly Commended, Miss E. Beldon, Park Cottage, Bradford; W. Boyes, Beverley; H. Adams, Beverley; A. Holgson, Ovenden. **CHICKENS.**—First, I. Wright, Ovenden. Second, Miss E. Beldon. Highly Commended, J. Sunderland, jun., Coley Hall, Halifax; J. Firth; T. Dodds, Ovenden.

**GAME (Duckwing, Grey, and Blue).**—First, J. Fell, Adwalton, Leeds. Second, J. Firth, Ellen's Grove. **CHICKENS.**—First, J. Firth, Ellen's Grove. Second, J. Riley, Chickley, Dewsbury. Highly Commended, Miss E. Beldon, Bradford.

**GAME (any other variety).**—First, H. Adams, Beverley. Second, Miss E. Beldon, Bradford. Highly Commended, G. Noble, Stancliffe, Dewsbury; H. C. Mason, Drighlington. **CHICKENS.**—First, G. Noble, Stancliffe, Dewsbury. Second, Miss E. Beldon.

**SINGLE GAME COCK (any colour).**—First, D. Ashworth, Halifax. Second, H. Adams, Beverley. Highly Commended, J. Firth, Ellen's Grove; W. Bentley, Lowmoor. **COCKEREL.**—First, J. Sunderland, jun., Halifax. Second, G. Noble, Stancliffe, Dewsbury.

**POLAND.**—First, Miss E. Beldon, Bradford. Second, J. Dixon, Bradford. Highly Commended, H. Carter, Uppertonge, Huddersfield; J. Dixon, Bradford. **CHICKENS.**—First, J. Smith, Well Lane, Keighley. Second, Miss E. Beldon. Highly Commended, Miss E. Beldon.

**HAMBURG (Golden-pencilled).**—First, J. Dixon, Bradford. Second, S. Smith, Northwram. Highly Commended, F. Hardy, Bradford. **CHICKENS.**—First and Second, W. Cannon, Bradford.

**HAMBURG (Silver-pencilled).**—First, W. Cannon, Bradford. Second, J. Dixon, Bradford. Highly Commended, W. Clayton, Keighley. **CHICKENS.**—First and Second, S. Shaw, Stainland. Highly Commended, J. Dixon, Bradford.

**HAMBURG (Golden-spangled).**—First, W. Cannon, Bradford. Second, G. R. Tate, Driffield. Highly Commended, W. Cannon. **CHICKENS.**—First, W. Cannon. Second, H. & G. Newton, Leeds. Highly Commended, J. Dixon, Bradford; W. Cannon.

**HAMBURG (Silver-spangled).**—First, S. Campine, Cottingham, Hull. Second, W. Clayton, Keighley. Highly Commended, J. Dixon, Bradford. **CHICKENS.**—First, W. Cannon. Second, J. Mitchell, Hipperholme. Highly Commended, W. Cannon, Bradford; S. Shaw, Stainland.

**ANY OTHER DISTINCT BREED (ex cl. Bantams).**—First, Right Hon. Lady Hawke, Womesley Park (Brahma Fowls). Second, S. Shaw, Stainland (Black *Hamburg*). **CHICKENS.**—First, S. Shaw, Stainland (Black *Hamburg*). Second, J. Dixon, Bradford.

**BANTAMS (Game).**—First, J. Crossland, jun., Wakefield. Second, G. R. Tate, Driffield.

**SEBRIGHT BANTAMS (Gold or Silver-laced).**—First, J. Crossland, jun., Wakefield. Second, E. Yearley, Sheffield. Highly Commended, W. Cannon, Bradford.

**BANTAMS (any other variety).**—First, J. Crossland, jun., Wakefield. Second, G. R. Tate, Driffield. Highly Commended, C. Walker, Hopwood Lane, Halifax.

**DUCKS (Aylesbury).**—First, J. Dixon, Bradford. Second, G. R. Tate, Driffield.

**DUCKS (Rouen).**—First, J. Dixon, Bradford. Second, S. Shaw, Stainland. Highly Commended, S. Shaw.

**DUCKS (any other variety).**—First, S. Shaw, Stainland. Second, Master Edwards, Pixby Park (Grey Wild Ducks).

**GEES.**—First, G. R. Tate, Driffield. Second, J. Dixon, Bradford. Highly Commended, H. Ambler, Watkinson Hall.

**TURKEYS.**—First, J. Dixon, Bradford. Second, T. Ward, Whitby.

**EXTRA STOCK.**—Highly Commended, C. T. Rhodes, the Dudwells, Halifax (Golden-pencilled *Hamburgs*); C. Smith, Halifax (Dorking hen); H. Edwards, M.P. (White Swans).

**PIGEONS.—Pouters or Croppers.—Cock.**—First and Second, W. Smith, Beech Hill. *Hen.*—First and Second, W. South. Highly Commended, A. L. Silvester, Birmingham. **Carriers.—Cock.**—First, W. Cannon, Bradford. Second, J. Birstow, Heath Cottage, Halifax (Slate). Highly Commended, J. Wadsworth, Halifax (Black). Commended, J. Birstow. *Hen.*—First, W. Cannon (Slate). Second, J. Wadsworth, Halifax (Black). **Tumblers (Almond).**—First and Second, A. L. Silvester, Birmingham. Highly Commended, S. Shaw, Stainland. **Tumblers (Mottled).**—First, W. Cannon, Bradford. Second, S. Shaw, Stainland. **Balds or Beards.**—First and Second, S. Shaw, Stainland. **Owls.**—First, W. Cannon, Bradford. Second, W. F. Entwistle, Bradford. **Turbits.**—First, S. Shaw. Second, W. Cannon. Highly Commended, S. Shaw. **Jacobins.**—First and Second, S. Shaw. Highly Commended, W. Cannon, Bradford. **Fantails.**—First, W. Cannon. Second, S. Shaw. Commended, T. D. Walker, Liverpool. **Barbs.**—First, A. L. Silvester, Birmingham. Second, S. Shaw. Commended, W. F. Entwistle. **Dragons.**—First, T. D. Walker, Liverpool. Second, J. Wadsworth, Halifax (Blue). **Trumpeters.**—First and Second, S. Shaw. **Jaguars.**—First and Second, W. Smith, Beech Hill. *Any other breed.*—First, S. Shaw. Second, A. L. Silvester. Highly Commended, S. Shaw. Commended, A. L. Silvester.

The Secretary's Silver Cup, value Two Guineas, to the exhibitor who takes the largest number of Pigeon prizes, S. Shaw, Stainland.

The Silver Cup (value Five Guineas), for the best pen of poultry, W. Cannon, with Golden-spangled *Hamburg*.

The Judges were—*Poultry*, Mr. M. Hedley, 2, Sar Court, Bread Street, Cheapside, London; and Mr. T. J. Charlton, 50, Southgate, Bradford; *Pigeons*, Mr. J. W. Thompson, Southwain.

## WAKEFIELD POULTRY SHOW.

On the 4th inst. the first annual Exhibition of the Wakefield and West Riding Floral, Horticultural, and Poultry Society was held at Wakefield. The poultry numbered about 250 pens, and comprised birds from many of the best yards in the district, as well as specimens from a considerable distance.

*Game* were the first in the schedule, and were admirably arranged; each variety, except Blacks, Whites, and Piles (which were shown together), having a separate class in both old and young, all being well represented. In Black Reds Mr. Parkinson's birds merited their position, although closely pressed by several good pens. Mr. H. Adams' first-prize Brown Reds and Mr. Hellewell's Duckwings were excellent. Mr. Smith, of Slough, Bucks, was first in "Any other variety" with very good Piles. The chickens were a splendid lot, more especially the first-prize Duckwings. Black *Spanish* seem to be out of favour in this district, only one pen being shown. *Cochins* and *Dorkings* were good. In *Hamburgs* many choice pens were shown, the Golden-spangled being the most noticeable. *Bantams* were excellent.

The Show of Pigeons was unusually good, Mr. Robson's White *Powers* again taking first in their class. Mr. Shaw and Mr. Sylvester exhibited very good birds.

Great credit is due to the Committee, and more especially to the Hon. Secretary, Mr. John Crossland, jun., for the admirable arrangement of the Show, the only drawback to the complete success of the Meeting being the unfavourable weather preventing so large an attendance of visitors as might have been expected. Another year we trust the Committee may be more fortunate in this respect, and we hope they may attain, as they certainly merit, complete success.

**GAME (Black-breasted Reds).**—First, R. Parkinson, Poulton-le-Fylde. Second, G. Hellewell, Walkley, Sheffield. Third, Miss E. Beldon, Park Cottage, Bradford. Highly Commended, H. Adams, Beverley; J. S. Butler, Poulton-le-Fylde, Preston. **CHICKENS.**—First, J. Sunderland, jun., Coley Hall, Halifax. Second, G. Hellewell. Third, R. Parkinson. Highly Commended, H. Mantle, Collingham, Newark.

**GAME (Brown-breasted).**—First, H. Adams, Beverley. Second, T. West, Ecclestone, near St. Uellen's. Third, G. Hellewell. **CHICKENS.**—First, G. Hellewell. Second, W. S. Smith. Third, J. Sunderland, jun.

**GAME (Duckwing, and other Greys and Blues).**—First, G. Hellewell. Second, J. Riley, Third, J. Fell, Adwalton, Leeds. Highly Commended, H. Adams. **CHICKENS.**—First, J. Fell. Second, W. S. Smith. Third, T. Vickerman.

**GAME (Any other variety).**—First, W. S. Smith, Slough, Bucks (Piles). Second, G. Hartley, Gomersal, Leeds (Black). Third, H. C. Mason (White). Highly Commended, G. Noble, Stancliffe (Black). **CHICKENS.**—First, G. Noble, Stancliffe, Dewsbury. Second, J. Wilders, jun., Croxton Kerial, Grantham. Third, J. Craven, Wakefield. Highly Commended, T. Vickerman. **SPANISH.**—Prize, W. Cannon, Bradford.

**COCHIN-CHINA (Cinnamon and Buff).**—First, R. White, Broom-hill Park, Sheffield. Second, W. Dawson, Mirfield. Highly Commended, S. Pickard, Ditcher House. **CHICKENS.**—First, F. G. McCrea, Halifax. Second, R. White. Highly Commended, S. Pickard; W. Dawson.

**COCHIN-CHINA (Grouse and Partridge).**—Prize, R. White, Sheffield. **CHICKENS.**—Prize, R. White.

**COCHIN-CHINA (White, or any other colour).**—First and Second, W. Dawson. Highly Commended, S. Pickard. **CHICKENS.**—First, W. Dawson, Second, S. Pickard.

**DORKING (Coloured).**—First, S. Pickard. Second, H. Hinsworth, Lup et Hall. **CHICKENS.**—First, S. Pickard. Second, J. C. D. Charlesworth. Highly Commended, T. E. Kell, Wetherby; F. C. H. Hawke, Womersley Park; H. Hinsworth.

**HAMBURGH** (Golden-spangled).—First, W. Cannan, Bradford, Second, N. Marlor, Denton. **CHICKENS**.—First, W. Cannan. Second, H. Carter.

**HAMBURGH** (Silver-spangled).—First, H. Carter, Holmfirth. Second, W. Cannan. Highly Commended, W. Cannan. **CHICKENS**.—First, W. Cannan. Second, N. Marlor, Denton. Highly Commended, H. Carter.

**HAMBURGH** (Golden-pencilled).—First and Second, W. Cannan. Highly Commended, J. Smith, Halifax. **CHICKENS**.—First, W. Cannan. Second, J. Smith. Highly Commended, W. Cannan.

**HAMBURGH** (Silver-pencilled).—First, W. Cannan. Second, G. Hellewell. **CHICKENS**.—First, W. Cannan. Second, G. Hellewell.

**POLANDS** (Any variety).—First, Miss E. Beldon, Bradford. Second, H. Carter, Holmfirth. Highly Commended, F. Hardy. **CHICKENS**.—First and Second, Miss E. Beldon.

**ANY BREED NOT BEFORE MENTIONED**.—First, Hon. F. C. W. Hawke, Womersley. Second, W. Dawson. Highly Commended, W. Cannan. **CHICKENS**.—First, W. Cannan. Second, J. Pares, Binfield, Bracknell, Berks. Highly Commended, T. Chambers, Sheffield.

**BANTAMS** (Black-breasted and other Reds).—First, Master G. H. Crosland. Second, G. Hellewell. Third, J. Camm, Farnsfield, Notts.

**BANTAMS** (Duckwing).—First, W. Lawrenson. Second, Master A. Vickerman. Third, G. Hellewell.

**BANTAMS** (White).—First, Master G. H. Crosland. Second, Mrs. Foster, Beverley. Highly Commended, E. Morrison, Wakefield.

**BANTAMS** (Black).—First and Second, Master C. Crosland.

**BANTAMS** (Gold or Silver-laced).—First, Master J. Crosland. Second, W. Cannan.

**DUCKS** (Aylesbury).—First, T. E. Kell. Second, S. Stott, Rochdale.

**DUCKS** (Rouen).—First and Second, S. Pickard. Highly Commended, J. Birst, Boyne Hill.

**DUCKS** (Any other variety).—First, J. R. Jessop, Hull (Black East Indian). Second, Miss E. Beldon, Bradford (Wild Ducks).

**GESE**.—First, C. H. Mason. Second, F. C. H. Hawke. Highly Commended, J. Fawcett, Wakefield.

**TURKEYS**.—First and Second, J. Fawcett.

**SWEETSTAKES**.—*Game Fantam Cock*.—Prize, R. M. Stark, Hull. *Game Pallets*.—Prize, G. Hellewell.

## PIGEONS.

**CARRIERS**.—First, A. L. Silvester, Birmingham. Second, S. Shaw, Stainland, Halifax. Highly Commended, S. Robson, Brotherton; A. L. Silvester; W. Cannan; J. Deakin.

**POWTERS**.—First, S. Robson. Second, Miss E. Beldon, Bradford. Highly Commended, J. Sunderland.

**TUMBLERS** (Almond).—First, S. Shaw, Stainland. Second, A. L. Silvester. Highly Commended, W. Cannan; R. Oxley, jun.

**TUMBLERS** (Any other variety).—First, W. Cannan. Second, S. Shaw, Stainland. Highly Commended, J. W. Eyde, Liston New Town; R. Oxley.

**BARBS**.—First, A. L. Silvester. Second, S. Shaw, Stainland. Highly Commended, H. Yardley, Birmingham; W. Cannan.

**JACOBS**.—First, S. Shaw, Stainland. Second, Miss H. M. Crosland. Highly Commended, W. Cannan.

**TRUMPETERS**.—First, F. Key, Beverley. Second, F. Else. Highly Commended, F. Key.

**OWLS**.—First, J. W. Edge. Second, W. Cannan. Highly Commended, F. Else.

**TURBITS**.—First, S. Shaw. Second, R. Oxley. Highly Commended, F. Else; F. Key; A. L. Silvester; F. Butterworth.

**FANTAILS**.—First, R. Oxley. Second, F. Key. Highly Commended, S. Shaw; F. Else.

**NUNS**.—First, S. Shaw. Second, F. Else. Highly Commended, J. W. Edge.

**ANY OTHER VARIETY NOT MENTIONED**.—First, Miss H. M. Crosland. Second, S. Shaw. Highly Commended, S. Pickard; F. Butterworth.

**RABBITS**.—*Longest Ears*.—Prize, W. S. Smith, Slough, Buckingham. Highly Commended, J. Sunderland. *Any Variety*.—First, S. Pickard. Second, J. Pope, Biggleswade. Highly Commended, L. Appleyard.

**CANARIES**.—*Belgium*.—Prize, R. Freckleton. *Marked*.—Prize, R. Freckleton. *Any other variety*.—First, R. Freckleton. Second, G. Milthorpe. *Nest of Young* (any number).—Prize, R. Freckleton.

Mr. T. J. Charlton, of Bradford, officiated as Judge, and his awards gave general satisfaction.

## CRAVEN POULTRY SHOW.

THE eighth annual Exhibition of the Craven Agricultural Society took place on the 29th ult., in a field behind the Castle grounds at Skipton. The day was observed as a holiday, and seldom has the old historic town of Skipton had within its precincts so large a number of visitors; thousands having been brought by special trains from various parts, not only of Craven, but from more distant places in the West Riding of Yorkshire.

The prizes gave the large total of £450, and the entries, including every class—cattle, horses, sheep, pigs, poultry, implements, and vegetables, numbered 1119. The excellence of the Show was sustained in every department, with the single exception of roots, for which the season has been unfavourable. The receipts from visitors attending the Show amounted to £240.

The show of poultry was generally good; and the arrangements of the Committee and Secretaries were most efficient, and ably carried out. *Dorkings* only mustered one entry each, in old birds and chickens. *Black Spanish* also seem in little favour in this locality, only three pens appearing in the two classes. *Game* were much better represented. Mr. Grimshaw, of Pendle Forest, exhibited excellent birds, taking both prizes in the class for old Game, the first with Black Red, and the second with Brown Red. The same exhibitor also gained second prize in

chickens with Brown Reds; Miss Emily Beldon securing first honours with good Black Reds in perfection of condition. *Cochins* formed average classes. *Hamburghs* were, however, the principal feature of the Show, the district being noted for this breed. Silver-pencilled, and the two varieties of Spangled were the most meritorious, including several excellent pens, the competition being very close. *Polands* were good; *Bantams* scarcely up to the mark. *Geese*, *Ducks*, and *Turkeys* were well represented, although not in great numbers.

The *Pigeons* were not the least attractive part of the Show, the prize birds having mostly figured conspicuously at larger gatherings; Carriers, Tumblers, Owls, Barba, and Jacobins being more especially worthy of notice.

The following is the prize list:—

**DORKINGS**.—Prize, J. Dixon, Bradford. **CHICKENS**.—Prize, Rev. J. F. Newton, Kirby-in-Cleveland, Stokesley.

**SPANISH** (Black).—First, W. Cannan, Bradford. Second, J. Dixon, Bradford. **CHICKENS**.—Prize, J. Dixon.

**GAME**.—First and Second, N. Grimshaw, Pendle Forest, near Burnley (Black and Brown Reds). Commended, Miss E. Beldon, Bradford. **CHICKENS**.—First, Miss E. Beldon, Bradford (Black Red). Second, N. Grimshaw, Burnley (Brown Red). Commended, J. Wilkinson, jun., Earby.

**COCHIN-CHINA**.—First, E. Smith, Lancashire (Partridge). Second, W. Dawson, Hopton Mirfield (White). Commended, J. G. Sugden, Keighley. **CHICKENS**.—First, J. & G. Newton, East Street, Leeds. Second, W. Mitchell, Keighley. Commended, E. Smith; J. G. Sugden, Keighley.

**HAMBURGHS** (Golden-pencilled).—First, J. Dixon, Bradford. Second, W. Cannan, Bradford. **CHICKENS**.—First, W. Cannan. Second, T. Smith, Halifax. Commended, H. Pickles, jun., Earby.

**HAMBURGHS** OR **CHUTEPRATS** (Silver-pencilled).—First, D. Wilson, Sutton. Second, J. Hoyle, Keighley. **CHICKENS**.—First, H. Pickles, jun., Earby. Second, W. Cannan, Bradford. Commended, W. Canoan; J. Hoyle, Nettle-hole, near Keighley; E. Hindle, Accrington.

**HAMBURGHS** (Golden-spangled).—First and Second, W. Cannan, Bradford. **CHICKENS**.—First, J. Newton, Silsden. Second, W. Cannan, Bradford. Commended, W. Cannan.

**HAMBURGHS** (Silver-spangled).—First, W. Cannan. Second, D. Wilson, Sutton. **CHICKENS**.—First and Second, W. Cannan, Bradford. Commended, J. Newton, Silsden.

**HAMBURGHS** (Black).—First, W. Cannan, Bradford. Second, J. Dixon, Bradford. **CHICKENS**.—First, W. Cannan. Second, W. Harker, Cottingley.

**POLANDS**.—First, Miss E. Beldon, Bradford. Second, J. Dixon, Bradford. **CHICKENS**.—First, J. Dixon (Silver). Second, J. Smith, West Lane, Keighley (White-crested Black).

**BANTAMS** (Game).—First, W. Newsome, Biggley (Duckwings). Second, G. R. Tate, Driffield (Black Red). **CHICKENS**.—First, W. Lawrenson, Poulton-le-Fylde. Second, W. Newsome.

**BANTAMS** (any colour).—First and Second, W. Cannan, Bradford (Gold and Silver Laced). **CHICKENS**.—First, J. Hargreaves, Skipton. Second, J. Dixon, Bradford.

**ANY OTHER VARIETY**.—First, W. Dawson, Hopton Mirfield (Sultans). Second, J. Dixon, Bradford. **CHICKENS**.—First, J. Dixon (Malays). Second, T. Chambers, Sheffield (Ibrahma Pouter).

**SWEETSTAKE** (Game Cocks).—First, R. Whittam, Burnley.

**GESE** (White).—First, G. R. Tate, Driffield. Second, Mrs. M. Green, Todley, Keighley.

**GESE** (Grey).—First, J. Dixon, Bradford. Second, S. Swire, Stainton Cotes.

**DUCKS** (Aylesbury).—First, J. Dixon, Bradford. Second, J. Collinge, Habergham Hall, Burnley.

**DUCKS** (Rouen).—First, J. Dixon, Bradford. Second, J. Collinge, Burnley.

**ANY OTHER VARIETY**.—First and Second, J. Dixon, Bradford (Grey Calls and Black East Indian).

**TURKEYS**.—First, J. Dixon, Bradford. Second, O. A. Young, Driffield.

**PIGEONS**.—*Carriers*.—First, S. Shaw, Stainland, Halifax. Second, H. Smith, Skipton (Black). *Powters*.—First, Miss E. Beldon, Bradford. Second, S. Robson, Brotherton, York. *Tumblers* (Almond).—First, S. Shaw. Second, W. Cannan, Bradford. *Owls*.—First, W. Cannan. Second, H. Smith, Skipton. *Barbs*.—First and Second, S. Shaw. *Jacobins*.—First, S. Shaw. Second, W. Cannan. *Tumblers* (Mottled).—First, W. Cannan. Second, S. Shaw. *Fantails*.—First, W. Cannan. Second, J. Anderson, Ghsburn. *Dragons*.—First, S. Shaw. Second, J. Anderson, Crosshills. *Anticraps*.—First, H. Smith, Skipton. Second, J. Collier, Skipton. *Any other Variety*.—First, S. Shaw (Blue Shields).

The Judges were Mr. James Heywood, Bow Lee, Middleton, Manchester; and Mr. T. J. Charlton, Bradford.

## DEWSBURY POULTRY SHOW.

THE annual Show of poultry took place at Dewsbury, on Wednesday, the 27th ult., when the following prizes were awarded:—

**COCHIN-CHINA**.—First and Second, W. Dawson, Hopton. **CHICKENS**.—First, W. Dawson, Hopton. Second, J. Dixon, Bradford.

**SPANISH**.—First, W. Cannan, Bradford. Second, J. Dixon, Bradford.

**CHICKENS**.—First and Third, T. Greenwood, Eastfield Mills. Second, J. Senior, Batley Carr.

**DORKING**.—Prize, J. Dixon, Bradford. **CHICKENS**.—Prize, F. Hardy, Bradford.

**HAMBURGH** (Golden-spangled).—First, W. Cannan, Bradford. Second, J. Dixon, Bradford. **CHICKENS**.—First, J. Dixon, Bradford. Second, S. Shaw, Stainland, near Halifax. Third, W. Cannan, Bradford.

**HAMBURGH** (Silver-spangled).—First, J. Dixon, Bradford. Second, W. Cannan, Bradford. **CHICKENS**.—First, W. Cannan, Bradford. Second, J. Dixon, Bradford. Third, S. Shaw, Stainland, near Halifax.

**HAMBURGH** (Golden-pencilled).—First, J. Dixon, Bradford. Second, T.

Smith, Northwram, near Halifax. CHICKENS.—First, J. Dixon, Bradford. Second, T. Smith, Northwram, near Halifax. Commended, W. Cannan. HAMBURG (Silver-pencilled).—First, J. Dixon, Bradford. Second, S. Shaw, Stainland, near Halifax. Commended, W. Cannan, Bradford. CHICKENS.—First, W. Cannan, Bradford. Second, S. Shaw. POLAND.—First and Second, J. Dixon, Bradford. CHICKENS.—First, J. Dixon. Second, Miss Beldon, Bradford (White). GAME (Black-breasted and other Feds).—First, Messrs. Noble & Ineson, Heckmondwike. Second, Miss Beldon, Bradford. CHICKENS.—First, Miss Beldon. Second, J. Rylah, Chikley. Third, T. Vickerman, Chikley. GAME (Duckwings and other Greys and Blues).—First, Messrs. Noble and Ineson, Heckmondwike. Second, J. Fell, Adwalton. CHICKENS.—First, J. Fell. Second, T. Vickerman, Chikley. GAME (Black).—First, G. Noble, Staincliffe (Black). Second, J. Brooke, Gomersal. GAME (White).—First and Second, H. C. Mason, Drighlington. Third, J. Vickerman, Chikley. BANTAMS (Gold or Silver-laced).—First, J. Dixon, Bradford. Second, T. Vickerman, Chikley. Commended, W. Cannan, Bradford. BANTAMS (Game).—First, T. Vickerman, Chikley (Black Red). Second, C. A. Ridgway, Dewsbury. Third, T. Walliss, Dewsbury. BANTAMS (any other variety).—First, T. Vickerman, Chikley (Black). Second, J. Dixon, Bradford (White). Third, E. Holdsworth. ANY OTHER VARIETY.—First, J. Shaw, Stainland (Black Hamburgs). Second, W. Cannan, Bradford (Black Hamburgs). CHICKENS.—First, S. Shaw, Stainland. Second, J. Dixon, Bradford. COCK (any breed).—Prize, J. Senior, Batley Carr. HEN (any breed).—First, A. Ridgway, Dewsbury (Duckwing Game). Second, T. Greenwood, Sand's Lane (Spanish). DUCKS (White).—Prize, J. Dixon, Bradford. DUCKS (Rouen).—First, J. Dixon, Bradford. Second, S. Shaw, Stainland. Commended, E. Fox, Staincliffe. (Good class.) GESE.—First, J. Dixon, Bradford. Second, H. C. Mason, Drighlington. TURKEYS.—First, J. Dixon, Bradford. Second, T. M. Brooke, Dewsbury. SINGLE GAME COCK.—First, A. Ridgway, Dewsbury. Second, G. Noble, Staincliffe. Third, H. C. Mason, Drighlington.

## SWEETSTAKES.

GAME COCKREELS (any colour).—First, W. Whiteley, Liversedge. Second, T. Vickerman, Chikley. GAME BANTAM COCK (any colour).—First, W. Stead, Howden Clough. Second, E. Holdsworth, Leeds. Third, T. Vickerman, Chikley (Duckwing.)

The Judges were Mr. T. B. Stead, Leeds; and Mr. Isaac Thornton, Heckmondwike.

## TRANSFERRING BEES.

ALLOW me to point out to "A. W. D.," or any one else who may attempt to transfer bees with their combs from a common to a frame-hive, the importance of fixing the middle "partition wall," as the Germans term it, of each comb exactly in the centre of the bar to which it is to be attached. In many combs some of the cells will be found elongated on one side for the purpose of storing honey, whilst those on the opposite side remain the usual length. When "paring down" projecting parts this must be particularly attended to, so as to make sure of cutting down only those cells which have been thus elongated.—A DEVONSHIRE BEE-KEEPER.

[We agree with our correspondent as to the importance of the caution which he gives, and are obliged to him for the hint.]

## EGGS LAID BY A QUEEN BEE NOT HATCHING.

IN page 207 of this volume I described the unexpected issue, on the 4th of June, of a large swarm—so large indeed that I divided it into two, shaking one into the whilom super in which I described several royal cells. Ten days afterwards this swarm threw off another, which left the box nearly deserted with most of the cells empty owing to the brood having arrived at maturity. It being, therefore, necessary to return the swarm, I removed the crown-board; and having caught the young queen and introduced her to a queenless stock, I shook the cluster out of the straw-hive, in which it had been temporarily lodged, on the top of the exposed bars. Between these they immediately disappeared, and the job was complete. In due time a number of eggs were deposited in the worker-cells; and when I looked at the large and very handsome Ligurian queen by which they were laid, I doubted not that I had established a strong colony which had probably a long and prosperous career before it. Weeks passed on, however, and the drones having been got rid of, the workers appeared rapidly to diminish instead of increasing in numbers, so that it became evident that something was wrong. An examination of the interior revealed the mischief. Although innumerable eggs were laid not one in fifty was hatched. Never did I see eggs deposited in greater profusion, every cell in the "brood-nest" was occupied, many by two and even three eggs; but of worms or sealed brood there were but very few indeed. Here was a puzzle! That the queen had been impregnated was evidenced by the sealed worker-cells being only of the usual length,

whilst, though few and far between, one or two recently-hatched and perfectly-developed Ligurian workers placed the fact beyond cavil. Being unwilling to destroy so beautiful a queen without giving her a fair trial, I allowed her to remain until the 20th of last month (August). By this time the population had dwindled very much, and the same state of affairs continuing I handed her over to Mr. Fox, who proposed placing her at the head of a queenless stock with the view of watching the result of so singular a phenomenon. Although I supplied the colony with a sealed royal cell, which in due time produced a handsome Ligurian queen, the bees raised several princesses from the brood left behind by their late semi-fruitful sovereign. Having no desire to perpetuate the breed, I destroyed them all after allowing them to be sealed over, and thus satisfying myself as far as convenient that they were most probably capable of being hatched into queens.

I regret to state that I learned a few days afterwards that Mr. Fox had allowed the queen to perish, not having had the opportunity he expected of placing her at the head of a queenless stock; and thus I lost, what was certainly but a very forlorn chance, the opportunity of attempting to penetrate by means of a *post mortem* microscopical examination what still appears to me a most inscrutable mystery.

I commend the foregoing narrative to the attention of Mr. Edward Fairbrother. It would certainly have figured in my reply to his query as an instance of bees dwindling away in their hives from some inexplicable and irremediable cause had it occurred at an earlier period of my career as—A DEVONSHIRE BEE-KEEPER.

## DO BEES VARY?—DZIERZON'S OPINION ON THE POINT.

BEING willing to elicit the opinions of German apiarians in general, and that of Dzierzon in particular on the above subject, I forwarded Mr. Darwin's inquiry to the Editors of the German *Bee Journal*, by whom it has been inserted together with the following reply from Herr Dzierzon.—A DEVONSHIRE BEE-KEEPER.

"DO BEES VARY IN THE DIFFERENT PARTS OF GERMANY?—To the inquiry of Mr. Charles Darwin I reply with pleasure, although owing to want of time I can do so but briefly, and not so particularly as I wished and the question merited. At various times when speaking of the marks which distinguish the yellow Italian bee from our black or grey bee I have already stated that even among the native bees considerable differences are observable in colour or other qualities. The bees of some stocks are decidedly dark, whilst others are remarkable for their yellow colour, and come nearer to the Italian bee. At the meeting of bee-keepers at Vienna in 1853 I observed in the apiary of Herr Freudenthaler several hives in which a great number of the bees were marked with a yellow ring on the abdomen, as is the case with Italian bastards. This difference in colour is especially apparent in the drones. Whilst these are quite black in some stocks, in others they appear with bright rings on the abdomen, and so like Italian drones that they are scarcely distinguishable from them in a superficial examination. This may also explain why the impregnation of an Italian queen by a native drone produces such various effects. Sometimes the degeneration is soon observable, whilst in other cases queens thus impregnated produce such beautiful offspring that one is scarcely able to distinguish them from true Italians. Bees of lighter colour seem also nearer the Italians in this respect that they appear more good-tempered and diligent, whilst the darker ones seem more ill-natured and more disposed to sting.

"If many stocks with their offspring are more inclined to swarm whilst others are richer in honey, so that some beekeepers even distinguish between swarming and honey-gathering bees, this is a habit which has become second nature, caused by the customary mode of keeping and the pasturage of the district. For example: What a difference in this respect one may perceive to exist between the bees of the Lüneburg heath and those of this country. There even second swarms and parent hives still in the same year make preparations for swarming again; whilst here a young queen of the current year will not lay drone-eggs even under the most favourable circumstances both of weather and pasture. Removing an old queen and substituting a young one of the current year is here an infallible mode of keeping the strongest stock from swarming, and preventing

drone-breeding; whilst the same means if adopted in Hanover would certainly be of no avail.

"With regard to size, I have never been able to perceive a constant difference either between the Italian and native bees or amongst the latter. One may easily delude oneself in this respect, and deem essential what is but casual. As with the same kind of bee, and even in the same hive large and small queens are hatched in consequence either of more plentiful or more sparing food, of a larger or a smaller cell, so may also whole generations of workers hatch either larger or smaller from the cell, according as the brood-combs are new or old, or food plentiful or scanty; and if wild bees are said to have been found smaller than others, this may be explained by the greater age of their combs.

"If the difference in colour, which cannot be denied, be ascribed by many to the influence of climate, this opinion is evidently a mistaken one. The Italian bee, which has been termed only a climatic variety, occurs as is known but in a small district, and both it and the black bee have been kept up in Italy from remote antiquity. The foreboding that this species would soon degenerate in Germany into the common black kind has not been realised. In ten years—that is, since its introduction, it has not degenerated with me. The difference in colour is, therefore, a characteristic peculiarity of the species, and no casualty produced by climatic influence.—*DZIERZON, Carlsmarkt, July 28th, 1862.*"

## HONEY AND WAX AT THE INTERNATIONAL EXHIBITION.

"WELL, what of it? Who would care to waste their attention upon those common matters when so many other more important objects are there to claim attention?" I grant all that, yet there is much of less importance to demand attention also; for, when the manifold productions exhibited in the composition of which honey and wax form a great part are considered, and when the by-no-means-slight search has been made in order to discover the numerous specimens which are sent from all parts of the world, one is prone to set down honey and wax as of much more importance than a mere casual observer might choose to give them credit for. But be this as it may, the Jurors of the English class IX. do not appear to have regarded the apianians and their products as of the least consequence whatever—in fact, they have passed them over entirely, unless, peradventure, the successful gainers of those medals and mentions are blushing to find themselves famous, and are keeping them out of our sight. It is possible, and, as public opinion goes, advisable; but the foreign exhibitors show no such squeamishness. There are the medals and mentions sure enough, showered upon them in heaps, and with an indiscrimination perfectly ludicrous. If I were to offer the majority of those products which are dubbed with honours to our London dealers, they would curtly inform me that "such stuff would not suit their customers," and not condescend even to bow me out of their shops. Knowing this, how is it that Mr. Woodbury's large and beautiful super of Ligurian honeycomb, "first of the throng and foremost of the whole," on Messrs. Neighbours' stand is passed over? The same remark may apply to his bar-and-frame hives; in fact, all the English bee-hives, both of high and low degree, are well worthy to be honourably compared with any of their foreign competitors, yet there is a complicated affair, by no means fit to be placed in our front ranks, which has been given a medal in the Zollverein court. What is fair for one ought to be fair for another. There are English hives exhibited, to which, up to the present time, equals are not to be found, and it is quite annoying to find the British bee-keepers and their inventions thus scurvily passed over.

Let every possible pot of honey succumb to the ivory knob on the tip of my cedar pencil, and let every cake of wax, and every bee-hive, subsolve to what scrutiny and justice I can give them, in order to set ourselves right amongst ourselves in this matter, and with the crinolines also. Effectually to do this, as regards the latter, one must glide—do not lift a foot from off the floor, or you come to grief, and fiery darts to a certainty. A quantum of resistance to the circumferences I find not to be disapproved of, but no stamped. I wore a thinnish easy pair of boots (I speak advisedly) during my apianian search, and in order to escape stamping on the ladies' dresses, I soon "slithered" holes completely through the soles, the mere object of which is nothing to a rip of a skirt.

Well, as regards the catalogue and how to find out what one

wants through its agency, only those who have been making a similar scrutiny can form the least idea. According to its index I will take the nations as they come.

ENGLAND.—Class IX.—My case, No. 2112, and all that is in it, is situated almost at the extreme end of the eastern annex, near the bricks; and in Ormson's conservatory close by are Messrs. Boothman's, Pettit, Munn's, &c., bee-hives, amongst the stones. On the right and left of Mr. Ormson's conservatory, just inside the western half of the eastern annex, are Mr. Marriott's and Messrs. Neighbours' stands, both of whom exhibit hive-bees at work, with a variety of their own, and other hives and bee-implements well worth inspection. The best of the English hives exhibited have been so long and are so recently familiar to the pages of this Journal, that it would be mere repetition to recount them. Mr. Marriott's bees are working in a glass hive carefully covered over, and labelled, "Do not touch on any account." So, according to the spirit of a label I saw on a Swiss stand, I kept my "hands off."

The Ligurian bees exhibited by Messrs. Neighbour in a uni-comb-hive are very fine. They are the first of the sort I have seen, and I was rather disappointed in their colour. I expected to find them more sparkling, but they are really a beautiful sight. They had sealed over a good portion of one side of their combs, and were busily working the last time I saw them—the third week in August at half-past six. I happened to observe the queen and pointed her out to some other persons, and soon collected sufficient people to fill the steps and the rostrum. Of course, a lecture on bees naturally followed, but it was near closing time, and a piteous look from the policeman inclined me to intimate that I was not the proprietor of the stand, which at once broke up the audience. It proves hard work for the policemen in the Exhibition, and it is cruel to keep them on duty one minute longer than is absolutely necessary. Allow me here to express my thanks to them for their uniform civility and attention to my numerous wants and inquiries.

COLONIAL POSSESSIONS.—*Australia, South.*—There is part of a cake of tolerably good yellow beeswax exhibited, which gains an "honourable mention."

*Nova Scotia.*—Two parallelogram deal-box supers of honeycomb measuring about 1 foot 3 inches by 9 inches, from "Down Cape," very good, and a cake of wax turned out from a jelly shape. There is nothing new under the sun: I was nursing the idea that my specimens of wax would be the only ones formed by those culinary aids, and here comes one to match from the farther part of the earth.

*Ceylon.*—Honey is specified in the catalogue. I could find none; but I believe a number of things were lost in this court. There is an ordinary specimen of white wax, and some vegetable wax partaking much in appearance of stale preserved vegetables. There is also a bottle of cocoa-nut honey or sugar, having a combined flavour of very bitter honey and coarse brown sugar. It is like very brown liquid honey, with one-fourth sediment like whity-brown congealed honey.

*Bahamas.*—The Local Commissioners exhibit honey in large glass bottles, and a quantity of cakes of a peculiar brown-coloured wax. The honey is good and ought to have met with its reward. This is a very interesting court.—UPWARDS AND ONWARDS.

(To be continued.)

## OUR LETTER BOX.

SPANISH AND BRAHMA POOTRA HENS LAYING (*S. T. V.*).—Neither of these varieties are such good layers as the Hamburgs, but they lay larger eggs; we should think they ought to lay a hundred eggs in the year if they are well fed and have a good run. This is perhaps more than the highest bred Dorkings will lay, but Hamburgs will almost double that number. In a general way we have found the Spanish hens good layers, and endure confinement better than any other kind. Brahma Pootras are less patient in that respect, and their laying qualities are more enhanced by a good run than often feeding. With plenty of space to ramble about in, they will assuredly lay the number of eggs you speak of.

HENS BREATHING NOISILY (*S.*).—Give each of them a tablespoonful of castor oil, less hard corn, no rice, and more boiled potatoes. It may be that they are too fat, and if so omit the hard corn altogether for a week or two, and mix a little barleymeal with the potatoes.

DISEASE IN LINNETS AND GOLDFINCHES (*Q. T. L.*).—Your birds are most likely suffering from obstruction of the oil gland. If you had pressed out the matter, and anointed the inflamed gland with a little butter, it would have helped the sufferer. The bath is very useful in keeping the birds in health.—B. P. B.

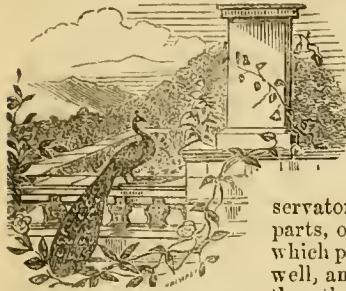
TURTLE DOVES.—*Fantail* Doves are evidently the Collared Turtles (*Columba risoria*); the white ones are a variety of the same species. They might be matched in London without much difficulty. I know of no mark to distinguish the sex; but the cock may be known by his coo and gestures.—B. P. B.

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week	SEPTEMBER 16—22, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.		Moon Rises and Sets		Moon's Age.	Clock after Sun.	Day of Year.	
			Barometer.	Thermom.	Wind.	Rain in Inches.	m.	h.	m.	h.					
16	Tu	<i>Brunsvigia toxicaria.</i>	29.995—29.870	69—36	N.W.	—	38	af 5	12	af 6	24	10	3	5 10	279
17	W	EMER WEEK.	30.910—30.047	67—35	N.W.	—	39	5	10	6	24	11	23	5 32	280
18	Th	<i>Cacalia articulata, &amp;c.</i>	30.173—30.078	71—34	W.	—	41	5	8	6	morn.	24	5 53	281	
19	F	<i>Chironia linoides, &amp;c.</i>	30.152—29.950	72—41	S.W.	∞2	42	5	5	6	30	0	25	6 14	282
20	S	Sun's declin. 1° 6' N. [MATT.]	29.793—29.781	67—34	S.W.	—	44	5	3	6	40	1	26	6 35	283
21	SEN	14 SUNDAY AFTER TRINITY. St.	29.778—29.510	63—46	S.W.	∞8	46	5	1	6	53	2	27	6 56	284
22	M	<i>Crinum crassifolium.</i>	29.514—29.424	64—50	S.W.	∞5	47	5	v	7	4	28	7 17	285	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 67.2° and 45.8° respectively. The greatest heat, 84°, occurred on the 17th, in 1813; and the lowest cold, 29°, on the 17th, in 1840. During the period 131 days were fine, and on 114 rain fell.

CULTURE OF SUCCULENTS.



FIND my pot plants take so much time that they starve my mind; I cannot find time even to read your Journal till winter evenings return. My little conservatory is divided into two parts, one well shaded, and in which planted-out Ferns thrive well, and give little labour. In the other I have a collection of

greenhouse plants which I could (although most reluctantly) part with; but I cannot neglect them. I think of leaving this with succulents; and if so, will you kindly give me a selection of such as would thrive at ordinary greenhouse temperature?—H. B.

[We can thoroughly enter into the feelings of our correspondent. We all have our hobbies, which we would wish to gratify; and strong as the love of the naturally beautiful may be within us, there may be yearnings after mental vigour—at least, such a strong desire to hold even distant communion with men of great intellect, that the growing of plants, however delightful, must come in as a secondary consideration. Though gardening be not only our hobby, but that by which we live, we sometimes long for the winter evenings, when we hope to get through several volumes, and thus prevent total starvation of mind; as we candidly confess that in summer we have just as little time to read as our correspondent has to attend to his greenhouse plants. Though, therefore, whether from benevolence true and unalloyed, or mingled as it too often is with a fair portion of selfishness, we would wish every man and woman to be a plant-grower, just because we believe they will be bettered, physically and morally, by such occupations; yet we would be the last to encourage this being done to any such extent as would interfere with the more serious duties of life, and those stern obligations which a man owes to his family and himself. The instance of our correspondent, however, is a very pleasing exemplification of the old proverb, that "Where there is a will there will be found a way," and that the real man with genuine stuff in him, will never give up easily a fondly-cherished object, or allow trifles of obstruction to stand in his way. With little time to attend to greenhouse plants in pots, he has turned the half of his little conservatory into a fernery, the plants being planted out, and thus insuring the engaging and beautiful in form with the minimum of time and labour in attending to their wants. The other half he wishes to appropriate to succulents, and these we presume to be kept in pots, in order that at their different stages they may individually receive the treatment they most want, and yet be independent of any of that minute and regular attention

which is required for a Geranium or a Cineraria. We have reason to be delighted with the idea, as in these pages we have frequently recommended the identical practice to those who were much from home, much engaged, and who, with a strong love for vegetable nature, could not give the attention to plants which they generally require. Such succulents, in general, will take little harm if neglected for days, and sometimes for weeks, though, of course, the greater the amount of a right attention they receive the better they will thrive; whilst in the variety of their shapes, the grotesqueness of their forms, and in many cases the graceful beauty and gorgeous grandeur of their flowers, there will be presented the elements of pleasant study and constant admiration.

We have long had a desire to secure a collection of these beauties, so as to form a small house of them, but have, as yet, failed to make a commencement; and at present so much have they fallen out of favour, that we could not tell our correspondent where to procure them, though, no doubt, a desire to possess will soon let us know where such things suitable for a greenhouse can be freely obtained. Amongst our recollections, besides the splendid collection at Kew there used to be a fine assortment at the Horticultural Gardens at Turreham Green, and a good many at some of the nurseries round London. In the provinces the best collection we recollect having the pleasure of seeing were at the Botanic Gardens at Oxford, and the Botanic Gardens at Bury St. Edmunds; and a hint has come in our way that the commercial is to be added to the requisites of the latter establishment. In such circumstances we would advise our correspondent to procure a few as he can get them, and then gradually weed out, so as to retain only one of a kind. If the room is very limited, we would commence with *Aloe* and *Mesembryanthemum*. But just because it may be difficult to get the most suitable at first, we will give rather a long list, in hopes he will find some at least of each family; and though the time of flowering will depend greatly on the treatment, we will divide them into three classes, as showing the times when they will most generally bloom if any moderate degree of attention be given to them.

- 1st. Spring-blooming succulents for a greenhouse:—  
*Aloe glauca, socotrina, aristata, spinosa, subcordata, tuberculata, verrucosa, and cymbiformis.*  
*Cotyledon coruscans, and canaliculata.*  
*Crassula cordata, obliqua, and punctata.*  
*Globulea lingua, sulcata, capitata, mollis, &c.*  
*Haworthia translucens, aspericaulis, atrovirens, hybrida, parva, &c.*  
*Mesembryanthemum crassicaule, marginatum, microphyllum, versicolor, filamentosum, Scottii, virgatum, aduncum, deuticulatum, &c.*  
*Sempervivum cruentum, glandulosum, and rupifragrum.*  
*Rochea jasminea, and versicolor.*  
 For blooming in summer chiefly:—  
*Aloe perfoliata, maculata, nobilis, tenuifolia, flavispina, and dichotoma.*

*Agave americana*, variegata, glauca, and virginica.  
*Cereus grandiflorus*, speciosissimus, flagelliformis, Ackermani, and many British hybrida.

*Cactus*—a few of the hardier kinds of *Echinocactus*, as acutus, concinnus, Linkii, pulchellus, longifolius, &c.

Of *Mammillaria*, as columnaris, helictaria, prolifera, tenuis, turbinata, &c.; and of

*Melocactus* as pyramidalis, and amœnus, &c.

*Cotyledon jasminiflora*, alternans, cornescans, decussata, ovata, sempervivum, mammillaris, maculata, &c.

*Crassula ciliata*, cordata, filicaulis, acutiformis, imbricata, orbicularis, coccinea, and versicolor.

*Echeveria coccinea*, and grandifolia.

*Haworthia margaritifera*, media, minor, &c., viscosa, setosa, tessellata, &c.

*Mesembryanthemum capitatum*, aurantium, multiflorum, productum, difforme, &c.

*Opuntia fragilis*, mollis, &c.

*Rocrea falcata*, and perfoliata.

*Sempervivum aureum*, Smithii, tabulæforme, canariense, arboreum, aureum, glutinosum, villosum, &c.

For blooming in autumn and winter, such kinds as the following:—

*Aloe depressa*, arborescens, picta, purpurascens, &c.

*Cacalia vicinns*, and articulata.

*Crassula columnaris*, ericoides, revolveus, filicaulis, and lactea.

*Cotyledon clavifolia*, cristata, &c.

*Globulea hispida*.

*Epiphyllum truncatum*, speciosum, &c.

*Mesembryanthemum multiflorum*, depressum, difforme, muciforme, minimum, miniatum, grandiflorum, foliosum, compactum, bifidum, and albiglutatum.

*Sempervivum tabulæforme*, &c.

With the exception of *Cereus*, *Epiphyllum*, *Crassula coccinea*, *Echeveria*, and *Sempervivum arboreum*, &c., most of these plants are of a low, stubby, or trailing character. Unless thoroughly burnt up, or thoroughly soaked so as to make a marsh plant of them, they can scarcely be killed with neglect. On commencing, a sandy loam and a little lime rubbish will grow them all well, and moisture in the shape of watering should chiefly be given when the plants are growing freely or showing bloom; at other times, and especially in winter, if not in bloom, or showing bloom, they should be kept rather dry. In fact, many kinds, if the pots stand on a bottom at all moist, will need no water for months, where there is not much sun. This arises from the fact that the whole of the leaves are, in general, more abundantly supplied with absorbing than perspiring pores. We have had *Haworthias*, *Aloes*, *Mammillarias*, *Melocactus*, &c., flourishing nicely that had not been watered for three or four months, and a week's neglect at any time hardly did them any harm.

So much for our friend commencing with his succulents. He may expect for himself, and his visiting friends, a great amount of gratification at the smallest expense of time and labour, and the general principles alluded to above will apply to all we have maintained; but as soon as we can look round us, we will in a simple way specify for his and others' benefit some of the minutæ of detail, for just now we are all up to the neck with work requiring to be done, demanding from us the exercise of the knife and the potting-bench rather than the quill. But all will be done in good time. Get the plants first, like the cook with the hare. We are sure the growing will be all right. We would just say there are many annual *Mesembryanthemums* and *Portulacas* that are beautiful whilst they last, and always bloom best under glass.—R. F.]

## ROYAL HORTICULTURAL SOCIETY'S AUTUMN SHOW.—SEPT. 10TH.

A SCOTCH-MIST sort of a morning, a speculative forenoon, and a most beautiful afternoon and evening—just enough to put us in mind of the glories of Chiswick, and as it happens fortunately, our own most glorious connection with that alma mater of our pursuits.

Chiswick garden is now, undoubtedly, the most important garden in the three kingdoms in a real gardening point of view. If you only take the great conservatory, the ugliest elevation of a house, perhaps, on the face of the earth, and associate with it

the united geniuses of a McEwen and Thompson, of Dr. Hogg and Mr. Eyles, with the labours of the Pomological Committee, the pillars of our pomological experience, you will find it the most generally useful of all the labours of the Royal Horticultural Society, and that which was the most needed at the present day. At this September Show we had an ample illustration of the use and value of the house, and of the authorities aforesaid, and what I have just said about them.

There was a collection of forty kinds of Grapes there on exhibition from Chiswick garden, for which the whole experience of the united kingdom could not furnish a match. Most fortunately there were no prizes offered for fruit at this Show, else Mr. Eyles would have carried the field right before him. Five, six, and seven-pounder bunches of Grapes from Chiswick, and every berry of them of the same uniform size, will soon put some of our walk-over-the-course exhibitors in the saddle, or else out of it altogether; and before the surface of things is smooth again we shall have such bunches as our fathers and Speechly carried between them, to our comfort and our credit.

Where there was no show intended one feels loth to report or review that part of it devoted for fruit. However, I will just trespass to say that a bunch of the Golden Hamburg in that collection was as fine and as full as any bunch of Grapes the Society ever had before them. There are a good many straws in the wind to indicate the current of this new Grape; but of this I am quite certain, it is first-rate with Mr. Eyles. As far back as twenty-four, twenty-five, and twenty-six years, I have my own self proved that a Grape and Grapes can be had to perfection on some soils, and be not worth a rush on a different soil; and I was the first gun who fired against my own self when the British Queen Strawberry beat me out and out at Shrubland Park, where it was not worth one farthing the ounce—for this very reason, that I never could get an ounce of it there to prove the fact. At this time my equals almost all over the country were in a regular campanology about it, if there is such a word, for the sounding of all the steeple bells in the kingdom. And it may be the like with the Golden Hamburg.

There was a bunch of the Strawberry Grape, which I think I said I tasted last year in Sir Joseph Paxton's garden, where it was grown in a pot and had leaves as much like those of some Fig as a Vine leaf, but it requires to be very ripe to acquire the Strawberry taste in it.

Also, three bunches of the Currant Grapes of the grocers were there, the berries like Juniper berries in size and blue bloom. An Indian black Grape, called Monukka, is longer in the berry than any of the old ones, and I judged the bunch at 5 lbs., but it might be six or four. There was a purplish-scarlet bunch called Chasselas Rose de Falloux. But the most beautiful Grapes for a wedding breakfast I ever saw were a bunch of blush pink berries, a new kind called Albee. Of all the Grapes this is peculiarly the ladies' favourite colour for a fancy dish, and it is impossible to look at it for the first time without thinking who, among your friends, would be the most likely to join hands in matrimony and to get this Grape up at the top and on the right-hand side of the wedding cake.

All the head-gardeners in the country, and all their men ought to see the great International Exhibition and the great Grape-conservatory at Chiswick gardens. A great number of them have had that privilege already; and if I could get at the best chord in the national feeling, there is not a gardener or under-gardener in the three kingdoms who would not see the grand sights ere they were all over.

But I must mention some beautiful seedling Pears from the Royal Gardens at Frogmore by Mr. Ingram; and a most luscious-looking yellow Peach from Mr. Rust, gardener to the Hon. L. Sullivan, Broom House, Fulham, and named Thamea Bank Peach, late as the Chancellor, and as good as any of the mid-season Peaches, according to the judgment of some of the Pomological Committee who told me so; but, of course, as there was no pomology for that day, these good things must stand over for another year, when we shall by ourselves, with no International, obtain the attention of the Council.

The fruit at the Crystal Palace Show the previous week was the great source of attraction to the largest number of the visitors there; and although much of it must have been like the fox's Grapes, somehow or other the public take great interest in such things, and we ought, most certainly, not to be too stingy about the prizes.

The flowers were even grand. The Dahlias, the Hollyhocks, the China Asters, and the Gladioluses were really most surpris-

ing considering the summer's weather. But of all the things on the face of society, and of ours in particular, the most difficult matter of all is to school the florists. But the Roses! Who would have expected Roses this season, when my own have made from three-feet to six-feet-lengths of shoots, on their own roots, in this everlasting cocoa-nut refuse, and no particle of manure, liquid, limpid, or in lumps for the last three years, and all only coming into flower, except the Malmaison Rose, and with it I could beat the globe if bigness and flat-facedness would do?

But I shall have seedling Roses soon. I began with Général Jacqueminot with its own pollen, but only the curious part of the pollen, and my seedlings will be either *Senateur Vaisse* or else *Gloire de Rosomenes*. I sounded Mr. Mitchell, who took the first prize in Roses, "*D., Deal*," and Mr. W. Paul as to the best six Roses for me to grow for myself, and to hold my tongue about them; and there was only one of those which I intended having which they did not recommend because the kind is somewhat delicate in constitution. If I cannot get these on their own roots, I shall take such as are the lowest worked of the dwarfs, and plant them as they do the *Manetti* stock—put the budded part all underground, and in May I shall scratch the bark off the shoots, just within the surface of the soil, to make roots come the sooner; then I shall make layers and cuttings till I have a full stock, and I shall give away most of my old Roses for want of room. I shall follow Mr. W. Paul's system of pruning and disbudding Roses, and the old Scotch gardener's way of doing the Gooseberry bush in summer pruning, and July will be my chief Rose-pruning time for the whole year. It would never do to cut-in such shoots as they make with me by way of winter pruning. I shall only stop my Roses, as it were, in winter, and prune and thin them in the summer.

As to new Roses, there were very few of this year's new seedlings. The best I saw were from Mr. Mitchell, and his best was *Lady Georgina Milner*, a magnificent glossy rosy pink; then *Maurice Bernardin*, a distinct crimson, and *Madame Charles Wood*. And all the names following I take to be of Roses to be most relied on for autumnal bloom:—*Madame Vidot* and *Madame Charles Crapelet*, *Comtesse de Chabillant*, *Général Jacqueminot*, *Pauline Lanzeleur*, *Lord Raglan*, *Senateur Vaisse*, *Eugène Appert*, *Jules Margottin*, *Colonel de Rougemont*, *William Griffiths*, *Madame Knorr*, *Anna Alexieff*, *Reine des Violettes* (seems to do in the autumn, and it is certainly a queer-coloured Rose between slate and violet colour), *Comtesse d'Orleans*, *Auguste Mié*, *Devoniensis*, *Malmaison*, *Gloire de Dijon*, *Céline Forestier*, *Triomphe de Rennes*, *François Premier*, *Bacchus*, *Victor Verdier* and *Louise Odier* (a match pair), *General Washington*, *La Reine*, and *Evêque de Nîmes*. Almost all these were in all the collections, with no signs of flinching in any one of them.

I could not get near the Dahlias, but only looked at them from end to end; but there was a vast deal of improvement in their general appearance both here and at the Crystal Palace, from the fact of those horrid foxy colours having been weeded out of them, which no mortal could or would grow, except he had the proper bump for that.

Hollyhocks have also been strained from all the dregs and sediments of all shade that tended to sadness, and were of the most there were really most magnificent, and were of the most delightful colours. I saw one cut bloom of a Hollyhock in the hands of one of the Judges who was then seeking some other kind to match it. I did not catch the name, but I am much mistaken if a match to the colour is yet to be found under the sun. It was a shade between rosy salmon and magenta, and I must have the name of it the first time I meet that one of the Judges at the Floral Committee.

I took the following as the best of their tints from the first and second prize collections, beginning with that from Mr. Chater, and with his new cottage Hollyhock *Hesperis*, the best of the dark slaty colour. The best deep rose was *Rose Celestial*; the best light rose, *Beauty of Walden*; best blush, *Beauty of Milford*; best scarlet, *Morning Star*; best yellow, *Lizzy King*; best next tint of yellow or orange buff, *Excelsior*; best crimson, *Governor-General*; and the best purple, *Lady King*. These were the best in the very best shades of the Hollyhock. In the second, or that from Messrs. Downie, Laird, & Laing, best canary yellow, *Golden Fleece*; best rose, *Miss Edmeads*; best orange buff, *Prince of Hesse*; best reddish-rose, a high tint in this class, *Stanstead Rival*; the best crimson, a fine one, *Lady Loughborough*; and the best purple, also a very rich tint, *Purple Prince*.

Out of the first and second class cut blooms I noted the following as best, because every one who writes to us wants to know

the best of everything under the sun:—*Hesperis* aforesaid; *Illuminator*, crimson; *Jaune Surpasse*, yellow; *Mrs. Chater*, light rose; and *General Wyndham*, all but black.

The *Asters* were magnificent, but I did not see the growers or the prize tickets.

Mr. Cattell brought *Phloxes* up this time in dwarf little plants not more than from 15 inches to 20 inches high. I took the three best *Phloxes* in Mr. Standish's collection and the three best in that from Mr. Turner. The former had as his very best *Parmentier*, which I must order for myself as the largest and deepest red; *Flora* next, a rosy beauty with a crimson eye; and *Mrs. Standish*, of course the best white with the finest eye. Mr. Turner had two pure white selfs, no eye, and I preferred *Avalanche*. His best red was *Rose Queen*, also a self; *Julie Russell*, a light blush and a deep-coloured eye; and *Sparkler*, a fine reddish-roc. Now, as I do not grow Dahlias, I must have these seven *Phloxes*, if only to be right in the minority.

I passed *Pansies*, *Petunias*, splendid *Verbenas*, to get to the very best cut flowers there—the double *Zinnias* and the liliput Dahlias from Mr. Cattell. You may believe me when I say the double *Zinnias* will soon be as snowy as the *China Asters*. They were so foxy brown at first that I should prefer the single ones. But here we had them imbricated as *Camellias*, and with shades quite as promising if not quite so bright; and the dear little liliput Dahlias want only to be made dwarfs to be the finest bedding plants in the world. Who will hit upon the right ray of florets to get the pygmy-forming pollen from, to subdue this race to the will of man?

Mr. Youell, of Yarmouth, was again the Wellington of the day in *Gladioluses*; and one called after himself is the nearest to a *Scarlet-Geranium* colour of any I have seen, the front is also peculiarly marked in shades. *Mrs. Youell* is a bold bright flower, orange and blush mixture, and a large spike; *Mars* next best. *Achille* is a peculiar flower of a good shade of lake, and a light stripe up the centre of the six divisions of the perianth. *Queen Victoria* was the best white in Mr. Standish's collection this time, then *Mrs. Standish*, and then *Lady Mary Wood*. What they would call *Meg Merlice* colours in *Sir Walter Scott's* days you see in *Colleen Bawn*, the only Gaelic name there, it is a lilac, a red, and a white, all in mixture. *Flora Macdonald*, blush, dashed over with crimson in shades and blotches; *Amelia*, light ground streaked and blushed all over; *Marie Dumortier* ditto—and these were the favourites in the above colours. The rest much the same as the colours at the Crystal Palace.

There was a fine collection from the Messrs. Henderson, of the Wellington Road Nursery, of those fancy-leaved *Geraniums*, after *Mrs. Pollock* fashion, which are deservedly great favourites on account of the beauty and novelty of their leaves, in alternate zones of bronze, purple, crimson, yellow, green, and white, in one or the other of them. The newest and best of these is called *Lucy Grieve*, a brighter foliage than that of *Mrs. Pollock*; *Italia Unita*, the next best; then *Countess*, *Elegans*, *Sunset*, and others, all gems of the first water. Along with them were several *Fuchsias*, single and double, and a new *Calceolaria* called *Ericoides*, from the Messrs. Veitch, the growth and looks of which would remind you of *Fabiana imbricata*; also their hybrid *Orchids*, with one after *Calanthe masuca*, and a most valuable large collection. In the western arcades were beautiful specimens of the lovely blue *Vanda cœrulea*, the summer *Orchids* going out in *Vandas* of the tricolor section, and the winter ones just coming in, as *Vanda cœrulea* aforesaid, and *Odontoglossum grande*; also, the *Lapageria rosea*, the *Hedychium Gardnerianum*, in bloom; and *Eucharis amazonica*.

There the Messrs. Lee and Mr. Bull set up collections of foliaged plants; and Mr. Arthur Henderson, *Pine-Apple Place*, a collection of the finest specimen plants of all the best *Caladiums* which have yet been exhibited. There, also, Mr. Ivery had a select collection of fifty kinds of hardy Ferns, a fine sight, and of *Japan Lilies*, there were whole beds of them against the walls. Mr. Cutbush, of Highgate, was high up there and at the top of the tree in pot *Gladioluses*. Mr. Ivery had two varieties named for him, out of lots of firm sports from *Athyrium filix-femina*. Mr. Bull was by his side with lots of fine things, and some *Petunias*; and Mr. Standish had his turn of the new *Japan Lilium auratum*, the *Lonicera reticulata aurea*, and others. But when I get the harvest in I have some more in store from this and from my Crystal Palace notes.

D. BEATON.

"SPLASH, splash! What is that?" as I heard strange sounds on the roof of the house about half-past five. "Is it rain?"

"Yes; pouring, of course. It is one of the Horticultural Society's show-days, and so of course it rains." And so in cold, and damp, and uncomfortable I wended my way in early morn to Kensington, where one was met on all sides by—"Ah, old Chiswick weather again;" and with every prospect of a wretched day, exhibitors were busy at work. The conservatory was suggestive of cold feet, and the arcades of toothache and stiffnecks; but happily Apollo asserted his supremacy, and about midday burst forth, and during the afternoon the gardens were well filled by a gay and fashionable (considering the season) assemblage.

Of the excellence of many things exhibited there could be no question. Dahlias were magnificent, and notwithstanding all that has been said against them, received the warmest admiration. Gladioli were very good, and are making rapid strides in public favour. But as yet amateurs seem to avoid them; there being no competition among them last year induced the Council, I presume, to punish them for their remissness by excluding the amateur class altogether; but unless there be one made, I fear the growers must have it all to themselves. A man who has three acres to roam over must be a "Triton amongst the Minnows" of those who have, perhaps, a couple of hundred of bulbs altogether; but I believe if the division be made, that next year will see a large increase of exhibitors. Many persons were there with their note-books, and many inquiries were made as to prices.

Hollyhocks were wonderfully good, if not numerous; but then they must have been shaded from the influence of the weather, or they never could have been brought so clean and good.

Asters were certainly inferior to former years both in quantity and quality, though there were some very fine blooms. And singularly enough, Mr. Robert Fortune, no mean judge, remarked to me that no flower had made so great an impression on him as to the improvement a few years had made than the Aster. Verbenas were not in first-rate condition, nor were Phloxes.

Roses were exhibited in wonderful order, considering the weather, the last week having greatly improved them. One of the most noticeable being a bloom of Lord Clyde (Paul & Son), which will, although not a florists' Rose, prove, I think, a useful flower. And now I would ask whose judgment was correct—those who maintained that the Dahlia and the Gladiolus would form the features of an autumn show, or those who lauded up Phloxes and Asters as flowers to take their place? The former never will be an exhibition flower. Mr. Cattell, of Westerham, exhibited a collection grown in pots, and very well grown they were, dwarf and compact; but his was the only response to the invitation. In the cut flowers not only was the wonderful sameness manifested, but long before the afternoon was over they had begun to droop; and complaints were hurled against the flowers as if they were bad of their kind, which certainly was not the case; their bstered appearance solely arising from their extreme liability to fade.

Then as to the Helichrysums, or Everlastings, a good collection of them, doubtless, were there. But "weeds, sir, weeds," was all the notice they received from passers-by.

Pleasant, too, right pleasant it was to meet with old friends, and talk over many things with them—parishioners of twenty years back, old friends of college days, one with whom I had worked in organising a Natural History Society, which still, after twenty-four years of life, exists; another, the able Curator of the Dublin College Botanic Garden, in whose company I have spent many pleasant and instructive hours, and who, with the zipened experience of years, still maintains that true humility which ever accompanies real wisdom; so that altogether it formed as pleasant a day as the whole year has afforded. I heard, too, intimations from more than one quarter that the agitation upon the neglect of the florists is likely to result in good; and one expression which fell on my ear from one of the most influential authorities, if carried out with spirit, would certainly go far to remove the objections which we have against the present arrangements of the Council.

Dahlias, as the prominent feature of the Show, claim our first attention, and those of the growers for sale especially. As usual the contest lay between Mr. Turner, of Slough, and Mr. Keynes, of Salisbury; the latter being first in 48 Selfs and 18 Fancies, and the former in 24's. Considerable difference of opinion was expressed (as there always will be), as to the adjudication, but unquestionably the flowers were fine. I subjoin the names, marking with an asterisk those that specially struck me.

Mr. Keynes had, amongst others, \*Lord Derby, Golden Drop,

Imperial, John Harrison, Juno, \*Donald Beaton, Bob Ridley, \*Hugh Miller, Leopard, Duke of Wellington, Chairman, Pauline, Andrew Dodds, Baron Taunton, Mr. Critchett, \*Mrs. Bush, \*Earl of Shaftesbury, Peri, John Keynes, Black Prince, \*Beauty of Hilperston, Lord Palmerston, Lady Elcho, Souter Johnny, \*Criterion, Mr. Waters, Lady D. Pennant, \*Pandora, and Lilac Queen.

Mr. Turner's were \*Criterion, Norfolk Hero, Captain Harvey, Chairman, Pre-eminent, Jenny Austin, Pluto, Golden Drop, Mr. Stocken, Midnight, \*Lilac Queen, Duke of Wellington, Delicata, Beauty of Hilperston, George Brown, Privateer, Flower of the Day, Charlotte Dorling, Earl of Shaftesbury, Seedling (orange scarlet), \*Lady Popham, Lord Palmerston, Cygnet, Volunteer, Andrew Dodds, \*D'Israeli, \*Lord Derby, Peri, Hope, Hugh Miller, Mrs. C. Waters, Umpire, Pioneer, Lord Dundreary, Sir G. Douglas, Joy, Commander, George Eliot, \*Model, Lady Elcho, \*Mrs. Bush.

In 24's, as I have said, Mr. Turner was first. And in 18 Fancies Mr. Keynes had Carnation, Gem, Lady Paxton, Mary Lauder, Souter Johnny, Le Premier, Garibaldi, Queen Mab, Triomphe de Ronbaix, Starlight, Pauline, Patriot, Harlequin, Confidence, Baron Alderson, Nora Creina, Reliance.

In the class of 24 blooms (Amateurs), Mr. J. Hedge, Reed Hall, Colchester, was first with Heroine, John Keynes, Mr. Crawford, Chairman, Bishop of Hereford, Triomphe de Pecq, Golden Drop, Lord Palmerston, Beauty of Hilperston, Neville Keynes, Lady Popham, Standard Bearer, Emperor, Commander, Cherub, Madge Wildfire, Admiral Dundas, Lord Palmerston, &c.

In 12's Mr. W. P. Barnard took first prize with George Elliott, Mrs. Bailhache, Lilac Queen, Mrs. C. Waters, Chairman, Lady Douglas Pennant, Lord Derby, Jenny Austin, Beauty of Hilperston, and Lady Popham. Mr. Corp's 12 Fancies were Reliance, Gem, Confidence, Gem (Stafford's), William Corp, Elegance, Mary Lauder, Lady Palmerston, Pauline, Queen Mab, and Harlequin.

Mr. Youell's Gladioli, which took the first prize—more, I should imagine, for the vigour of the spikes than the refinement of the varieties—contained a goodly number of the foreign varieties: amongst others, Isoline, Velleda, Mons. Vinchon, Napoléon III., M. Blouet, Penelope, Achille, Ophir, Empereur, Junon, Linné, Branchleyensis, Mrs. Youell, Pegasus, Madame Furtado, Jeanne d'Arc, Calendulaceus, Clemence, Princesse Clothilde, Galathée, Le Poussin.

Mr. Standish had two collections mainly composed of his own seedlings. They contained Marie Dumortier, white spotted; Paul Bedford (s.), rose; Queen of Denmark (s.), peach; Solferino (s), red with yellow; Mrs. Peach (s.), beautiful peach, lower petals shaded and spotted; Miss Foster (s.), peach; Amelia, light spotted rose; Reine Victoria, large, white; Colleen Bawn (s.), light, splashed with rose, in the style of Mrs. Donbrain; Countess of Derby (s.), white; Flora Macdonald (s), light, feathers purple; John Leech (s.), light peach, dark feather, spotted lips; Rosenberg (s), peculiar crimson; Adam Bede (s.); Troubadour (s), rose, curiously spotted with yellow, streaked with crimson; Adèle Souchet, white, lilac stripes; Lady Emily (s.), lemon; Amy Robart (s.), light; Rainbow (s.), like John Leech; Tom Moore, light, petals too narrow; Euphemia (s.), peach; Diana (s.), light; Emelita (s.); light, with carmine feathers; Lurline (s.), light; Charlotte Eflingham, white; Basil (s.), white; Couranti Fulgens; Robin Hood (s.); The Favourite (s.), light; Charles Davis (s.); Sanspareil (s.); Lady Mary Hood (s.), white; Don Juan; Duches of Sutherland (s.); Carnation, rose-striped; Jeannie Deana (s.), light.

Messrs. Paul & Son's contained Ninon de l'Enclos, Florina, Aristote, Daphne, Eugène Damage (very bright), Berenice, Victor Verdier, Madame de Vetry, Hebe, Fanny Rouget, Achille, Mazepa, Janne, Penelope, Solfaterre, Couranti Fulgens, Premices de Montrouge, Madame Vilmerin (new, light with rose splashing). Mr. W. Paul had Couranti Fulgens, Madame Rabourdin, Branchleyensis, Ophir, Penelope, Dr. Andry, Vesta, Oracle, Lord Grenville, Fanny Rouget, Madame Binder, Madme Eugène Verdier, Calendulaceus, Ilicbe, Canary, Louis Van Houtta, Madame Leseble, General McMahon, Ceres, Ninon de l'Enclos, Raphael, Sulphureus, and Mazepa.

In the class for 12 of the style of Branchleyensis, Mr. Youell was first and Mr. Standish second. Mr. Youell's flowers were Mars, Comte de Morny, Napoléon III., Mr. Youell, Don Juan, Star of the East, Rembrandt, Achille, Othello, Dr. Andry, Victor Verdier, and Neptune. The latter gentleman's flowers consisted of Dr. Andry; Richard Heath (s.), rose, with yellow centre;

Garibaldi (s.), brilliant crimson, purple throat; Den Juan; Etna, orange scarlet; Bracelet (s.), rose; Murillo (s.), rose, with dark feather; Samuel Weymouth (s.), crimson, with white throat; Paul Bedford (s.), brilliant rose red; Brencleyensis; General Cabrera (s.); and Wallace.

Two collections were shown in pots; Mr. Cutbush's, which obtained first, contained single bulbs, and Mr. Cattell's two or three bulbs in each pot. Mr. Cutbush had Vesta, Janire, Brencleyensis, Galathée, Impératrice, Gil Blas, Goliath, Hebe, Madame Binder, Othello, Eveline, Byron, and Emperor. Mr. Cattell had Rubens, Solferino, Le Roi d'Oude, Courant Fulgens, Madame Rabourdin, Janire, Monsieur Vinchon, Sulphureus, Adèle Souchet, and Linné.

It will thus be seen that this rapidly improving flower was largely represented, and there is no doubt of a greatly increased demand for it; many fine varieties can be purchased at a moderate rate, and will well repay any trouble bestowed on them. They do not, as some have imagined, require a poor soil, but will bear very liberal treatment.

In Hollyhocks, Mr. Chater, of Saffron Walden, took first prizes both in spikes and cut blooms. Some of the spikes, of which I subjoin the names, were very fine. They were Beauty of Milford; Blush; Princeps (s.), lilac; Imperator, buff; Rose Celestial, rose (s.); Governor General, red (s.); Lady King, dark crimson; Ne Plus Ultra, violet (s.); Excelsior, buff (s.); Beauty of Walden, rosy buff; Miss Lizzie King, yellow; and two others, the names of which I took so badly that I am ashamed to say I cannot read my own writing. In cut blooms, Mr. Chater had Illuminator, dark crimson; Hesperis, lilac; Lady King, dark mulberry; La Dame Blanche, pure white; Monarch, red; Comtesse Russell, blush; Morning Star, crimson; Joshua Clarke, very fine; Lady Dacres, pink; M. Anne, rose; Queen Victoria, rose; General Wyndham, dark brownish-crimson; Imperator, buff, &c. In Messrs. Downie & Co.'s stands, Stanstead Rival was particularly fine.

Roses were very good, especially when the season is considered; Mr. Hedge again taking off the honours, amongst amateurs—Mr. Mitchell and Mr. Turner, amongst growers. Mr. Hedge's flowers were La Reine, Gloire de Dijon, Madame Charles Crapetel, Odeuric Vital, Baronne Prevost, Aurora, Eséque de Nîmes, Triomphe de Rennes, Général Jacqueminot, Sombreuil, Madame de Cambacères, Caroline de Sansal, William Griffiths, Géant des Batailles, Madame Knorr, Orillame de St. Louis, Safrano, Duchess of Sutherland, Madame Bol, General Washington, Comte de Paris, Souvenir de la Reine de l'Angleterre, and Jules Margottin.

Mr. Mitchell had Sénateur Vaisse, Gloire de Dijon, Madame Joigneux, Caroline de Sansal, Triomphe de Rennes, Madame Charles Crapetel, Souvenir de la Malmaison; Baronne de Noirmont; Léon des Combats, General Washington, Lord Raglan, Lady Georgina Milner, Dr. Berthel, Madame Vidot, Pauline Lanzeur, Comtesse de Chabrillant, Général Jacqueminot, Duchesse d'Orléans, Baronne Prevost, Sombreuil, Madame Domage, La Reine, Madame Knorr, Devoniensis, Géant des Batailles, Queen, Madame Halphin, William Griffiths, Adalide, Louise Odier, Jules Margottin, Anna Alexieff, Francis L., Dr. Juillard, Comte d'Orléans, Alexandrine Bachmeteff, Madame Schmidt, Reine des Violettes, and Honêre.

Mr. Turner had in the best 24, Maxima, Victor Emmanuel, Louise Peronny, Charles Lefebvre, Narcisse, Comtesse de Chabrillant, Louis XIV., Auguste Mié, Général Jacqueminot, Duchesse d'Orléans, Madam Rivers, La Reine, Victor Verdier, La Ville de St. Denis, Madame de Cambacères, Eugène Appert, Souvenir de la Malmaison, Monsieur de Martigny, Gloire de Dijon, Léon des Combats, and Belle de Bourg-la-Reine. Paul and Son were second, and had in their stand a nice bloom of their seedling Lord Clyde.

There was nothing peculiarly striking in Verbenas. There was one stand of double Zinnias from Mr. Cattell, one bloom in which was very double and regular—quite a florists' flower, but not so deep as I have had them myself this year.

Altogether the Show was an excellent one, and evidenced the zeal with which cultivators are endeavouring not only to march with the times, but outstrip them.—D., Deal.

#### FRUIT.

No prizes being offered for fruit on this occasion but little was brought forward for exhibition; we have, consequently, scarcely anything to add to Mr. Beaton's remarks on the subject.

The fine collection of Grapes from the garden at Chiswick formed the chief attraction here; never, probably, at any horticultural show have so many different varieties been assembled at one time, and many were the eager faces anxiously straining to get a glance of the object which detained a four-deep line of lingerers. More fortunate than some, we succeeded in getting near, and taking down the names of the forty varieties shown, which were Black Hamburg, weighing 2½ lbs.; Dutch Hamburg; Frankenthal, 3½ lbs.; Mill Hill Hamburg; Black St. Peter's, and Lady Down's Seedling, two excellent late Grapes; Black Morocco, a well-known large Grape, but generally a bad setter; Esperione, covered with a fine bloom; Black Monrúke, a splendid bunch, weighing 4 lbs., the berries of this are stoneless like the Black Corinth; Black Prince, which can always be depended on for colouring well, 1 lb. 15 ozs.; Morocco Prince, 1 lb. 13 ozs.; Barbarosa, a fine bunch, weighing 2 lbs. 7 ozs., but there are many at Chiswick much larger but not yet ripe; Blussard Noir, a healthy and productive kind of good flavour, but the bunch and berries are not so large as those of the Hamburg; Burchard's Prince, which hangs later than the Black Hamburg; Trentham Black, an excellent sort for hanging long; Late Black (Armagh); Muscat Noir de Jura, a kind having the Muscat flavour of the Black Frontignan; Cassela de Faloux; Chasselas Violet; Prune de l'Hercule; Rouge de Provence; Black Corinth, also known as Zante, which furnishes the currants of the shops; Black, Grizzly, and White Frontignan, all three of which differ chiefly in their colour, and but little in their rich Muscat flavour; Abbe, peculiarly beautiful, looking as if modelled in wax, and having a delicate rosy tinge; Royal Muscadine; Muscat of Alexandria, not ripe; Grouier du Cantal, a large-berried Grape; De Candolle; Cabral; Calabrian Raisin, a showy late kind; Golden Hamburg, a fine bunch, with large, well-ripened berries; Early White Malvasia; Foster's White Seedling; White Nice; Blussard Blanc; Reeves' Muscadine, a Cape variety, and an abundant bearer; Yellow Cabul, and Tokay des Jardins. The above form only a part of the varieties in fruit at Chiswick, where the Vine-pits, and large conservatory in particular, are covered with Grapes. The bunches in the latter reach to the very top, and in many cases are of extraordinary size, constituting a spectacle which it is well worth while going to see.

From M. Chantrier, gardener to the Duc de Levis Vantadour, Noisiel, near Paris, there came several Pine Apples of extraordinary size.—a Smooth-leaved Cayenne, and a new variety called "Charlotte Rothschild," stated to be a fruit of first-rate quality, often attaining a height of a foot, with a circumference of 18 inches, and having the property of ripening well in winter.

Mr. Miller, Combe Abbey Gardens, Coventry, sent two Melons of extraordinary size—the one, a Cashmere, was 26½ inches by 22½ inches round, and weighed 7 lbs; the other, a Beechwood, was a quarter of a pound heavier.

Peaches and a Nectarine, growing naturally on the same branch, formed another interesting object, which was contributed by Mr. F. Moore, gardener to the Earl de Grey, Howick Hall.

Mr. Ingram, of Frogmore, sent a basket of a handsome seedling Pear, the name of which we could not make out.

Messrs. Shaw & Crossland, of Sheffield, had seedling kitchen Apples; and Mr. Rust a seedling Peach.

#### CONSERVATORY TUBS AND GARDEN UTENSILS.

THE very liberal prize which was offered on this occasion for the best conservatory tub, without restriction as to size, form, material, or design, excited the expectation that the specimens offered for competition would be improvements on the forms now in common use, and would fulfil the requisites of fitness, elegance, superior workmanship, and cheapness, which the Society laid down as the test of merit. This anticipation was, however, doomed to disappointment; for not only were the articles brought forward with some exceptions far from ornamental, but they were few in number, and many were in an unfinished state. The Judge, therefore, very properly withheld the prize on the ground that the conditions upon which it was offered were not fulfilled, the exhibitions "not combining utility, elegance, and cheapness, and not being superior to the tubs in common use." We have no doubt that on a future occasion the offer will be repeated, and that something more worthy of attention will be produced.

Two plant-boxes, about 2 feet square, from Mr. Ormson, were among the best. One was constructed of Pitch Pine, so as to

be easily taken to pieces; it was varnished outside and pitched within, and was, undoubtedly, a good useful plant-box, sufficiently ornamental for all ordinary purposes. Its cost was three guineas. The other was made of three different materials, the posts at the corners being of Oak, and the sides Bretton Hall stone with ornamental ironwork above this. It had a neat appearance and seemed well calculated to last.

Mr. Forsyth, of High Street, Camden Town, had a box of wainscot Oak of very solid construction, the front carved and bearing the inscription "Royal Horticultural Society, 1862." Of this it was stated, that it could be taken to pieces in one minute, leaving the plant standing on the bottom, and that being on castors it could be readily moved. It was handsome but its price, £7, without carving, is too high, and it would, probably, lose its good appearance after exposure to the alternate action of water and the air, involved by the necessary watering of the plant which it might contain.

J. Allnut, Esq., of Clapham Common, a well-known lover of plants, exhibited two square tubs tapering inwards towards the bottom, the framework being of wood and the panels of slate. These had an excellent appearance, and were superior in this respect to all others of the same material.

Mr. F. Ransome, of Ipswich, had an octagon of patent concrete stone, with moveable panels at the sides, so that fresh soil might be introduced and the roots examined without turning out the plant; but how drainage was effected we could not perceive, the bottom having only a few crevices, through which water could escape, and which would probably soon be choked up with soil.

Of the others, Mr. Knighton, of Sydenham Hill, showed two rough-looking pots with a bold design, apparently intended to be painted. Their peculiarity consisted in being in three parts, the upper portion or sides being open at bottom, which was formed of a separate piece of potteryware perforated with holes, and the whole was supported on a separate base. The object of this arrangement is, of course, to afford facilities for the examination of the roots; but on a small scale it would be attended with little or no advantage, whilst with large plants the shifting from place to place could not be so safely effected as in the case of an ordinary tub.

Mr. Legge, of Edmonton, had a dodecagon, widest at bottom, in general shape not unlike a distiller's vat, made of Oak, moving on castors, and costing £9; Mr. Braby, of Bangor Wharf, Lambeth, some cheap slate tubs; Mr. Ayres, a cement panel, intended to form one side of a plant-box; and Mr. Pullham, of Proxbourne, two designs in terra cotta, the outline taken from his Fern-stand in the International Exhibition; and about the rest it would be unfair to say much, some being unfinished, and others positively hideous.

Of other garden utensils we noticed nothing particularly worthy of mention, with the exception of a Bijou Plant Case furnished with plants by Messrs. Veitch, which attracted much notice. It has several improvements since it was first suggested in our pages. It is undoubtedly the best adapted to keeping plants through the winter in rooms of any yet suggested. We understand that a leading firm have also purchased one for raising seedlings. The maker is Mr. R. Stocks, 14, Archer Street, Kensington Park. Kistie pots and baskets came from Messrs. Barr & Sugden, who had a large assortment of these, as well as of their flower and Hyacinth glasses, the latter presenting some exquisite designs.

Mr. Watts, of Brompton, exhibited a very good cast-iron flower-basket bronzed and gilt, suitable for windows, and a flower-stand of the same material and ornamentation; and Messrs. Young, Brothers, had some good wire stands, baskets, &c., and a watering-pot called the "Royal Horticultural," no doubt calculated to afford a good shower. The only difference between it and the ordinary form, as far as we could perceive, was, that it had two roses, that not in use being kept on a socket near the base of the spout. All the other articles exhibited have been already noticed in previous reports.

#### AUTUMN TREATMENT OF ORCHIDS.

SOME of my Orchids are in an early stage of growth when most of the others are preparing for rest. For example: Cattleya citrina, suspended from a block, has within these few days put forth three growth-buds, the first attempt it has made for the season. C. Mossia, in pot, has a half-grown pseudo-bulb, which

is just protruding the flower-sheath. C. Loddigesii, in pot, has several growths from 2 inches to 3 inches high. Zygopetalum Mackayi, in pot, has one bulb nearly made, and a growth about 3 inches high besides. Will you please say what is the proper autumn treatment of these?—P. H. G., *Torquay*.

[These starting growth and buds must have a little water given to them, and a little more heat. Most of the Zygopetalums bloom at the end of autumn and the beginning of winter, and if kept dryish then the flowers would be spoiled.]

#### THE ARCHERFIELD MUSCAT GRAPE.

As this is not a seedling Grape raised in England, it is quite necessary that its origin should be known and its synonymes given. I was so much struck with the following description of a Muscat Grape in the "Proceedings" of the Congrès Pomologique du Rhone, Session 1860, that I wrote to Mr. Thomson, telling him that I thought it must be the same Grape. I now give the extract in full, and ask you if I was not justified in thinking the variety described to be identical with the Archerfield Muscat:—

"Muscat de Syrie. Synonymes détruits. Isaker daisiko. Muscat de Smyrne selon M. Hardy père. Grosseur et forme de la grappe, belle, lache. Grosseur, gros. Forme, ovoïde. Couleur, jaune, doré, ambré. Manière d'être, serré. Saveur, croquant, d'un parfum délicieux. Fertilité, fertile. Maturité, mûrit facilement sous la latitude de Paris en même temps que le Chasselas doré (Royal Muscadine). Observations, cette précieuse variété se recommande par sa beauté et ses bonnes qualités. Elle mûrit en même temps qu'un autre Muscat ajourné sous le nom de Muscat Eugénien, mot qui signifie bon."

[Muscat de Syrie—synonymes Isaker Daisiko, Muscat de Smyrne, according to M. Hardy, senior. Size and form of the bunch, handsome, loose. Size large. Form ovate. Colour golden yellow or amber. Berries closely set. Flesh crackling, deliciously perfumed. Bearing, very productive. Ripening.—It ripens readily at Paris at the same time as the Chasselas Doré (Royal Muscadine). Observations.—This valuable sort is recommendable both on account of its beauty and quality. It ripens at the same time as another Muscat called the Muscat Eugénien.]

From the description given of Muscat Précoce du Puy-de-Dôme in a French catalogue, I was induced to think it the same as Muscat de Syrie. I may mention here, that the former kind is of very recent introduction, and has not yet fruited in England; and so I wrote to one of the most celebrated men in Grape lore in France, to ask him if he knew the kinds of Grape above mentioned. I have only recently received his reply, which I give as follows:—

"I hasten to reply to your letter requesting information respecting several kinds of Grapes. As regards the Muscat de Smyrne, or Isaker *Daisiko*, which are the names under which I have received it, I am not aware that it has any other synonymes: it is an excellent Muscat. The Muscat du Puy-de-Dôme is the same as the Muscat Eugénien. I do not know the Muscat de Syrie."

From my extract given of the proceedings of the Congrès at Lyons, it will be seen that Muscat de Syrie is the proper name of the variety; and yet my informant, living near Paris, was not aware that the Congrès of 1860 had adopted it. I have, within these few days, received some fruit of the Muscat Eugénien—it is the same as Muscat Trovère Blanc, which is totally different from Muscat du Puy-de-Dôme—at least from what I think to be it; for I have, judging by their leaves, received from France three varieties under that name. The true one may be Muscat de Syrie, Muscat de Patras, Muscat de Smyrne, or the Archerfield Muscat. The question will, I trust, be set at rest next season; for I intend to send a Vine of each of my suspected sorts to the garden at Chiswick. I must confess that I have felt much interested about the Archerfield Grape ever since Mr. Thomson announced that it was not a seedling. Most of your readers remember the St. Alban's Grape sold at a high price under two names—first as Wilmot's Muscat Muscadine, and then, on a much larger scale, as the St. Alban's; it proving, after all, a very old French variety known as Chasselas Musqué. In these enlightened times such things must not occur. If a new variety of fruit is disseminated, every particle of its history should be given—if from the continent, its continental name should be given—if from seed, its parentage and origin should also be given; in short, the utmost candour should be the rule.

It will be seen from the extracts given at the commencement

of this article what an excellent Grape the Muscat de Syrie, or de Smyrne, must be, and how nearly it approaches the Archerfield Muscat. In your reply to Mr. Thomson, page 451, you assert that Muscat Eugénien, Muscat Précoce du Puy-de-Dôme, Muscat de Syrie, and Isaker Daisko are the same, and you say "we know" this Muscat Précoce du Puy-de-Dôme (Muscat de Patras of some authors) is said to be an old variety. Muscat Eugénien, as I have recently learned from a friend on the spot, was raised at Saumur by the same person that raised the Early Saumur Muscat, and only a few years since. This sort I firmly believe to be perfectly distinct from the first named. The Muscat de Syrie under that name, and the true sort, is not, I firmly believe, in this country.

I mention these matters—first, because I differ from what you say, and, as I think, on sufficient grounds; secondly, because I feel quite certain that at present our knowledge of foreign Muscat Grapes is very limited; thirdly, because I know the evil to pomology of making strong affirmations too hastily.

When the time comes for Mr. Thomson to send out his young Vines of that sort he will, most likely, give its history as far as he knows, which will, perhaps, lead to further inquiries, and make our knowledge of foreign Muscat Grapes more perfect.

I fully trust that you will see my motive for going so lengthily into this Grape question; but that you may not mistake me, allow me to say that any pomological research is to me most agreeable, and I think such discussions when properly conducted are beneficial. As to any business reference, I should no more think of selling young Vines of Muscat de Syrie, Muscat de Smyrne, or Muscat Précoce du Puy-de-Dôme till they have borne fruit than I should think of attempting to fly.—THOMAS RIVERS.

[We shall be better able to give more information on this and other subjects connected with Vines, their varieties and their culture, when Dr. Hogg returns from the south of France.]

### TOWN WINDOW-GARDENING.

WINDOW-GARDENING as practised by the cottager is certainly conducive to real enjoyment. There is something pleasant and cheering in the sight that speaks of a thoughtful appreciation of objects of interest, and shows that amid the cares of daily life some little attention can be given to pets that vary the occupation of the day, as well as afford some little gratification as the result of successful manipulation.

Those who live away from town smoke and dust may well enjoy the result of their labours. Some of the prettiest plants I ever saw have been grown by hard-working people who had no other appliances than their windows in which to grow them. Fuchsias, Pelargoniums, Auriculas, have attained in a small way by such means an excellence that has often surprised me; but then the soil was ready to hand, and other essential matters were in no way unfavourable to the attempt. The surprise, therefore, diminishes, but the effect is still the same—that of unmitigated pleasure that Floriculture has its votaries among the humblest and lowliest in the land. But when we come to think of the inhabitants of the close courts and narrow streets of crowded cities trying to emulate the cottager in this respect—and not only trying, but actually succeeding, in growing plants and flowers about their squalid homes, where every circumstance is as little favourable to the design as can well be imagined, it certainly looks as if the love of flowers were inherent in human nature, and too strong to be resisted under any circumstances.

From what I have actually seen I know that window-gardening is carried on to a large extent in some of the most densely populated parts of London, but should never have thought it had been as described in a late Number of THE JOURNAL OF HORTICULTURE—that there were exhibition plants grown in such places; but there is no disputing what has been done, and my only object now is to offer a few suggestions which may or may not be of use. They may, perhaps, lead others of more experience to offer suggestions that may be useful in the really benevolent work in which the Reverend Mr. Parkes has made himself conspicuous.

As a gardener, I have occasionally had to deal with men who were sent from various workshops of London—men that usually inhabit the crowded dwellings of the metropolis. Most of them, when thus sent into the country to build new houses or do up old ones, leave wives and families, mothers and sisters, in their homes in the crowded thoroughfares, to whom they return once

a-week; and if they can but get a small plant or two, a few cuttings or a bunch of flowers to take with them, they are delighted beyond measure. I have frequently by this means diffused as much pleasure among a number of workmen as though I had done them the greatest service in the world.

There are those who would demur at thus giving away plants when there are many who have to get their living by selling them. But in reality it is a help to the trade; for by this means the foundation is laid for a love of flowers. Those who have had them once will not like to be without them, and will purchase many a plant in order to keep up the supply, especially when they have gained a slight knowledge of the way in which they should be managed. It is also worth doing even for the sake of sending men to their homes the happy possessors of floral treasures from the country, the pleasure of many of them intensified, if possible, in anticipation of the joyful surprise such presents may give to friends at home. It is from the beneficial effects I have seen arise from such instances that I would recommend gardeners and others who have opportunities of doing the same not to begrudge a few stray plants or a few cuttings. They may be doing much good, and can possibly do no harm; nor would employers be in any way opposed to doing so, I am sure, if they do but view it in its true light. The gift of a piece of a Cactus, a few rooted pieces of Chrysanthemums, or a few offsets of any herbaceous plants are carried home with delight. And where is the garden where such would be deemed any loss? Thousands of slips and cuttings are annually thrown away: many gardeners prefer doing so to giving them away, even to the poor cottager, on the excuse that it is hurtful to trade. The sooner they are disabused of such reasoning the better, since the contrary is actually the case.

But what I have chiefly to suggest is, that some attention be paid to the kind of plants most suitable and best adapted to be grown in close courts and smoky thoroughfares. It is evident that all plants will not do alike, nor is it possible that plants will ever be grown in such localities as are shown in all the prime of perfect beauty at first-class flower shows. Specimen Heaths, Azaleas, and New Holland plants can never be grown on window-ledges; and those plants that can be must necessarily be limited in number, for the reason that those who have the management of them are not experienced growers. In the hands of experienced cultivators very many plants are capable of being brought to a certain stage of perfection by window culture, but the chances are reduced in proportion to the unfavourable condition of the locality. Where it may be easy work in the country, it becomes difficult in the midst of dust, smoke, and draught, even in practised hands. What, then, must be the difficulty with those who know little or nothing about the matter? I have often been shown a sooty-looking plant and been asked the cause of its present condition, why the leaves fall off prematurely, why it does not flower, and so on. In ten cases out of twelve the plant happened to be a Scarlet Geranium, a plant little adapted to grow in a dusty place, the downy surface of the leaf being favourable to the lodgment of dust. A glance at the plant showed that the pores of the leaves were stopped and could not perform their functions, that the operation of potting was by no means properly understood, and that it was tortured to the extreme by being made to stand in water, and being subjected to a daily dose of the same whether it liked it or not. It is scarcely to be expected that such florists are going to exhibit good specimens of Pelargoniums, or compete with country growers. But even with such a beginning, knowledge may increase with experience, and practice may point out the best plants to grow, and the best method of growing them. It is too much to say that perfection has been attained when Ivy has been grown in an old box and trained over the window, or that Mustard and Cress has been grown in an old colander.

How far the natural exterior of a plant may fit it for town cultivation I am not prepared to say. Still I think that plants with smooth leaves and stem are the most likely to repay the attention bestowed on them. Those with downy or hairy leaves must of necessity be ill-adapted to grow where a thick dust is perpetually floating in the atmosphere. They sooner take the dust and are not easily cleaned; consequently, they are in no condition to make a healthy growth, nor are they in a position where the syringe or even the watering-pot can be conveniently used: consequently, I think it advisable to discard them for plants that, although they may get dusty, are easily cleaned. The Chrysanthemum is not of the most smooth-leaved plants, yet its adaptability to town culture is well known and fully

established; and even the Geranium under fair treatment may present a creditable appearance. The Fuchsia and the Genista are rather smooth-leaved, and are very good town plants. The Pentstemon is sure to do well; and I think a great deal might be said for plants of ornamental foliage, especially the smooth-leaved ones, as *Farfugium grande*. But, again, I think the chief dependance ought to be placed on herbaceous plants of close habit, which make very neat pot plants. How I should like to see some town grower giving all his spare time and attention to a collection of Saxifrages, than which nothing can be prettier or neater, or even better adapted for the purpose. And why not the commonest among them—the London Pride (*Saxifraga umbrosa*), a plant well adapted to spread over pots and boxes, hanging down and making a verdurous appearance on a window-sill? The Sedums and Sempervivums are both excellent subjects for town culture—that is, if a proper selection of them be made—the common Stonecrop and the common Houseleek, a sample of each often grows luxuriantly on the housetop and window-sill. *Campanula pusilla*, *Alyssums*, *Arabie*, *Vincas*, and *Auriculas* might be added to the list. Indeed, I have known the latter grown, if not to perfection, at least very creditably at a garret window; and what has been done before may be done again, for the person who grew them knew very little of plants or plant-cultivation generally.

The advantage of having plants with hard or smooth leaves is that they are kept clean with very little trouble, as a sponging now and then will accomplish it, and does no injury; and that of ordinary herbaceous plants, that they are less subject to be infested with aphides or other pests, and when grown in the midst of town smoke they are not likely to be eaten by caterpillars or slugs, as such pests are not likely to travel so far out of their way in quest of food. There are still other plants that possess a wonderful property of resisting all the attacks of insects and other counteracting influences. I have known a plant of *Ficus elastica* which for many years kept its place in a window in the heart of London, and it always looked fresh and healthy. Myrtles, and young Conifers, and small evergreen shrubs have also been tried with success.

I have another suggestion which, within certain limits, may be worth attention. In towns, where the light is obstructed by buildings as well as by a perpetual cloud of smoke, it is scarcely possible that plants which in their natural habitat enjoy the full light of the sun can be expected to do well. But happily there are plants that naturally seek the shade of woods. Among these we find the *Oxalis*, the *Wood Anemone*, the *Lily of the Valley*, the *Woodruff*, the *Periwinkle*; and there are besides that neat and still pretty trailing, but rather neglected plant, the common *Moneywort* (*Lysimachia nummularia*), and many more plants that are in reality not the less attractive on account of being found in a wild state in this country. I have an idea that such are likely to be more attractive among the poorer townspeople than exotic plants, on account of their association with the scenes of their holiday rambles: at any rate, I have known a common Primrose prized and cherished with as much or even more regard than the well-to-do has for his choice collection of exotics.

Ferns for the most part like the natural shelter of woods, but how far the shelter caused by smoke, &c., may agree with them without the additional shelter of a glass-case, I can scarcely say; but this I know, that a handy workman can very soon make a Fern-case, and if he be fond of the agreeable recreation of plant-culture, he will want very little encouragement to induce him to make one to suit his convenience. Instances of this I have known; and although such home-made cases have not been all that could be desired with regard to exterior finish, they have answered the purpose and been the means of passing agreeably many a leisure hour. Instances are not wanting where a little of the artistic has been shown in this way, as I once saw a miniature greenhouse with a small stage inside it, and on the shelves were arranged very small plants, mostly succulents. The whole was perfectly in keeping with what one might expect of a skilful horticulturist.

This style of window-gardening cannot be so very rare either, since nurserymen often keep collections of small plants of these succulents in thumb-pots for the purpose, comprising *Cactuses*, *Euphorbias*, *Meembryanthemums*, *Aloes*, &c.; and as they are easily grown, cause very little trouble, and, grown in a case, are very clean, they are well adapted to the purpose.

With regard to the plant-case, we are much indebted to the originator as well as those who have improved it; and although

it is hardly possible that working people can afford to give £4, or even £2 for one, yet with the knowledge that it is in form a double cube, and that the receptacle for the soil is a zinc vessel, they may be enabled to construct one something like it, and thus either enjoy blooming plants in their season, or have it filled with Ferns and enjoy the sight of perpetual verdure. I saw one a short time ago evidently home-made, but, unlike that referred to, it had a ridge top and was rather tall. The bottom was neatly planted with Ferns and Lycopods, and in the body of the case were suspended little baskets containing *Saxifraga tomentosa*, *Linaria cymbalaria*, and common Musk (*Mimulus moschatus*), having a most pleasing effect. It is gratifying to know that such efforts are made even among the industrious poor; and by reporting or exhibiting the results, many others will be induced to follow the example, and thus obtain a means of amusing and also of instructing themselves.—T. CHITTY, *Stamford Hill*.

## PEACH TREE CULTURE.

IN ANSWER to "A SUBSCRIBER" who wishes for a more circumstantial account of the way in which Mrs. Bass's Peach trees had been treated, I will give their history.

The house in which they were grown was only built in the spring of 1861. The trees supplied by me were such as remained unsold—certainly, no one had reason to be proud of them as evidence of good cultivation. The trees had been grown one year in pots, having been potted as maiden plants, and all the best had been sold when this house required furnishing. With the trees Mrs. Bass received a letter cautioning her against expecting much fruit the first season, and a request that if she did me the honour of becoming my pupil she would disregard all other advice on the principle that "too many cooks spoil the broth;" with this letter she received a copy of my "Hints on Orchard-houses."

On visiting Burton the following August, I was much surprised to find a very nice crop of fruit; but from the beautifully clean and healthy condition of the plants, was quite prepared to see a large crop this season.

You will see, Messrs. Editors, why you did not get a more circumstantial account of these trees and their cultivation; it was the native modesty of the writer prevented it; but, through your kind encouragement, I hope the more embarrassing sensation of this distressing malady will pass away. To convince my friends there is hope in my case, I would say to "SUBSCRIBER" "Read my book."—J. R. PEARSON, *Chilwell*.

## NOTES WHILST RESTING.

(Continued from page 450.)

TWO circumstances have struck me most forcibly in Guernsey—the entire absence of beggars, and the plants which grow in the open air without any protection even in winter.

That there are no beggars is explained by the fact that there are no low-class people in the island. Its inhabitants are divided into only two strata—the gentry, or those who live independently; and tradesmen, among whom I include the cottage-farmers and the fishermen.

Of all of them, from the wealthiest to the poorest, I gratefully bear testimony—and, after being a pilgrim in every quarter of the globe it is a testimony of much experience—that nowhere can be met with such marked and undeviating courtesy. Among "the upper hundreds" in all lands such courtesy is rarely absent; but among "the lower thousands" in many countries, courtesy is often too exceptional. In Guernsey I never received a churlish answer; and in many instances, never to be forgotten by me and mine, attentions were paid and services rendered, demonstrative that courtesy is a staple ingredient of the Guernsey character—it is not a mannerism imposed by education, but a birth of genuine heart-kindness.

The fact of the majority of "the lower thousands" being cottage-farmers and fishermen, accounts for the difficulty experienced in obtaining domestic servants from among the islanders. The whole family has full employment upon the cotten-farm; and if a fisherman's family have days not requiring labour at home, it is readily hired by the neighbouring cultivators. The cottage farmer is uniformly a dairy-farmer, and usually on such a small plot that spade-husbandry prevails; and the succession of crops is so constant, the collection of seaweed for manure so

continual, as well as the attention to the cows and the operations of the dairy, that every member of the family has full employment, or, rather, there is always more work than can be completed efficiently.

This deficiency of labour-power may account for the universal badness of the gardening among "the lower thousands." The gardens are well stocked both with fruits and culinary vegetables, but the culture is execrable. So abounding are the weeds everywhere, that I doubt whether a hoe is ever used in a cottage garden—I certainly have never seen such an implement in the whole of the island. Yes, I remember seeing one hanging at an ironmonger's in St. Peter's Port; but as it had evidently been long in stock, it rather confirms me in the opinion that hoeing is not an occupation in the ascendant.

This thrust at the gardening of these worthy islanders passes my pen on to my other topic—the plants which here endure exposure to the open air unprotected even in winter.

The range of the thermometer is remarkably small, not only in the comparative temperatures of the day and the night, but in those of summer and winter. Thus, the average maxima and minima of each month are as follow :—

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Maxima .....	deg. 43	deg. 45	deg. 49½	deg. 50½	deg. 58	deg. 66	deg. 68	deg. 65½	deg. 63½	deg. 57½	deg. 51½	deg. 47½
Minima .....	35½	38½	40½	40½	44½	53½	53½	53½	51½	48½	45	40½

This mildness and uniformity of temperature is evidently very conducive to health, and medicine is consequently not among the golden sciences of the island. Its public records testify that this salubrity is not a result of modern acquirement; for, about a century and a half since, we are told, that "a barber-surgeon having by good fortune come over from France, his arrival was deemed a matter of importance sufficient to occupy the attention of the members of the Island Court, who wisely resolved to keep among them so scarce and valuable a personage. But, then, how to encourage him? It would not do to feign sickness, nor to buy physic in advance. They, therefore, by an ordinance still extant, granted him, for a given period, the exclusive right of bleeding and shaving. Monopolies are usually failures, and this fared but ill. The doctor left them, and they returned to their former state of good health, until another medical and tonsorial visitor appeared. Him they succeeded in retaining, but only by adding to the monopoly given to his predecessor—a pension paid from the various parish rates!"

The uniform mildness and moisture of the air are as favourable to vegetable as to human health, and is the topic from which I have digressed.

The first instance which especially arrested my attention was a *Benthamia fragifera* ripening its fruit as a standard, in the garden of Carey de Jersey, Esq., at Grange Lodge, St. Peter's Port.

Next were the *Camellia* and *Orango* trees in the garden of Beau Séjour, near the same town. It belongs to the Dobree family, but is the residence of Mrs. Whitechurch. These trees are trained on the trellised walls of the garden. One of the *Camellias*, which I was informed is *Lady Hume's Blush*, covers a surface of 16 feet by 14 feet. It is on a N.E. aspect, and does not even approach in size the two trained on the S.W. wall. Of these, one, a double white, has a stem 3 feet in circumference near the ground, and its branches extend over the trellis 30 feet by 14 feet. The other *Camellia* is a striped crimson and white variety, and nearly as large; but the *Orange* tree, their companion, was even still more striking. Its stem near the ground is 2 feet 4 inches round, and its branches cover a space 20 feet by 14 feet. It is a *Seville Orange*, and its fruit is used for making marmalade. Some of the fruit, full-sized, were ripening when I examined the tree at the close of August, and there was not only an abundance of them, but also of green fruit, varying in size from that of large Peas to 1 inch and 2 inches in diameter. Neither this tree nor the *Camellias* have any shelter, yet the winter of 1860 had no injurious effect upon them.

The garden is near the summit of a slope facing the north, and the soil is a stronger loam than in the other parts of the island. The trees, I was informed, had been planted about fifty-two years, which is concordant with the age of the variety *Lady Hume's Blush*, which was named after the late *Lady Amelia Hume*, of *Wormleybury*, in *Hertfordshire*, who imported the first specimen of it in 1806. The *Camellias* begin blooming in winter, and during March are covered with thousands of flowers.

The next plant that I particularly noticed was a *Cianthus puniceus* trained against the north front of *Mont Plaisir*, tenanted by Mr. Robins. It blooms every year, and, like the *Scarlet Geraniums* and *Fuchsias* its companions, is about 20 feet high, and with their united foliage cover the entire house-front.

At another house also near *St. Peter's Port*, and, I think, in what is called the *Queen's Road*, I saw a standard *Magnolia* about 25 feet high, and its branches extending in a circle, the diameter of which was nearly as much. It is a handsome pyramidal growth, and had many flowers upon it still.

In the garden of *Hilary Carré, Esq.*, at *Val Nord*, several of the *Agave americana* have bloomed, planted out in the open ground; and in many gardens by the roadside about *St. Peter's Port* I saw gigantic specimens of the same *Aloe*, with leaves 8 feet or 9 feet long, and proportionately robust.

*Gunnera scabra*, producing its grotesque inflorescence in the open garden, is not uncommon; and there are some very fine specimens of it in the unique grounds of *D. V. Cary, Esq.*, *Le Vallon*.

Among the plants I have already mentioned are some testifying how well the climate suits evergreens, but I have many other evidences recorded in my note-book. Ivy clothes the rocks, the hedges, and the walls: the church of *St. Sampson* is totally enveloped with it. The *Evergreen Oak* is a timber tree in the island, and all the *Hollies* attain a large stature. One of the golden-edged in the garden of *La Fosse* cottage is full 15 feet high, and the trunk nearly a yard in circumference. The *Tamarisk* was in bloom in August; but, as in England, it is very perverse in its selection of places where it will thrive. In *Guernsey* it begins to flourish near *Corbière*, and goes on vigorously round by *Vazon Bay* to the north side of the island's coast, but it will not grow satisfactorily on the more southern side.

This leads me to remark upon the *Coniferous* trees in the garden of *Mr. De Jersey*, which I have previously mentioned. I never saw trees more vigorous or more admirably grown, and they are causes for great surprise when we consider the growth some of them have made in the ten years since they were planted. The *Cupressus macrocarpa* is the most beautiful specimen of a *Conifer* I ever saw.

*Mr. De Jersey* obligingly assented to my request, and furnished me with the following particulars:—

"I obtained the following from *Messrs. Veitch* in 1850, and planted them out from pots in November of that year—viz., *Pinus excelsa*, now about 18 feet high. *P. insignis*, 16 feet high. *Cupressus macrocarpa*, 28 feet to 30 feet. *C. Lambertiana* (?), 16 feet, frequently cut back. *Picea cephalonica*, 14 feet. *Picea motinda* (?), 15 feet.

"In 1855 I planted out from a pot in November, a *Wellingtonia*, now 8 feet high, and a *Picea Nordmanniana*, now 5 feet, after having been transplanted last year." I put a query against *Lambertiana* because that is considered a synonymic of *macrocarpa*.—*QUIS.* (To be continued.)

## WHICH ARE THE WORST OF BADLY-GROWN GRAPES?

MORELLO CHERRIES A DESSERT FRUIT.

FOR the guidance of judges and also exhibitors at provincial flower shows, may I trouble you for an opinion on the following points?

When two dishes of one sort of Grapes are exhibited, the bunches of each being about equal in size, the bunches in one dish being large in berry and perfect in bloom and colour, but not highly flavoured; the other dish small in berry, badly coloured, and without bloom, but very sweet;—which should receive first honours?

Also when prizes are offered for a certain number of dessert fruits, are *Morello Cherries* admissible?—*JOHN STEVENS.*

[If the judges have the power to withhold prizes, they might, in such cases as the Grapes here described, justly exercise that power. If they have not such power, then we think that the prize should be given to the large berries, perfect in bloom and colour, as they are evidence of skill and attention bestowed on their cultivation.

*Morello Cherries*, if perfectly ripened, we should not object to being exhibited among dessert fruits; for we have seen them, in that state, served up at the table of more than one distinguished establishment.]

## ORNAMENTAL PLANTS.

1. *Siphocampylus Orbignyanus*.2. *Fuchsia venusta*.

*SIPHOCAMPYLUS ORBIGNYANUS*, D'Orbigny's *Siphocampylus*. *Nat. ord.*, Lobeliaceæ. *Linn.*, Pentandria Monogynia.—A free-flowering stove perennial, with erect herbaceous stems bearing ovate-acuminate short-stalked leaves, acutely dentate, usually in whorls of three. The flowers are handsome, axillary, on pedicels half their length, one from each axil; the calyx is hemispherical, with five linear subulate lobes; the corolla tube an inch and a half long, furrowed, downy, rose-red with a yellowish-green throat, the segments of the limb linear-lanceolate yellowish-green on the outside, within red with the green continued round the margin. From Bolivia; introduced to the Belgian gardens by M. Van Houtte about 1848. Flowers in spring and summer.

*FUCHSIA VENUSTA*, Beautiful *Fuchsia*. *Nat. ord.*, Onograceæ. *Linn.*, Octandria Monogynia.—A very handsome and distinct greenhouse shrub, having slender, somewhat hairy branches, and lanceolate or acutely elliptic entire glabrous leaves, either opposite, or more usually disposed in whorls of three. From the axils of the leaves grow the pendant flowers 3 inches long, consisting of a slight pendant tapering tube to the base, and divided at the apex into four ovate-lanceolate acuminate sepals; the oblong, lanceolate, undulated petals are of an orange red colour; the calyx, tube, and aepala, salmon red, the latter tipped with light green. From New Grenada: environs of Merida, and on the Paramo of San Fortunato, near Santa Fé de Bogota, at an elevation of nearly 8000 feet. Introduced to continental gardens by M. Linden, through his collectors, MM. Schlim and Funck in 1847. Flowers in summer and autumn.—(*Gardeners' Magazine of Botany*.)

## CULTURE OF LISIANTHUS RUSSELLIANUS.

THE following remarks on this splendid plant were written a few years back, and communicated to the Horticultural Society. I have seen no reason to alter my practice since, and, therefore, the result of it is quite at your service, and I hope your engraving of the plant shown at Chiswick may induce many more to undertake the cultivation of so useful an autumn plant.

This beautiful and much-esteemed plant was introduced into

this country in 1835 from Mexico. Being found to be capable of producing ripe seed in abundance, a large stock of plants was soon diffused among our best cultivators, who hailed it with delight. Nevertheless, strange to say, its successful cultivation, except in a few instances, still remains a desideratum—a fact amply proved by the paucity of really well-cultivated plants produced at our great metropolitan exhibitions.

Having been somewhat more successful than some of my neighbours in growing and flowering this plant, truly magnificent when well managed, I will give my plan, which is as follows:

—I sow early in spring; I first fill a six-inch pot half full of potsherds, over which I place 1 inch of sphagnum moss; I then fill the pot within 1 inch of the top with rich light sandy soil. When all is pressed down equal and firm, and a smooth surface made with the bottom of a small pot, I sow the seed, and cover it very slightly with dry white sand. I cover the pots with bell-glasses, and place them on a shelf in a shady part of an early vinery, keeping the surface constantly moist by pouring water on the outside of the glasses. As soon as the plants have come up, air is admitted, and increased as they advance in growth. When sufficiently strong they are pricked out into small pots, having the same drainage, moss, and mixture as the seed-pots, and are again shaded with hand or bell-glasses until the plants become established. In three weeks or a month they require to be potted-off singly into small pots; and I encourage their growth as much as possible by placing them in a shady part of either a vinery or Melon-pit, whichever is kept at the highest temperature, with a humid atmosphere. As soon as they begin to fill their pots with roots, I give them once a-week a little clarified manure water.

I repot into winter pots about the middle of August, using pots to suit the size of the plants, and replace them in the same growing temperature as before, till their pots are filled with roots. After this I begin to prepare them for winter by giving them less moisture, more air, and a cooler temperature; and finally they are placed on a shelf near the glass, in the coolest part of the stove, and wintered rather dry. Early in February I begin to increase the heat and moisture; and as soon as they begin to grow freely I repot them, which is generally about the second week in March. They receive another shift in April, and those that are intended for large specimens a third in May (using 18-inch or 20-inch pots), and a mixture consisting of equal quantities of good strong maiden loam, peat, or bog mould, burnt clay, leaf mould, and cow-manure, with a little

white sand. These materials are well mixed together, and is dry are moistened to prevent their running too close in the pots. In potting I use a large quantity of drainage, and plenty of rubble stones, small potsherds, and coarse river sand amongst the mixture. I make the mixture just firm, but an very careful to leave it quite porous. I give very little water till the roots reach the sides of the pots: it is increased as the plants and the season advance, giving heat and moisture in proportion. Too much stress cannot be put upon making a proper mechanical arrangement of rich, porous, and well-drained soils, which are essential for the healthy development of plants of the nature of the *Lisianthus*.

When the young shoots have become sufficiently advanced, I stop them immediately above the second joint; each shoot will then produce four; they require stopping about three times. The last stopping for plants required to bloom early should take place in the first week in June, and for plants required to bloom later, in the first week in July. As they advance in growth the branches will require to be tied out with sticks, to make round and well-formed plants.

When the plants are growing freely, they are sometimes attacked with a disease at the base, which is produced by the moist and confined atmosphere that is required for their fine growth. To prevent this I allow the surface to become quite dry once a-week, during which the plants are supplied with moisture from feeders or pans in which the pots are placed for a few hours, being careful not to allow any stagnant water to remain about them. As soon as the blooms begin to expand, I keep a drier atmosphere, and expose them to more air and light, which much improves their colour.

As to the result of the above practice, I may mention, in conclusion, that I grew some seedling plants in 1844, one of which I exhibited at the Horticultural Society's Garden in July, 1845, which was awarded a silver Knightian medal, accompanied with this note by the Judges:—"Had this been exhibited in its proper place, it would have received a higher medal." In July, 1846, a second plant received a large silver medal; and to a third the same award was made in July, 1847. Another plant was also shown in the same year at the Royal Botanic Society's Garden, Regent's Park, and was awarded the first prize as a single specimen of superior cultivation. The plant that I exhibited at the Horticultural Society in July, 1847, had five hundred blooms expanded at once, ten days after the exhibition.—JOHN GREEN, C.M.H.S., *Gardener to Sir Edmund Antrobus, Bart. (Gardeners' Mag. of Botany).*



*Lisianthus Russellianus*, as exhibited.

### DO NOT TAKE UP YOUR GLADIOLUS BULBS.

I PLANTED this spring three dozen of the best hybrid *Gladiolus* to be procured, in the last week of March. Under each, as the ground is rather heavy, I placed cocoa fibre, and worked some into the surrounding mould. Only about half came up, and of these nearly all have turned brown the last month; in fact, the leaves are quite dead. I have dug up some of the roots, and they seem healthy, but very small progress has been made in forming the new corm. A quantity of *Brenchleyensis* that I had by me have done well, as usual, although treated just the same.

My pot Tulips did not please me last spring. I treated them the same as the Hyacinths, which did extra well. Ought the treatment to have differed?—H. B.

[My *Gladioluses* have been grown in cocoa-nut fibre refuse for the last seven years, and those I bloom of them could compete against those grown by Mr. Standish himself, or any other celebrity in the trade. For the last three winters some of them have not been lifted, nor do I intend to lift them for some years. If the ground is rich and light, not less than 3 feet deep, and is thoroughly drained at that depth, every *Gladiolus* now in the trade would go on improving for years in a mixture of the refuse if left in the ground from year to year and never disturbed. Taking up *Gladioluses* is exactly like budding Roses. It is the way required for the trade, and it is the best way where the soil is not suitable; but where the soil is just what they like, *Gladioluses* should not be lifted oftener

than once in six or seven years. A far more tender race of this genus than we now possess have been left out in the beds for the last half of the last generation, and they prospered more, even up in the Highlands, than by any other method. The beds were covered with leaves against frost; there were no roots to be hurt by bad drainage in winter, and the roots, like those of Cyclamens, were kept in a uniform degree of moisture and temperature during the period of rest.

The long succession of unnatural treatment brought on the Potato disease. I should not imagine that twenty years' practice of a wrong principle had much effect yet on the Gladioluses; but let us continue to grow them on the lifting-of-the-potato principle, and their day is coming for the dry rot. Even now the over-drying of unripened bulbs is a serious cause of complaint, and is the very cause of this question being put by "H. B." The one-half of English-grown Gladioluses are only three-parts ripe from the lateness of the present time of planting.—D. BEATON.]

### AJUGA REPTANS PURPURASCENS AS AN EDGING PLANT.

THIS is an herbaceous perennial, and a very old plant of no beauty in itself; but as a low-growing foliage plant in a ribbon-border, or as an edging to a bed, it is, I think, equal to the *Perilla* in colour, and superior to it where a close, low growth is desired. The height also can be regulated in some degree by the richness of the soil.

The blossoms are hardly visible among the leaves, and the few blossoms or flower-stems can be broken off if they are in the way. The gardens here are very old, and I should say the plant is almost out of the floral world. The leaves sent will most likely have lost their metallic lustre before this letter comes to hand. I write this chiefly to call attention to the plant.—M. C. D.

[A very likely plant for the purposes suggested, and well worth proving.]

### BRITISH FUNGUSES.

WELL can most of us remember happy hours spent in child-hood Mushroom-hunting. Few children are insensible to the pleasures of a walk undertaken in search of some object, and still greater is their delight when this object has the merit of usefulness. How eagerly has many a child hunted for the well-known snow white button Mushrooms and the larger ones with their salmon-coloured gills, not to speak of the umbrella-shaped Mushrooms, which are, we are told, so good for catsup! and later in life *entrées* have made us acquainted with the merits of Truffles and Morels. However, notwithstanding happy childish recollections of Mushroom-hunting and the appreciation of Mushrooms in a culinary point of view acquired in after years, there are but few who are even aware of the beauty and variety of this class of plants, and of the interest which they might derive during many an autumnal woodland walk (when the best of the flowers of the field are over), from an inspection of the quaint and varied shapes, and gorgeous or delicate tints of the innumerable Fungi called forth by the damps of early autumn. It is seldom now that in a walking party some are not found lingering in search of Ferns under the hedges, while in a sea-shore ramble the seekers for zoophytes generally number half the party; but few, comparatively very few, ever remark the beautiful productions whose claims for admiration I am now endeavouring to advocate. Of the Agaric tribe alone, to which the Mushroom belongs, there are many hundreds; in another division there are lovely Pezizas, fit drinking-cups for the fairies; in another puff-balls, some good to eat, some to make tinder, some to staunch blood; till, through the larger divisions, we arrive at the Mould, so destructive in the housekeeping department, and the Snout, which is the farmer's terror.

But without descending for the present to the minuter forms, let us turn to some of the best-known and easiest-found of those inhabiting our woods and fields, persuaded as we are that even a slight acquaintance with them will open a mine of enjoyment to the observer. One advantage (and that by no means a slight one), is that no expensive apparatus is needed in the study of mycology; a flat-bottomed basket and a knife being all that is required—unless, indeed, we are in search of Truffles, in which case a little rake in a leathern case must be added. It is true that a certain prejudice attaches to the subject, and that a person

engaged in the search we are advocating will probably be asked what he or she can be doing with "those horrible Toadstools." It is also true that two or three smell very disagreeably, that some few are poisonous, and that in decay many of them present an unpleasing aspect; but these are in the minority. Gorgeous indeed are the scarlet hues of the *Agaricus muscarius* (Fly Agaricus), usually rearing its beautiful head on moss under the waving branches of the Birch. A little farther, perhaps under a canopy of Larches and Scotch Firs, you may come upon the Amethyst Agaric, in contrast with varieties of every shade of yellow, from the brightest orange to the palest lemon. Your next discovery may be a bunch of white or lilac vegetable coral (*Clavaria coralloides*), or a brown Peziza, which I must again pronounce fit only for fairies and elves.

But the most beautiful of the Peziza tribe come in the spring. First that scarlet velvet gem *Peziza coccinea*, which appears upon sticks in hedgerows early in January; then *Peziza reticulata*, spreading itself on the ground and smelling like prussic acid; and thirdly *Peziza acetabulum*, resembling nothing so much as the fonts of the early primitive Church. All the Pezizas may be preserved for some weeks under a Fern-glass; and there cannot be a prettier object than *Peziza coccinea* arranged on a little moss in no more costly an apparatus than a soup-plate covered with a bell-glass.

Having touched upon the beauty and variety of form of this class of plants, I must now add that of late years it has been discovered that there are many more esculent species than was previously supposed, and that to most constitutions Fungi, when eaten in moderation, are nutritious and beneficial. In France and Italy vast quantities are brought to market; and it is not uncommon to see in hotel kitchens a large lithograph of Fungi coloured after nature, showing on one side the edible and on the other the poisonous sorts. It is a singular fact that the Mushroom (*Agaricus campestris*), and its varieties, so much used in our kitchen, are amongst those wholly rejected in some parts of the continent. Dr. Badham has published a beautiful work entitled "The Esculent Fungi of Great Britain." Many of these we have ourselves cooked and eaten, and very good they are. For a person bold enough to try experiments, smell is a safe test. It would be most unwise to taste any Fungus with a disagreeable smell.

My readers are no doubt aware that they are indebted to one species of Mould for the fermentation of liquors. Under certain conditions changes take place in this Mould, the use of which, under the name of yeast, is well known to us all.

There is one other important function in nature performed by Fungi which I must not pass over. They not only decompose and thus get rid of vegetable matter which is cumbering the earth, but in so doing they prepare a rich supply of vegetable mould for future generations. As an example of the beneficial effects arising from the decomposition of vegetable matter, I have only to mention the vigour which we see in grass surrounding what are called fairy rings. These rings are sometimes of very large dimensions, and are caused by a Fungus which destroys all vegetation on the spot where it grows. Each successive year produces a fresh crop; and as the spawn always establishes itself in fresh ground the circle is gradually extended, whilst the dead Fungi, in a state of decomposition, give a stimulus to vegetation, increasing the beauty and vigour of the surrounding grass.

With regard to the nature of Fungi, the Rev. M. J. Berkeley, the celebrated cryptogamic botanist, in his interesting "Outlines of British Fungology," tells us that, taking them as a whole, they are undoubtedly vegetables, although in one point—viz., the absorption of oxygen and the exhalation of carbonic acid when exposed to light, they resemble animals.

It is difficult to imagine any situation in which the existence of Fungi is impossible; for not only are they to be found on vegetable and animal substances, but sometimes on flints, glass, naked walls, and old damp carpets, and in the most poisonous solutions. We even find them on extracted opium—one of those vegetable poisons, which, although not injurious when in their proper cells to the plants by which they are produced, are most destructive otherwise to vegetable life. Most people must have observed the Mould which hangs in black powdery tufts about the walls of wine-cellar, where it is the pride of the merchant, who would not, however, be equally pleased with some species of Fungi, which, after destroying the corks of the bottles, entirely spoil the wine. We all know the disastrous effects of dry rot, and have lately heard of the great curtain of dry rot which

covered the walls of a sandstone railway tunnel in the north of England.

I must not omit to mention the moulds remarkable from being found in situations completely excluded from the air—such as in the interior of the Hazel nut, in an egg, and in some bread a few hours after it is baked. In short, there appears scarcely any limit to the situations in which this class of plants may not be found; and when we consider how small and light are the spores of Fungi, and how rapidly they appear capable of penetrating the closest structures, this fact may appear less surprising. Instantaneous occur of dry rot penetrating not only wood but brick, and Fungi are found in the middle of a solid trunk. In such situations the want of light prevents their proper development, and hence the different forms they assume and sometimes the absence of fruit.

I cannot attempt any account of the structure of Fungi, and will therefore only mention that, with very few exceptions, they consist entirely of cells, and that they are classified under two principal heads—the Sporiferous and the Sporidiferous, according to the organisation of their reproductive bodies. In the former of these primary divisions, the Sporiferous, the seeds are called spores, and are attached on the tips of fruit-bearing threads; in the second, the Sporidiferous, they are produced in sacs called asci, and are distinguished as sporidia. Fungi differ very much in colour. This depends generally upon the contents of the cells, which are of almost every variety excepting pure green. Some Fungi are luminous. This phenomenon has been observed in this country, but it is rare. The most remarkable are found in Brazil, Australia, and Amboyna; and in the south of France also there is one species growing on Olive trees, luminous enough to render it possible to distinguish letters by its light.

In conclusion, I must add that the late Dr. Badham was most anxious to induce the poorer classes to profit by what he calls the vegetable manna scattered about in all directions; and no doubt the great principle which these vegetables contain would make them a valuable addition to the meagre diet of our cottagers. But even supposing them to acquire the skill to distinguish the good from the bad sorts, those who have had anything to do with the poor well know the difficulty, nay, even impossibility, of introducing any improvement into their cookery—it is certainly vexatious. This very spring such masses of the true St. George's Agaric were to be found under every hedge as would have furnished a valuable addition to every cottager's table for miles around. This Mushroom smells of fresh meat, and is excellent eating.

With regard to the works on Fungi, the larger ones, such as Sowerby's, Bolton's, &c., are valuable and expensive, but elementary and reasonable books on this subject are not wanting; and we conclude as we began, Only try the study of these curious vegetables, and we feel assured it will be repaying. For ourselves we have often paused in admiration and wonder at the grace and charm of these humble children of the grove, and felt quite uplifted with gratitude to the Divine Hand which can so clothe "the grass of the field."—LAURA KINGSCOTE.

## SOWING PRIMULA FARINOSA—WHARFDALE AS A BOTANISING FIELD.

YOUR correspondent "W. X. W." inquires if I recommend the seed of *Primula farinosa* to be sown now or to keep it until next spring. My advice would have been, Sow it now; but the season is too far advanced to be certain of success if it be sown in the open border. If it were mine I should divide the seed into three lots, sow two now in pots, plunge one of these in the open border, another in a cold frame, and keep the remaining lot of seed, and sow it in a cold frame next spring. I have a *Primula* which I have been unable to seed until this year, and Nature has given me a hint how to sow it. I bent the flower-stalk down to a pot filled with common soil; the seed-capsules burst and scattered the seed in the soil, and now I have no doubt that my care will be rewarded with a fair supply of seedlings. My father assures me that more than seventy years ago the common Cowslip was very common in our neighbourhood. Now, a wild plant is a rarity, and those in our gardens have weak constitutions. Having a desire to possess a few strong plants, about six years since I brought from the hills above Bolton Abbey a few plants, which I planted in my garden, allowed them to seed and scatter the seed on the ground, but

took good care not to disturb the soil near to the plants. My trouble was rewarded with scores of healthy seedlings, which flower well every year. Since then I have gathered and sown seed in two pasture fields, and hope to see Cowslips plentiful there as my father did when he was a boy.

Has your correspondent "W. X. W." got a genuine British *Cypripedium*, or is it a continental specimen? Most of what are in English gardens are foreign specimens. I am assured that the plants grown at Kew are foreign. The English plants which I have seen are in a garden not more than a mile from where I reside. They were found in the woods near Arncliffe, but they do not increase readily.

A week since I was in the upper part of Wharfedale looking out for this *Cypripedium*, but was not successful, though I got my reward in other varieties. On the top of Barden Moor *Blechnum boreale* grows in the greatest luxuriance. In the woods down in the dale the common varieties of Fern have a beautiful green, which is quite cheering. Near the Strid I found growing in damp peat *Parnassia palustris* nearly half a yard high. *Geranium pratense* was very attractive in the hedgerows. At Addingham I found *Campanula latifolia* growing to a greater height than I remember to have seen it elsewhere. The collector of wild flowers may reap a rich harvest in Wharfedale.

I have long known that *Achillea millefolium rubrum* was in a garden at Todmorden, but the tall variety is still on my list of desiderata. The collector of hardy plants will find in Messrs. Stansfield's nursery a collection of plants worth the trouble of a visit.

I do not possess the antiquarian knowledge of a Whitaker, or even of a Leylands of Halifax: therefore can say little as to the origin of the word Todmorden. I have copied the following from a book which I picked up at a second-hand book-stall:—"Todmorden, a small but thriving town . . . in one of the most picturesque valleys in the north of England, which, taking its name from this place, is called the vale of Todmorden. The ancient orthography of the place was 'Tadmoredenc—the valley of the Fox mere or lake.'—RUSTIC ROBIN.

## ORCHARD TREES PARTIALLY DEAD.

MY orchard has been planted twenty years; the soil being a light loam, of moderate depth, on sand. The bottom was rather wet, but it has recently been drained 4 feet to 5 feet deep. Many of the Apples and Pears contain many branches dead at their extremities; indeed, some of the trees are nearly dead, and others almost unaffected. I suspect the roots getting to the sand is the cause of the decay. What do you advise me to do.—A. B.

[We have seen many such cases in similar soils, and have always found the decay of the points of the branches, and of whole branches, originated in deficiency of nourishment. If you were to give the orchard a dressing with well-decayed stable manure, just pointing it in, keep the surface thickly mulched in summer, and avoid all digging and cropping the ground, you would, we think, soon reinvigorate your trees.]

## BEDDING FUCHSIAS.

WHITE Fuchsias make excellent flower-beds. There is one now on the south side of the Rose Mount at the Crystal Palace of *Fuchsia Queen of Hanover*; and *Smith's Conspicua* will be sure to make a better bed, and there are several more besides, particularly those white-insided Fuchsias with leaves and growth like *gracilis* and *globosa*, or half like the one and half like the other; *globosa minor* or major being yet the best edging plants for many kinds of flower-beds. There are thousands of them getting ready at the Crystal Palace for that work, and there is one whole bed of *globosa minor* there. What I wrote was the best way for common people to get up a cheap stock of plants from cuttings to try one bed first; and I shall now give categorical answers to a correspondent who signs as "IGNORAMUS," and at the same time thank him for putting his questions so methodically and in so few words.

Firstly. The remarks I made were to root *Fuchsia* cuttings in the easiest way in the world; and when the Fuchsias are thus rooted, of course the plants may be used in any way a *Fuchsia* was ever used before.

Secondly. *Fuchsia* cuttings may always and in all ways be made regardless of joints; but as it is a sign of a man's head

being put on in the right way to see him make all his cuttings just under a joint, I would make as many that way as I could for the look of the thing.

Thirdly. It is best to put in the cuttings as soon as they are made. What I had seen kept for so long were bundles of tops of hedges of Fuchsias not intended for cuttings, but to make stakes and flower-sticks of, and the flower-sticks rooted after being dried in the bundles.

Fourthly. It is not too late to put them in on Christmas-eve, or on the last day of next January, or any day from now to then if the frost keep away. The whole month of October is the surest time. But such people as do not know more of cuttings than they learn from books should not put such cuttings in pots before winter, as they would either dry or drown them before the end of winter.

Fifthly. Pruning close on the spurring system is the easiest way to teach close pruning, as most folks know Grape Vines are so pruned. A Fuchsia cut down to the ground or pot would be very close pruning; and if the shoots were all cut close to the big centre shoots, that also would be close. When the cuttings were to be put in in October in the end of a cold pit with a light of glass over them, it was said they would remain so to the 1st of May, and then be planted from there into the beds.

But the best way in gardening is not at all the best way for a great number of people to follow. There is nothing so unwise or more foolish than for such and such people to ask the best way; for, when the best way is told, ten to one if it is not ten times more difficult to do than what would really be the best way under the circumstances. The best plan for the million is not to think of pots or glass at all for this work, but to put their cuttings out in the garden just like Gooseberry cuttings, and only an inch of the cutting out of the ground, and, when frost comes, to cover them with ashes as they do the old Fuchsia plants out of doors.—D. BEATON.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE weather now offers a favourable opportunity for carrying on the war of extermination against the weeds. *Cabbage*, the main spring crop to be planted—the small dwarf sorts at 18 inches row from row and 15 inches plant from plant; the large sort at 2 feet row from row and 20 inches plant from plant. Or a double quantity may be planted in the rows to economise space, but every alternate one to be thinned out in the spring. *Cauliflowers*, prepare the ground for the plants which it is intended to protect with hand-glasses; the soil to be rich. Nine plants may be planted under a good-sized hand-glass, and in the spring five or six of them may be taken up, and planted elsewhere. *Celery*, the ground is in a good condition for earthing it up, the perfection of which depends in a great measure on the care bestowed on this operation. *Endive*, the July-sowing to be pricked-out on a warm border, and as the early plantation attains a proper size, the plants to be tied for blanching. *Mushrooms*, the beds recently made to be spawned as soon as the heat has become moderate; when earthed to be well beaten down, as solidity is one of the principal causes of productiveness. *Potatoes*, when the haulm is ripe they should be taken up, or they are likely to grow again if showery weather occur. Earth-up all plants that require it. Keep a watchful eye for caterpillars; gather by the hand as the most certain method of eradicating them.

### FLOWER GARDEN.

Continue to plant-out Pinks, Cloves, Carnations, and rooted cuttings of hardy herbaceous plants. Look now and then at the lately-budded Roses, and loosen the ligatures; when necessary pinch back to half their length those buds which have made shoots. If left at full length they are apt to be blown out by high winds. If Pansies are to be grown well, the bed must be renewed yearly, and in order to insure a good spring bloom the young plants, obtained as cuttings or side shoots from the old favourites, in addition to any new varieties which may be bought, should be soon planted. It will be requisite that the bed for their reception should be got ready, in order that they may be put out the latter end of this month. Plant-out the biennials and perennials which were sown in the spring.

### FRUIT GARDEN.

As the admission of sun and air to fruit-tree borders is of great service at this season, it would be advisable to have them open and without shade; but as it is but in few places that such

a practice can be adopted, the next best thing to do is to crop with such plants as have small foliage and small roots. Dress Strawberry plantations, and be careful not to injure the leaves of the plants, and avoid deep digging between the rows, as it is apt to injure the roots.

### STOVE.

A certain and gradual reduction of temperature corresponding with the decline of external heat should be commenced, the plants will thus be prepared to withstand the prolonged gloom of the winter season.

### GREENHOUSE AND CONSERVATORY.

As the weather continues favourable many may hesitate in the work of introducing the more tender house plants to their winter quarters; but it is hazardous to expose them to the uncertainty of the weather after this period of the year. Cloudless days are very delightful and most welcome just now, but it not unfrequently happens that they are succeeded by clear, cold nights, accompanied with slight frosts. It is only the more tender sorts that may be housed, as many hard and soft-wooded plants may with advantage be allowed to stand out until the end of the month. The condition of each plant to be examined, and any defects in the soil or drainage to be remedied. Clear off moss, destroy insects, and replace stakes. Violets to be potted or planted in a frame. Mignonette to be thinned. Hyacinths, Tulips, and other bulbs to be potted. The sooner the bulbs are potted for forcing the better. The principal cause of success is to get the pots filled with roots before top-growth commences. The bulbs to be selected for weight or substance in preference to size, to be potted in half leaf-mould or decomposed cowdung and half loam, with a sprinkling of sand; when potted to be placed in a cold frame or pit and covered with 6 inches of dry sawdust. Pinks for forcing to be encouraged. Cyclamens will now be in action, to be shifted if necessary. Roses which have been prepared for early blooming to be housed before the frosty weather arrives, and kept at first in a cold frame, if there is a deficiency of previously-prepared and potted plants for forcing. Healthy young plants of the Perpetuals or Bourbons may be selected and potted; if plunged in a little bottom-heat and kept close for a few weeks they will make fresh roots and be fit for forcing early in spring. W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

EARTHED-UP forward Celery in fine days. Pricked-out Cabbage and Cauliflower getting rather thick in seed-beds, the last Cauliflower just appearing above ground. Watered the late supplies with manure water, as any standing-still now is apt to make the heads come starchy instead of close and compact. Disleafed late Tomatoes to give them more sun; and gave little air to Capsicums planted out in a pit, to get them to ripen. Spawned the first bed of Mushrooms in Mushroom-house to come in as the beds in the thatched shed began to wear out. Regulated Cucumbers, Vegetable Marrows, and kept the hoe moving to cut up weeds before they get any size. Have a great aversion, if it can be avoided, ever to let weeds get so large as to require any raking or other means to get them off the ground. When small the sun will make short work with them, and a man with more ease to himself will go over an acre of ground sooner than he could manage half a rood if the weeds are large, and besides in the latter case he is almost sure to shed thousands of seeds from the stronger weeds.

### FRUIT GARDEN.

Regulated what Melons are left for this season. Owing to the changeable weather they have come more in heaps than we desired them. Protected fruit in the best way we could from wasps and large flies, which for several days have come back again in shoals. Many methods have been tried to palliate the evil. For instance: they made a dead onset on a tree loaded with fine fruit of the Newington Nectarine, Mr. Wasp making a hole and then charitably allowing Mr. Blue Fly to share the spoil, and what surprised me, they preferred this Nectarine mostly as hard as bullets to other Nectarines and Peaches pretty well ripe. We have now got a piece of hexagon netting over this tree and others; but what to do before taking it from Gooseberries getting rather ripe we hardly know, so as to keep off the marauders in the meantime. It struck us that a wasp disliked water as strongly as a finny fish did the dry land, and so an

engine was set to play on the tree, and as soon as the wasp fell or was crippled with his wet wings, a score of them were done for pretty well as fast as I could write the word score, and few were to be seen after several applications of the water-cure. In reality, a number was thus killed that would have made a large nest or two; and though we have been thus troubled, we have been unable to find more than one nest as yet with all our watching and care. Every tree thus secured with netting was well deluged previously, to make sure that none were enclosed in what to them would have been an clysmium of happiness. It is to be hoped that we will have a chilly night or two, and a down-pouring before the Pears and Apples in general get at all ripe, or there will be a dead set upon them when the finer Plums and Peaches cannot be got at. All those injured should be left as traps, as wasps and flies prefer them to sound ones, and a scraggy half-rotten Apple is a good lure for quietly decoying a number of wasps. Some ladies with a dash of the sentimental have been next to horrified at seeing the throngs of large flies, &c., buzzing about under double-topped hand-lights, and as much as hunted that I ought to be punished for cruelly to animals. Well, I do not like to see even a fly starved to death, though if untrapped he would have fed on the finest fruit; but all these very critical on such matters, may destroy the whole at once by burning a little sulphur in the lower glass and throwing a cloth over all. I think this would be a more humane and summary process than is often meted out to flies and wasps by the same ladies, who entice them into bottles half full of some sweets, where the poor things are left to wriggle about until they die, without even the pleasure of getting drunk or gorged over it, as once their wings are immersed in the fluid they seem to share the dread torments of a Tantalus.

#### ORNAMENTAL GARDENING.

Fresh-arranged small stove and conservatory, removing Balsams, &c., from the latter, and supplying with Begonias, pyramidal Cockscombs, Scarlet and Variegated Geraniums; hardening-off stove plants, but shutting-up pretty early and clearing beds. Rolling and cutting lawns, keeping walks firm and smooth, scattering a little salt close to their edges to prevent worms making heaps; and got on as fast as possible with cuttings in the manner detailed in previous weeks, of which more by-and-by.—R. F.

#### TRADE CATALOGUES RECEIVED.

*Floral Guide to Winter and Spring Gardening, Containing Choice Selections of Bulbs, &c., by Barr & Sugden, Covent Garden.*

*A Catalogue of Strawberries Cultivated at Eggescliffe by William J. Nicholson.*

*S. Brown, Sudbury, Suffolk. Bull Catalogue, and Catalogue of Select Herbaceous and Alpine Plants.*

#### TO CORRESPONDENTS.

\*\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**CEDERY LEAVES (J. S.).**—The brown withered patches are caused by the grubs of the Celery fly (*Tephritis oporodinis*). These grubs eat away the pulp of the leaf beneath its outer surface. The leaves so attacked should be picked off and burned.

**TROPEOLUM SEEDLINGS (H. B.).**—The foliage was quite fresh, and seemed to be that of plants of very dwarf habit, but the flowers were quite withered. They should be sent in a tin box and packed in damp moss.

**VERBENA SEEDINGS (C. B.).**—The pups enclosed are very bright in colour and of good substance, especially the crimson; but, still, they were only pups, and no judgment can be formed of the merit of a Verbena unless its tresses are seen and its habit known.

**BOOK ON GARDENING (G. K. I.).**—"The Garden Manual" will suit the lady you mention. She can have it free by post from our office for twenty penny postage stamps.

**GRASSES FOR CRICKET-GROUND (M.).**—You should have stated the nature of the soil. We assume it to be a loam of moderately tenacious staple. If the whole field has to be laid down for the first time in grass, it had better be ploughed at once; after the ploughing, thoroughly harrowed-down and rolled. In ploughing it must not be divided into stretches, but be ploughed uniformly. If expense is no object it should be dug instead of ploughed, then rolled, and afterwards the seeds sown. Mr. Robinson considers September the best month for sowing to form a lawn, and there is no difference in that respect between a cricket-field and a lawn. *Cynosuavetata* (Crested Dog's-tail), 12 lbs.; *Festuca duriuscula* (Hardish Fescue), 8 lbs.; *F. tenuiflora* (Fine-leaved Fescue), 6 lbs.; *Poa trivialis* (rough-stalked Meadow Grass), 4 lbs.; *Trifolium repens* (White Clover), 7 lbs.; *Trifolium minus* (Small Yew Clover), 7 lbs. Use the last named in after years for improving the turf and covering worn places.

**MOVING ASPARAGUS (W. Q. C.).**—That planted last spring may, with ordinary care, be moved without injury to a fresh bed next spring.

**WINTERING GERANIUMS AND LOBELIAS (S.).**—Mangled Geranium does not winter well in a cellar as the stems are too hard. Anna and Flower of the Day do better, but not so well as Tom Thumb or Punch. If you have many of them we would advise taking off most of their leaves, packing them closely in a box, or a large pot or two, and placing them where they could get light from a window in good weather, and be covered up in cold weather with a little dry hay and a cloth. The *Lobelia fulgens* and *St. Clair* will keep well in your cellar all the winter. Cut down the stems after the first frost, lift the roots with all the earth that will hang to them, and pack them close together. As soon as fresh growth commences you must give light in spring, and may either divide and plant out, covering with dry ashes, or set the plants out of doors so that you can protect a little if necessary. They will do well planted out about April, and on a cold night you might place a pot over them.

**SMALL STOVE FOR GREENHOUSE (Subscriber).**—A small circular iron stove, which, with pipe to go through the roof, ought not to cost more than 55s. to 60s. will suit your purpose best. Get one with a flat top so as to put a pan of water over it, which kept filled unless in very dull muggy weather. We have seen small ones made by Messrs. Green, of Luton, answer remarkably well when fairly treated.

**INSECT ON FRUITS (G. Thompson).**—Are you sure it is the green fly? Then shut up the house close, and use about three cunecs of the best shag tobacco, burning it slowly in any vessel, placing the vessel on the floor, and covering the tobacco when lighted with 3 inches or 4 inches of damp moss that the smoke may be presented cool. Sprinkle well next day, and most likely the dose must be repeated in three days or so, and if the fly have obtained strong hold they may need a third or a fourth fumigation, as the smoking will kill only what is alive, not the eggs unhatched. If afraid of this, cut a borrow-hole of young Laurel shoots, bruise them and the leaves between a mallet and stone, place them on a mat, spread them out on the floor of the house, and turn them over once or twice. We did nothing better.

**AMARYLLIS CULTURE (A. M. R.).**—As your *Amaryllis* is merely marked sp., it is uncertain whether you can grow it in your window or not, but it is worth trying. Use rather a small pot for the bulb. Use for it chiefly pure loam with a little sand in it—that is, no dung or leaf mould. When growing freely give the plant a little weak manure water. When the leaves begin to get sickly, refrain from watering, and when yellow the plant will want little attention except standing on damp moss and to be kept free from frost until growth commences; then top-dress and water. Most likely the plant will not lose foliage the first year, and, perhaps, not at all, and the treatment must be accordingly.

**HEATING BY GAS (D. C., Manchester).**—A boiler is a needless expense when gas is the source of heat. Two or three circles of jets of gas, the largest circle 18 inches in diameter, burning inside a gas stove with a four-inch tube passing from its top, with a gentle upward slope all round your forty-feet-long pit, would give heat enough.

**WINTERING LOBELIA SPECIOSA (E. K.).**—The old plants now in pots are certainly the best plants to keep. Cut off all their flowers at once, and let no more come, and keep them like *Mignonette* all the winter. The next best plan would be to cut off the flowers of detached plants in the border early in September, to lift them about ten days afterwards, to plant them in the same place again, or some place like it that would cause the roots to make young ones all over them, and the shoots to make such growth as no winter would hurt, then to pot these in October, as late as the frost would allow, and to water them most carefully the whole winter, so as to keep all damp from them.

**WINTERING SEEDLING ANTIRRHINUMS (Idem).**—These, now 4 inches high, and four or five in a pot, should be kept in the same the whole winter; but do not stop them till the water is over. To "pinch" such little things just now, would only make them more difficult to keep. September, to the very last day of it, is the very best time of the year to plant rooted layers of all border Picotees, Pinks, Cloves, common Carnations, and new hybrid Dianthus. None of these, however, are supposed to be florists' flowers.

**SONING CYCLAMEN SEEDS (H. C.).**—The seeds of all *Cyclamen* ought to be sown as soon as they are ripe; but most, if not all, of them will keep as long as Balsam seeds, and come up the first year. We state this on the authority of Mr. Bird, the largest raiser of *Cyclamen persicum* in England, who has raised plants from ten-year-old seed kept in the leg of a stocking all the while.

**PROSEA MEDIA (Idem).**—It is a very scarce plant in Scotland, at least in the highlands, where we have never met with it, while *Uniflora* seems to run over the whole of the grouse grounds up to the limits of the ptarmigan. But some of our readers may be able to point out a habitat for media to a lady correspondent in Galloway. It has been found at Corra Linu near Lanark, and near Forbes in woods belonging to the Earl of Moray.

**WATER LILIES AND BULBS FOR EGYPT (Old Charlton).**—All the *Crinums*, *Paneratiums*, and *Hymenocallis* are most suitable bulbs for planting within the tide-mark of the Nile, but not to be always under water like the Lilies. There are, or were, upwards of one hundred kinds of *Crinums*, half as many of the *Hymenocallis*, and five or six *Paneratiums* for this work, and all the water Lilies we have in England are already in Egypt in abundance.

**JOURNAL OF HORTICULTURE BY POST (A Young Gardener).**—You can have it free by post, posted in London on the day of publication, and it will be at your post town, if in England, the next morning. For twelve months you must *prepay* 17s. 4d., for six months 8s. 8d., and for three months 4s. 4d.

**EDGING PLANTS (Taunton).**—*Gnaphalium lanatum*, *Stachys lanata*, *Cerastium tomentosum*, *Cineraria maritima*, and *Konigia maitima* are not raised from seed, but *Actotis reptans* is; and seedlings of it, we have just discovered, are not one-quarter so good as plants from cuttings. The price of them all, except the *Actotis*, is from half-a-crown to 4s. the dozen, and any nurseryman can supply them.

**STACHYS LANATA (Idem).**—It is hardy as a Russian; and the plant which is called *Gnaphalium lanatum*, and which is really the not useful hedge plant for the flower garden, is not quite hardy—about the same as most of the *Verbenas*. March and April are the best time to propagate it from some old plants taken up and kept over the winter.

**COCA-NUT FIBRE REFUSE (Working Man).**—All the nurseries round Kingston have proved this refuse to be injurious to plants when they could get it by the thousand loads, gratis and welcome; now, however, they find it "a wonderfully good thing" when they have to pay 35s. the truckload for it! It suits every plant and every kind of soil, but the quantity used must depend upon the staple of the soil to which it is applied. That partially decomposed, probably, would be most fertilising the first year, and afterwards both it and the fresh refuse would be equally beneficial.

**WINTERING CALCEOLARIAS (L. G.).**—For most purposes it is better to cut back old plants of *Calceolarias* when they are lifted for the winter, but that is not pruning at all. You may cut off more or less from the tops all round the plant according to your head-room. We have had them doctored so as not to leave a leaf, and we have had them without removing a leaf till the plants were from 3 feet to 4 feet high, and fit for the centre of a very large bed, and both did equally well. Mr. Fish has often stated that he prefers late in the autumn, after the middle of October to the end of November, for these cuttings. We learned the practice from him long since, and we have often proved it to be the best plan of all.

**CUTTING-BACK GERANIUMS (Idem).**—It is even now too late to cut back *Geraniums* if they are of any good sorts. *Pelargoniums* may be cut back as late as one day before the frost, even if it should not come to the end of next January. It is not "better" to winter *Fancy Pelargoniums* in the pots they bloomed in, no matter the size, but much the worst plan; but it is always and in all places the best way with *Scarlet Geraniums* if it could be done.

**SIR JOSEPH PAXTON'S BEDDING PLANTS (B. A. W., Dublin).**—At the page you refer to, we find Mr. Beaton referred to bedding plants in Sir Joseph Paxton's garden. You might have "poked your stick" until now in the beds at the Crystal Palace without finding Sir Joseph's pots!

**FLOWER-GARDEN PLAN (Gardena).**—Your planting is exceedingly well done; 5 and 6 in the chain-border being the only oversight in scores of beds; 6, St. Clair, is the weakest and the lightest-coloured of the bedding *Geraniums*, add that to its variegated foliage and place it next a pure white, like *Madame Vanher*, No. 5, and both are spoiled for effect. Put 7, *Aristo*, one of the darkest of the *Verbenas*, between *Madame Vaucher* and *St. Clair*, and the chain would be much better all round.

**BLUE AMARYLLIS (R. Warner).**—Many plants have been so called, as, for instance, *Xiolorion montanum* from the Caucasus; the blue *Agapanthus* from the Cape; and *Griffithia hyacinthina*, which is the blue *Amaryllis* to this day in the gardens of Rio Janeiro, that part of the Brazils being the native place of that bulb, which grows in strong loam on the Corcovado, and on the hills to the north of Rio, but it requires three-parts of peat in pots with us. Captains of vessels have taken the blue *Amaryllis* of Rio to all parts of the world, and you might now pick it up as a native of Java or Jamaica sooner than even at Rio.

**PIPES FOR FLOEA (Kilworth).**—We have no faith in a metal pipe; unless large, it so soon gets foul. For your house earthenware pipes ought to be from 10 inches to 12 inches in diameter, and to keep the house at all comfortable it would require at least to cross both ends and pass near the front. You would require also to have a brick fire for at least 8 feet from the furnace. Unless you have the pipes at hand, we do not see you will save much, as you should have a brick pillar for the pipes to go into at each corner, which will prevent all necessity of touching the pipes when cleaned.

**PLANTING VINES (Idem).**—It will be best every way to plant the Vines inside your greenhouse. They should be at least 18 inches from the fire. We presume the front wall is ached and the border outside lower than that inside.

**Turf for Sloping Bank (Idem).**—For such a large affair we have no faith in *Spergula*, and such a number of plants would be costly besides; but we own at once that we know little about it, in comparison to Mr. Beaton and others who recommend it so strongly. If you had just given us a section of the slope we should have understood it better—that is, 12 feet wide and 300 feet long, and to have beds cut out on it, and a four-foot ribbon-border in front. If all are the same slope, this will only leave 8 feet for beds, divisions from ribbon-border, &c. Why not ribbon the whole, and need neither grass nor *Spergula*? Perhaps the 4 feet are on the opposite side of a walk, &c. Even then we would prefer balanced symmetry to beds on one side, and border on the other. The *Spergula* may be planted at any time.

**CUTTINGS OF PURPLE UNIQUE GERANIUM (Idem).**—What is called *Rollison's Unique*, strikes best in spring, but pieces, side shoots from 3 inches to 4 inches long, will strike very well now. If you remove most of the leaves, put three cuttings round a 60-sized pot, in light sandy soil, and just keep the soil a little moist, by dropping water in a dibbled hole in the middle of the pot.

**ROSES MILDEWED (E. C.).**—Your heavy soil in Warwickshire, which cracks and bakes in dry hot weather is the cause of your Roses falling. If you mix with the top 9 inches a good dressing of cocoa-nut fibre refuse, mulch the surface, water in dry weather, and have Roses growing on their own roots, you will not have to complain that "everything goes wrong" with them. Remember, that a "stiffish clay" is the most difficult soil for the gardener to subdue to his purposes. We always pare and burn the top spit of the whole surface of such a soil, and work the ashes into the spit below. This permanently improves the staple and destroys the wireworm most effectually.

**NEGLECTED LAWN (J. T. S.).**—Use coal ashes sifted, one-half or one-third, and one-half or two-thirds of any light soil also sifted, mixed and spread over the lawn to fill up the inequalities on your heavy clay lawn. That ought to be the first thing done, and as soon as the mowing is over, spend out all weeds early in the spring as they rise, and in April apply the cocoa-nut fibre refuse to keep the surface cool for the summer.

**SPORT FROM MANGLES' VARIEGATED GERANIUM (D. C.).**—The sport is certainly worth keeping, but is of no money value. Mr. Beaton would like such a sport for crossing.

**WOOLICE ON PEACH WALLS (D. G.).**—You should have trapped your woodlice before the fruit was so near ripe. Now every hole is a harbour to them, and you know just as well as we do the difficulty of getting them out of their hiding-places. The following will alleviate the evil:—Cut a number of bean stalks and stick them in the trees; if cipped in sugar and water all the better, and drive out all that may take shelter in them in the morning. Again, slice up some sweet Apple, put a bit in the bottom of a flower-pot covered with dry hay, and place the pot at the bottom of the wall, after you have syringed it well, so that the Apple and the dryness may alike attract the woodlice; and destroy in the morning in the way you like best. The third mode we have tried successfully with old walls. Gather all the fruit at all ripe, then syringe or rather engine the wall heavily, beginning at the top and coming to the bottom, going over the tree repeatedly three or four times before leaving it, which will wash a great portion of the enemy to the base of the wall; and to prevent those that escape from getting up again, paint a band of 3 inches or 4 inches along the bottom of the wall with a mixture of coal tar and oil—that will be impassable so long as it remains soft and fluid. This is also a good remedy for keeping ants from the fruit; but, in addition, we have had to surround the stem of the tree with a rope so saturated, or they and the woodlice would mount that rapidly. These, however, are only makeshift palliatives when the evil is upon us. The great remedy is fresh pointing so as to fill all the holes in the wall.

**MELONS CRACKING AT THE STALK BEFORE RIFE (Idem).**—How are your Melons grown? If suspended, and no support given, they will often do so. When grown on a bed, unless too much water is given, the cracking there is generally a sign of ripeness. See previous and late remarks on this subject.

**MEDALS (Idem).**—We think much as you do as to the medal affair, but do not see how we can add anything to what was said on the subject of exhibiting lately. It is best when all these matters are settled at the time of engagement, and nothing left to doubt. We knew an instance where the gardener paid his own expenses, and then the master claimed the reward. It was not to be wondered at that such a master was always in the hiring market, and that an actual outlay of some four times the expense of neighbours similarly circumstanced, did not yield him a tithe of the advantage and pleasure which they derived.—R. F.

**THRIPS ON VERBENAS (Wm. Hopkins).**—The thrips have done for your *Verbenas* this year, and the best thing you can do is not to think of caring them, for they seem to have been past a remedy a month ago. Pull them up and burn them, and plant *China Asters* in their place, or even *Chrysanthemums*, tying them down if only to make a green covering to the beds.

**CLIMBERS FOR A CONSERVATORY (Quis).**—To go over the roof in one year, you must either get very fine strong plants, or put up with something more common. Keeping covering the roof in view, we would propose the following:—*Mandarinia Barclayana*, *M. semperflorens*, *Cobea scandens*, *Rhodochiton volubile*, *Passiflora cornea*, *P. racemosa* (crucula), *Tropaeolum pentaphyllum*, *T. polyphyllum*, *Eceremocarpus sabel*, *Lophospermum erubescens*, *L. Hendersoni*, *Tacsonia pinastipula*. Of these the *Tacsonia* and the *Passifloras* may not reach over the house the first season; but they are the only three we would keep permanently. We would get plants of the following, and grow them a year or two in pots before planting them out, and then do away with the other nine, substituting something like the following:—*Habrothamnus clegans*, *Bignonia Chereje*, *B. jasminoides*, *Jasminum odoratissimum*, *Kennedya Maryatta*, *K. nigricans*, *K. Comptoniana*, *K. heterophylla*, and *Soltia heterophylla*. We are sorry about the Vines and Ferns. We expect they have the thrips, though not sure from your description. Your fire was too hot, almost every week we have been cautioning against such a practice. If you consult the reports of the various Exhibitions, you could judge what twelve fine-foliated plants would suit you best. Meanwhile we have two favours to ask; first, the size and height of your house, and then, that one of our successful exhibitors would name the twelve plants most suitable.

**VARIETIES (Kale).**—Your flowers were so jumbled in the letter that no one could tell the one from the other. Fresh soil is better against caterpillars than most nostrums. Soil never fails. We put it on in abundance, and then shake the plants to remove so much of it that dust innumerate itself into all the surrounding parts, and it chokes most things in the crawling line without hurting a leaf. We do not know yet if cocoa-nut fibre refuse will grow *Rhododendrons*. Try the very old refuse which has become like coffee-ground but blacker. We do not know the Pear you saw in Belgium, but take the American Lady Apple and the Red and the White Astrachan, grow them properly and they will be just the very fancy you have now. The Lady Apple is a true cherry cheek. The Red Astrachan will have a bloom on the fruit like a Plum, and the White is transparent. The Parsley-leaved Grape is always best out of doors where it will do, as it once did with us on the south-west slopes of the Malvern Hills. And, lastly, we quite believe you when you say you were ashamed to ask so much at once. Every correspondent should remember, that we have hundreds to reply to and cannot give an hour to each.

**LILIUM LANCIFOLIUM IN POTS (Belladonna).**—Use small pots and the same soil as for *Hyacinths*. It is quite erroneous to talk about these Lilies not liking manure; but unless a grower has full practice in gardening, manure is as dangerous in his hands as any poison whatever. We had some of the original bulbs which were saved from a wreck in a courtyard at Brussels by the French cavalry. The unpacked boxes from Japan by Dr. Siebold were in the court-yard, or some yard or court, when the French were besieging, and we had to bring them round with very decayed cordage nearly one-half, and one-half peat, and a great deal of sand. We have since kept some of them in all soils and composts, and the great secret seems to be to have them cramped for room at the roots, and to supply them with soft rain water as if they were marsh plants. We had then that way in such small pots, that in three years they would burst the pot; and we know a nurseryman who keeps the largest bulbs of them in the smallest pots he can get them squeezed into, for he trusts to the watering alone, and we have no doubt they would grow as well in moss and water as they do in the clay compost in the borders at the Crystal Palace.

**NAMES OF FRUITS (J. Jones, Evesham).**—1, Birmingham Pippin; 2, a very good Apple, with a brisk, aromatic flavour, probably a seedling; 3, not known; 4, one of them is Winter Pearmain, the others are probably local seedlings; 5, appears to be the Nectarine Fruit. (*A. Salsbery*).—1, like Lord Suffolk; 3, Dumelow's Seedling; 4, Round Water Nonsuch; 6, Allis-

ton. Among the others were Court of Wick and Kentish Codlin; but your fruit was not only not sufficiently ripe for proper determination, but it was loosely packed, and the numbers being on detached pieces of paper were mixed together, and some were not to be found at all. In future mark the number with ink on the fruit.

NAMES OF PLANTS (*G. C., Livermore*).—*Pyrus aria*. (X. X.).—Bad specimens of 1, *Tradescantia virginica*; 2, *Epilobium angustifolium*; 3, *Centaurea ruber*, probably; 4, *Cerastium tomentosum*. (*J. D., Forfarshire*).—1, *Echium vulgare*; 2, *Centaurea scabiosa*; 3, *Scabiosa arvensis*; 4, *Sedum telephium*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

SEPTEMBER 25th. STAFFORDSHIRE. *Sec.*, Mr. W. Tomkinson, Newcastle. Entries close August 25th.

SEPTEMBER 25th. MIDDLETON. *Sec.*, Mr. T. Mills. Entries close September 10th.

OCTOBER 28th and 29th. CALNE. *Secs.*, A. Heath and F. Baily. Entries close October 15th.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### OF ILLNESSES.

(Translations from *M. Jacque's work on Poultry continued*.)

I HAVE said this should be a short chapter, and have good reasons for saying so.

Most illnesses are caused by bad constitution, and this is the result of accidents, the causes of which are unknown; sometimes they come from feeble parents, from lack of care and insufficiency of food during growth, or continued ill-treatment. But whatever may be the determining cause of illness in a fowl, it is not less true that if there is a desire to cure it, it will take as much science, as much care, and as much expense as a sick horse. As this is next to impossible, the shortest and simplest of all remedies is to cut the patient's throat; you will thereby get rid of an unproductive animal, capable of only propagating in the poultry-yard the disease with which it is infected. When robust birds become ill, it is almost always caused by dirty water or houses, or by infection bred in the small spaces wherein they are confined, or by the lack of substance they would find if they were at liberty.

It is, then, by the hygienic cares of every description that are pointed out in this work that we must prevent those attacks, which very often become contagious, causing serious damage on large farms, and irreparable loss to amateurs. Some useful indications may in certain cases help to preserve a valuable animal.

The most frequent maladies are nasal catarrh (discharge from the nostrils), canker on the tongue and in the throat, and lastly, ophthalmia. These affections are almost always indications of a bad or vitiated constitution; they may also be caused by draughts, by infected houses or tainted runs, or by unwholesome food or water; and in delicate breeds, such as the Crève Cœur, Ham-burgh, and Dorking by a simple change of locality or habits. In the first case, it is almost incurable, and in the other it is absolutely necessary to isolate the patients or to lot them in ones, twos, or threes in small-floored compartments kept very clean and sanded. The nostrils, the eyes, and the interior of the beak should be washed every morning with slightly acidulated water. If canker produces a thick or hard sticky discharge, it should be removed with a sharp wooden spatula; the place should be washed, and, if possible, cauterised with nitrate of silver. Refreshing food, such as millet, dough made of barley flour, grass, and very clean water, complete the treatment. As fast as the birds are cured they are let out to regain strength and vigour in those places where there is the greatest amount of vegetation.

A barbarous custom, as ridiculous as it is abominable, consists in tearing off the horny tip of the tongue in order to cure the malady called the pip, and which is only canker or *apthe*. This substance is as natural to the tongue as the nail is to the finger. I have seen people take a sick hen, examine the interior of the beak, then, seeing it was suffering from canker or *apthe*, take a pin and tear off the end of the unhappy patient's tongue. As a precautionary measure all the birds in the yard were examined. As they all had the horny tip, it was settled all were about to suffer from canker, and then all hands set to work to mutilate the entire poultry-yard. The wound it causes is long in healing, and sometimes incurable. One of the most dangerous maladies, because in time, and almost imperceptibly, it will invade a whole yard, young and old, is a disease I will call the *white*; it is a

sort of itch, evidently caused by invisible "vegetations," which appear first on the feet, on the combs, on the wattles, on the cheeks, and on the deaf-ears, in the form of small flour-covered patches. These patches extend and thicken till they atop the ear, form crusts on the face, make holes in the legs, raise up the scales, and cause them to fall, and at last invade the whole animal. As soon as the appearance of white is ascertained, a remedy is at hand which is a certain specific. It is merely sulphur ointment, the recipe for which is powdered or flowers of sulphur and lard or hog's fat in equal quantities. These two substances thoroughly kneaded together for a long time will form a very thick ointment, which should be abundantly applied. If the white is of old date and very floury, a cutting instrument should be used, and the parts scraped with it to the quick, even in the most difficult places; the ointment should be abundantly applied, and renewed every third day, till a cure is effected.

The ointment should be applied wherever it is necessary, care being taken to raise the feathers in layers, so that the animal shall not be greased all over. Gout makes a direct appeal to the fatal knife, the same may be said for consumption, chilblains, convulsions, and fractures. To conclude with a general rule, every fowl sick of any malady should, if a cure is desired, be put by itself, and fed as has been described. I have almost always found this successful without any other treatment.

### ALTERING THE DAY FIXED FOR A POULTRY EXHIBITION.

THIS is not so unimportant as it may seem to be until we consider some of the consequences. We will give some examples.

Mr. Hewitt annually awarded the poultry premiums for the Poultry Show of the Manchester and Liverpool Agricultural Society, but having accepted the invitation of the Committee of the Calne Exhibition, therefore, on the after-application of the Manchester and Liverpool Secretary, he was compelled to decline, it being impossible to get from Calne to Warrington in time for duty at the latter Society. Now, the Calne Committee have postponed their meeting until October 28th next. This is unfair to exhibitors as well as to the Judges; for parties who had entered with the Calne Committee were prevented altogether from exhibiting elsewhere at that particular time.

Committees, without doubt, injure their exhibitions in every way by holding their meetings simultaneously, and this must be the case with the Newcastle (Staffordshire) and Melton Mowbray Shows, both held on the 25th instant.

### SPECIMENS AT THE CRYSTAL PALACE POULTRY SHOW.

HAVING made a few notes in my catalogue while at the above Exhibition, I beg to offer them to you, but as you have already published an account of it, I will endeavour to omit repetitions that would only be tiring to your readers. Taking the list in order, I find my first note in the White Dorking class, which I am sorry to see so small, as I consider them the best and most useful fowl for general purposes. The birds are improving in size, but they are getting too leggy—a complaint now often heard of table poultry, too much brown meat and too little breast. Large size is an excellent quality, but long legs and neck are not desirable. One bird I noticed had had his feet plucked, and his toes and comb were not correct, which, of course, would destroy any chance of a prize.

The Shanghaies were a fine lot, but I looked in vain for Black-breasted Red cocks and Partridge-coloured hens. In the Brown class the hens were all dull Grouse-coloured, and the cocks were more black than red, and seemed as if bred from black hens.

Among the odd cocks, No. 113, a white one, had white legs, which I think an improvement.

In Game fowls, No. 130, a pair of the old-fashioned Red-spangle, now rarely seen among the Duckwing cocks, I could only notice one without the red back. That indicates a cross with the Reds. I think the Game fowls are getting too large and much exceed the fighting standard.

Silver-pencilled fowls were generally wanting in depth and regularity of their markings. There is not black enough in the pinions of the cocks. I certainly think Pencilled cocks would match the hens better, and even if not put in the show-pens breeders would find their advantage in breeding from them.

Golden-spangled were all Moonies with black tails and striped hackles, while the Silver-spangled approached the Creels with white tails and hackles, except that some of the hens had black tips to their hackles.

Black Polands with white crests were few but good. No. 286, were blue with white topknots.

The French fowls called Crève Cœurs, La Flèche, and Houdan do not improve on acquaintance. They appear as degenerate Poles.

Mrs. Seamons' Aylesbury Ducks were magnificent, but it does seem a pity to breed those delicious black East Indians so small, if they were larger they would be better for the table.

There were some very fine White Geese. Pen 395 had pale beaks, which, I suppose, gained their honours, as they were not so large-framed as some others.

The Sebastopol Geese were very pretty, medium sized, quite white, and the back feathers long, curled, and wavy.

There were also some hybrids between the China Goose and Canada Goose shown by the Crystal Palace Company.

Among the extra stock there was a pen of birds exhibited as a cross between Golden Pheasant and Game Bantam, but I think it must have been the Pheasant fowl or Hamburg, as I could see no resemblance to a Pheasant. The so-called Breda fowls exhibited by Mr. Charles Bocquet were curious, being without combs or crests like the Guelderlands and of various colours. There were some very excellent Silk fowls, but the novelty of the Exhibition was the Japanese Bantams shown by Capt. F. Martin, R.N. They were small with very large single combs, clean yellow legs, and so short that their breast touched the ground. There were a pen of white and very light ones in ordinary feathers; a pen of black with silky plumage; and a pen of drab-coloured with black tails, in which the feathers were ruffled or reversed as in the Frizzled fowls.

The novelties among the Pigeons were two pairs of White Jacobins with pinks or purls over their heads like Trumpeters. The Jacobins generally were very coarse. Turbits are also in want of improvement. A pair of dun Barbs rather a scarce colour.

The fancy Rabbits were good and plentiful, every class well filled except the Blue and White. But it is a great pity there are no separate classes for the Silver-haired, Ermine, and Angora Rabbits. As it is, no encouragement is offered to the breeders of these useful kinds. The extra class contained two pretty little Piebald Rabbits entered as Egyptians, one Silver-haired Black, two Silver-haired Sandies, and a few Ermine Rabbits, or, as they are improperly called, Himalayan.—B. P. BRENT.

## MANCHESTER & LIVERPOOL AGRICULTURAL SOCIETY'S POULTRY SHOW.

THIS Show was held on the 10th inst. There were 180 entries for the prizes offered, and some splendid birds were shown.

Among the prizes awarded were the following:—

- DORKING.**—First, E. Tudman, Ash Grove, Whitechurch, Salop.  
**SPANISH.**—First, J. K. Fowler, Prebendal Farm, Aylesbury.  
**GAME COCK (Black-breasted).**—First, W. Nunnerley, Wellington Place, Latchford, Warrington.  
**GAME COCK (Black-breasted Red).**—First, J. Ho'me, Knowsley, near Prescot.  
**GAME (Brown-breasted Red).**—First, T. Burgess, Burleydam, Whitechurch, Salop.  
**GAME (any other variety).**—First, H. Worrall, Spring Grove, West Derby, near Liverpool.  
**COCHIN-CHINA (Buff or Cinnamon).**—First, E. Musgrove, Aughton, near Ormskirk.  
**COCHIN-CHINA (Grouse and Partridge).**—First, E. Tudman, Ash Grove, Whitechurch, Salop.  
**HAMBURG (Golden-pencilled).**—First, A. Nuttall, Newchurch, near Manchester.  
**HAMBURG (Silver-pencilled).**—First, J. Platt, Deane, near Bolton.  
**HAMBURG (Golden-spangled).**—First, N. Marlor, Denton, Manchester.  
**HAMBURG (Silver-spangled).**—First, J. Fielding, Newchurch.  
**POLANDS.**—First, J. Dixon, North Park, Bradford.  
**BANTAMS (Game).**—First, T. H. D. Bayley, Ickwell House, Eiggleswade.  
**BANTAMS (any other variety).**—First, T. H. D. Bayley, Eiggleswade.  
**ANY OTHER BREED OR CROSS-BREED.**—First, Mrs. M. Seamons, Hartwell, Aylesbury, Bucks (Brahma Pootra).  
**GOSLINGS.**—First, T. Burgess, Burleydam, Whitechurch, Salop.  
**DUCKLINGS (Aylesbury).**—Mrs. M. Seamons, Aylesbury, Bucks.  
**DUCKLINGS (Rouen).**—First, J. Holme, Knowsley, near Prescot.  
**ANY OTHER BREED OR CROSS-BREED.**—First, J. Dixon, North Park, Bradford (Black East Indian).

The Judges were Mr. Richard Tebay, Fulwood, near Preston, and Mr. William Lloyd, Weaverham, near Northwich.

## BLUE OWL PIGEONS.

In your report of the Pigeons exhibited at the Crystal Palace Summer Show, it is said, with reference to the little foreign Owls, that no Blue ones have yet been imported. Will you allow me to state that all three gentlemen whose names appear in the prize list—viz., Messrs. Rake, Morris, and Else, have had Blue Owls of my importation, and that I have Mr. Rake's permission to state that one of his winning birds was bred from a foreign hen purchased of me?—JOHN BAILY, JUN., 113, Mount Street, Grosvenor Square.

## VITALITY OF EGGS.

EGGS for hatching should be as fresh as possible. Some say they should not be over two weeks old—about the time it takes a hen to lay a clutch of eggs. It is no easy matter—in fact, it is impossible, to fix upon any precise period when the vital principle in the egg is destroyed, since it varies from the first, according to the vigour of the parents of the enclosed embryo and the mode of preserving the eggs. A safe rule, however, is to secure fresh eggs. Those who are anxious to secure a valuable variety, one chicken of which would be worth a whole brood of ordinary or common sorts, will run all risks. After seven or eight weeks their chance is not entirely gone—some of the chicks will be found dead in the shell; but those that are hatched, if they survive the first forty-eight hours (the great difficulty), are afterwards no more weakly nor troublesome than others.

Whether for hatching or eating, it is advisable to collect the eggs every afternoon daily. They should be shaken as little as possible, for fear of rupturing the ligaments and mixing the albumen with the yolk. In the meantime, air should be excluded from the eggs as much as possible. They should be carefully packed in oats, bran, cut straw, or any other dry, soft substance. It is best to set them on end, and not suffer them to lay and roll on the side. Set them into a moderately cool, dry room of even temperature. A careful observance of the foregoing rules may save many from disappointments in rearing some of the choicest varieties of fowls.

We have before said eggs for hatching should be as fresh as possible; and, if early in the season, care should be taken that they do not get chilled or frozen, as that would destroy their vitality. As soon as laid they could be marked with a pencil to know their age and stock.

The last week in March, or first in April, will be a good time to set your hens; and the pullets, if well fed from these clutches, will lay through the following winter. Select the eggs of good laying hens, of good shape, and of regular size: by this means you may much improve your stock. Some who are very particular in these matters will only put eggs from one fowl under a sitting hen, in order that no mistake may arise as to the identity of the chicks. In raising Game fowls, this, of course, will be a very important rule; and as the male bird is the object desired in this stock, observe eggs of a good shape that are longest and sharpest at the small end are generally found to produce males, but not always, while the round and large-ended ones produce females. Last year, in a clutch of thirteen long, pointed eggs, there were ten cocks and one pullet hatched.

Many persons are foiled in raising chickens for want of a little attention to them. It is an old but true axiom, that "a thing worth doing at all is worth doing well;" and this will apply to the rearing of chickens as well as to other matters. Convenient nests should be provided for the hens to lay and hatch in. They should be secured in sheltered places, and filled with cut straw, hay, or some soft substance. Old nests or boxes should be cleaned, scalded with boiling lime-water, and the bedding removed and replaced with fresh.

Place all the eggs under the hen at once, and mark with chalk or pencil, in a conspicuous place on the box, a date twenty-one days in advance—the time occupied in hatching.—C. N. BEMEST, New York.

## BEEES ABANDONING THEIR VERMIN-INFESTED HIVES—FORMATION OF ROYAL CELLS.

I OBSERVED at the end of last year several moths flitting about the back window of a strong colony, and excavations made in the brittle edges of the comb next the glass. This season it has got weaker and weaker, till the other day I found the box entirely vacated, a few dead bees on the board, and a little honey

in the combs. I carefully examined all the combs, and with the exception of portions of some of them being eaten into, saw nothing of moths or other depredators. Whether the abandonment arose from the loss of the queen, or disgust at the damage of the combs, I am at a loss to know. The patches destroyed were chiefly in the centre of the combs, which were, of course, tough from being bred in, and I should almost suspect the poor colonists have lately been subjected to attacks from a more powerful foe than the moth. It was almost an impossibility for mice to have got access, as the hive was placed near the top of my dwelling-house, besides there was no appearance of their excrements. We have, however, lots of bats. Do you think they could have popped in and done the mischief? I send you along with this one of the damaged parts of the combs, and hope, therefrom, you may be able to express an opinion.

This wet season has caused the annoyance of an unusual number of snails and earwigs (particularly the former), to intrude themselves into several of my hives, even the strongest. Could you suggest a more lasting preventive than sprinkling soot or salt underneath the boards?

About a fortnight ago I moved the combs from a very strong colony that did not swarm, and sought in vain for an interview with her majesty. The population was so numerous it seemed as hopeless as looking for a needle in a hay-stack, and created such a hubbub and confusion, that I delayed repeating the experiment till the middle of a very hot day, when a great part of the population were abroad; then I was favoured with no better success, but was surprised to see a great many royal cells sealed up, although the colony had slain the greater portion of their drones. Could the queen have been lost or killed in the first overhaul? if so, I am afraid any few drones remaining in my apiary will be insufficient to insure the impregnation of a successor. Suppose this to be the state of matters, when may I expect to see young drones issue, the progeny of the virgin mother? There was no cessation of pollen or honey-gathering after either search.—W. J.

[Neither mice nor bats appear to have been at work upon the combs which accompanied this inquiry, but merely the bees themselves, which have gnawed away, as is their custom, those parts damaged by the larvae of the wax-moth, and which would have, undoubtedly, been replaced had the colony survived until summer. Loss of the queen was the probable cause of its extinction.

A piece of sheepskin nailed with the wool outwards round the supports of hives and saturated with tar, has been recommended as the best means of preventing the ascent of vermin.

You would have done better to commence your investigations with weaker colonies until the eye became sufficiently educated to recognise a queen on obtaining even a momentary glimpse of merely a portion of the royal person. Without some preliminary practice of this kind, it is only by extraordinary good luck that you can ever catch sight of a queen bee amidst the surging population of a strong stock in summer. Great care should always be taken by holding the removed combs over the hive to make sure that her majesty does not fall to the ground during the examination, in which case she would almost certainly be lost. The presence of royal cells may be accounted for in this way, or the queen may have died a natural death or have become superannuated, or swarming may be in contemplation. In either case if a tolerable number of drones remain, impregnation is likely to be effected even now. Should the young queen continue a virgin and escape the great risks attendant upon repeated and long-continued but unavailing "wedding-flights," she will, probably, not commence egg-laying until next spring.]

## A DISCOVERY—INSTINCTIVE FORESIGHT IN THE BEE.

SUCCESSION TO A SUPERANNATED QUEEN, HOW PROVIDED FOR.

IN bringing our minds to the study and contemplation of Nature in any of her wide and varied departments—whether in the vast or the minute, animate or inanimate—whether we direct our studies to the heavens above, and listen to the music of the spheres in the blue ethereal, or explore the minuter but not less wonderful arrangements in this lower world, there is no truth which strikes the reflective mind more than this—that there is an unseen Hand behind directing, superintending, and controlling all with unerring wisdom and almighty power.

From the creation of the world till now how admirably hath Infinite Wisdom provided for the increase and continuance of both animal and vegetable life, each according to its own kind! In all this there is manifested such a wise adaptation of means to ends which is truly wonderful. Mystery and obscurity may hang around many of Nature's ways; but the more we investigate the more shall we know, the more admire.

What a beautiful comment on these remarks is the following incident I give in the history of the honey bee, where, in circumstances of peculiar interest, she wisely provides against an impending loss—the loss of a sovereign superannuated and decrepid from age, by timeously rearing a youthful successor to preserve the community from utter ruin!

Various naturalists and apian writers have hinted at the way in which stocks losing their queens by death in summer must supply themselves with new ones—namely, by the well-known power bees possess of converting a worker-egg or larva into a royal bee; but the manner and time of doing this, if ever observed, have not hitherto, to my knowledge, been detailed by any writer.

Previous to my discovery I entertained no doubts whatever as to the fact of the bees so supplying themselves, but was somewhat sceptical as to the way they did so. I contemplated the possibility of a queen dying from age leaving no eggs or larvae in the hive from which her loss might be supplied—a contingency which certainly might occur unless the bees were guided by a wisdom which never errs, because from heaven sprung. I would, therefore, specially call upon naturalists and apian writers generally to notice how admirably instinct guides the bee in this as in every other case in providing for future contingencies and future wants.

In the summer of 1857 I possessed a Huber leaf-hive, whose queen was a very aged one. While the spring of that year witnessed my other hives progressing fast in strength and population, this hive increased so slowly that in the beginning of July its combs were not more than three-fourths covered with bees, and in which the sealed brood were as yet extremely scanty. I was at no loss to comprehend the cause. The fault evidently lay with the queen. During the preceding summer she had proved very unprolific, and it was more manifest that her ovipositive powers were fast diminishing. She was decrepid and infirm; she had tattered wings, a shrivelled appearance, and was totally unable to fly. She moved slowly over the combs, and was in vain prompted by a circle of bees, which continually gathered around her, to increased energy in her motherly functions. At long intervals she did lay, but laid scantily; and I once observed her laying in the drone-cells. Ultimately, however, she became so feeble that she could scarce hold on by the combs, and on three several occasions I found she had fallen down on the board. Her end was evidently approaching. On replacing her in the hive I observed the bees, though receiving her kindly enough, did not treat her with the same attention as heretofore. Next day I found her again fallen down and crawling on the ground in front of the hive. I again replaced her among the combs: this was on the 17th of July. On the evening of the same day in opening the hive to see if it were still there, how was I struck with wonder and astonishment to find during my search what I failed to discover from want of minute observation before—that the bees had already three royal cells, not only in progress, but one actually sealed up, clearly showing that for a week at least before the queen quitted the hive, the bees, instinctively foreseeing the dire calamity which was impending, had thus been quietly rearing for themselves a youthful successor to their superannuated and decayed sovereign.

Here then was a beautiful discovery, the solution of a problem simple in itself, and insignificant, it may be, in the eyes of many, but to me valuable and long-desired. Here was clearly brought out the manner in which a change in the government of a hive is brought about without swarming, and in circumstances peculiarly interesting. Had the hive been a populous one I might have erred in my conclusions. It might be that the bees were preparing to swarm, but the state, condition, and whole circumstances of the hive precluded such an idea. It relaxed not in its industry by the loss of its queen, feeble though its numerical strength had become. I watched results with extreme interest, and in due time a princess came forth. Shortly afterwards the other royal cells were demolished; but, alas! how sad the sequel to my story! how sad the destiny of this youthful queen! and how fatal to the interests of the community over which she was, after so much foresight, wisdom, and care, intended to

rule! The weather at the time had been unpropitious, but tempted, during a sunny interval, the young princess went forth in an evil hour on one of her aerial excursions, and driven by the wind on her return she mistook her own hive, entered another, and when I visited my apiary I found both the hive which she left and the one she had entered in a state of turmoil and confusion, and a few of the bees of the former deserting into the latter with a humming noise. I at once understood the nature of the catastrophe. I lifted up from its stool the hive the queen had entered, and here a most dismal sight presented itself to my view. On the centre of the board, and amid a small circle of bees, I found the young queen all but lifeless. She was surrounded by a few of her devoted subjects which had traced her out, and which with humming wings and other joyful tokens of recognition thus testified their loyalty and attachment to their sovereign even in her dying moments. I removed her to her own hive, and such was the eldect produced upon the bees that a perfect jubilee of humming sounded throughout the entire colony, and allayed for a time, at least, the commotion which was before observed. The poor princess, however, soon succumbed under her mortal wound, and next morning was found dead upon the stool.—J. LOWE.

### CAN THE WORKING BEE TRANSFORM THE GRUB OF A WORKING BEE INTO A QUEEN BEE IN THE PROCESS OF MAKING ARTIFICIAL SWARMS?

I SHALL feel greatly obliged to any one who may see the above question, to give his views and experience bearing upon this very interesting subject.

I must beg to admit that I am one of those who are still very sceptical in the matter, even after all I have heard and read regarding the various successful operations. That queens have been produced over detached colonies I have not the least doubt; and although this to many may appear conclusive evidence, I still think there is a loophole whereby the means of reproduction is carried on unobserved by the keen and searching eye of the zealous apiarian. If such a process of transformation is in reality accomplished by these industrious insects, we have not another species in the whole list of the animal creation (as far as I am aware), capable of carrying out a similar result.

The sexes are not the production of the will, but the special provision of Nature's laws, guided by the unerring hand of Providence, having both male and female of every kind down to the lowest creatures that have life.

In the case of insects which produce a trio in their own kind—such as bees, wasps, hornets, &c., the egg when laid is the embryo of the future insect that is to come forth, the same as the acorn is true of the oak. Acknowledging such to be the case, does it seem possible that a queen can produce a queen or a brood of drones whenever she pleases? I think not, and take the more plausible view of it, that she must lay her portion of the sexes in due order, and when cells are not in readiness for her wants, she has frequently been found to have laid three or four in one cell, as well as dropped them in quantities upon the board below. Entertaining the view of her majesty being guided and working by Nature's laws (as much so as the hen which lays her portion of eggs before the period of hatching arrives), the queen bee also lays her portion of working bees' eggs before either drones or her own sex, as will always be observed in a new swarm by the young working bee being first seen at the bar of the hive.

Having thus far explained my views upon this very interesting subject, I have just this question to ask before closing. Could it not be possible for some of those supernumerary eggs in the cells or on the boards to have been queens, and been found and placed in royal cells by the working bees when they found themselves minus by the robbery in artificial management? Until this loophole is stopped I cannot put any faith in the power of transformation, but I hope some of your learned bee-keeping correspondents will put me right.—QUANDARY.

[We have submitted your communication to "A DEVONSHIRE BEE-KEEPER," who says, "Although it is somewhat late in the day to discuss a fact which has been indisputably proved by the experiments and observations of innumerable apiarians, from Schirach downwards, I have much pleasure in contributing my mite of information by way of stopping the 'loophole' which your correspondent imagines he has discovered. After removing

the queen from a hive and losing her successor during her 'wedding flights,' and when consequently all chance of supplying her place from the resources of the hive itself was entirely at an end, I have repeatedly cut out a small piece of worker brood-comb, little more than an inch square, from the centre of the 'brood-nest' of another stock where royal cells never exist under ordinary circumstances, and having inserted this in the queenless hive, have in the course of a few days found six or more queen-cells crowded upon it. Now, it cannot be imagined that these royal cells contained other than ordinary eggs or grubs, which, if left undisturbed, would have hatched into worker bees, but which, under altered circumstances, were developed into perfect queens. Take also Huber's experiment, successfully repeated by Kleine, one of the ablest German apiarians, of selecting whatever worker-eggs or young grubs he pleased, and causing the bees to rear them into queens, simply by inserting a small portion of royal jelly in the cells containing the selected ones. There can be no doubt whatever that the queen bee lays eggs of only two sexes, male and female, and that every egg may, by appropriate treatment, be reared into an individual capable of propagating its species. In the case of worker bees, however, the reproductive organs are so stunted as to remain, in all but exceptional cases, entirely in abeyance, whilst the pollen-baskets, tongue, &c., receive such a development as fits them to play their allotted part in creation. With regard to the power of the queen bee within certain limits to lay the eggs of either sex at will, my own observations have perfectly satisfied me that such is really the fact. On this point, however, I can add nothing to the conclusive experiments and observations of Von Siebold, Dzierzon, Von Berlepsch, and others.—A DEVONSHIRE BEE-KEEPER."]

### LIGURIAN BEES AND THE BEE SEASON IN STAFFORDSHIRE.

I HAVE been favoured with the following communication from a friend, to whom I sent a stock of Ligurians last year. It appears that the honey season in Staffordshire has been quite as bad as in the district of—A DEVONSHIRE BEE-KEEPER.

"I have destroyed all my black colonies, and have now only four good Ligurian hives for the ensuing winter; they have, with the assistance of contracted entrances, repelled all the assaults of the wasps, which are exceedingly numerous, and have destroyed the entire stock of some of our oldest bee-keepers.

"The second swarm, made on June 4, ultimately became the strongest hive, and weighed a little over 20 lbs. nett in the middle of last month; the first swarm of May 19 would have been a prime hive but for sending out the two swarms early in July, and also affording two frames of brood-comb and bees to the swarm of June 4. It weighed 15 lbs. nett.

"I have given the four stocks 12 lbs. of lump sugar since that time, which, with the water, has made them a fair weight; and at the end of this month I shall again weigh them, and finish them up for the winter with the honey obtained from my English bees.

"This has been the worst year on record in this district, and the little honey collected in the end of July is very dark-coloured and indifferent.—J. E. B."

### OUR LETTER BOX.

WORMS FOR POULTRY (*H. C.*)—The worms collected from ground to the surface of which they had been driven by a solution of chloride of lime, may be given to poultry with perfect safety.

RING ROUND NECK OF ROVEN DUCKS (*F. H.*)—Roven Ducks of both sexes should be the counterparts of wild Ducks. The Mallard has a white ring; the Roven drake should, therefore, have it. It should be a narrow, but a sharply cut and well-defined purely white ring; there should be no other white on the bird. A white flight is an abomination and disqualification.

DEATH OF BRAHMA POOTRA PULLET (*X. Y. Z.*)—We should say the cause of death was stoppage. You should have given a table-spoonful of castor oil at the beginning of the malady. It is always a safe thing to do, and will cure most ailments if taken at the outset.

FEEDING DUCKS FOR EXHIBITION (*Constant Subscriber*).—It is hardly possible to name quantities for fattening any sorts of birds, as some require far more food than others, although of the same breed. At first Ducks would eat more greaves than they would after they had begun to fatten. One-third to two-thirds of meal should be proper proportions. It is not in any way objectionable for Ducks intended for the table. One treatment in the way of food will fit Ducks for all purposes.

WEEKLY CALENDAR.

WEATHER NEAR LONDON IN 1861.												
Day of Month	Day of Week	SEPTEMBER 23-29, 1862.	Weather				Sun		Moon		Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	Rises.	Sets.	Rises and Sets	Moon's Age.		
23	Tu	Phloxes leonurus.	29.386-29.310	67-43	S.W.	.01	m. h. 49 a f 5	m. h. 56 a f 5	m. h. 37 a 5	☉	m. a. 7 37	266
24	W	Gordonia lasianthus.	29.421-29.299	66-35	S.W.	.49	51 5	54 5	37 a 5	1	7 58	267
25	Th	Phytol. ericoides.	29.269-29.190	61-39	S.E.	.19	52 5	51 5	1 6	2	8 18	268
26	F	Protea tomentosa.	29.792-29.663	63-32	W.	—	54 5	49 5	31 6	3	8 99	269
27	S	Veltheimia viridifolia.	29.921-29.858	67-35	S.	—	55 5	47 5	8 7	4	8 59	270
28	SUN	15 SUNDAY AFTER TRINITY.	29.840-29.764	62-49	S.W.	.17	57 5	44 5	57 7	5	9 19	271
29	M	MICHAELMAS DAY.	29.894-29.786	71-40	S.W.	—	59 5	42 5	57 8	6	9 29	272

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 65.4° and 45.1° respectively. The greatest heat, 82°, occurred on the 25th, in 1832; and the lowest cold, 26°, on the 26th, in 1855. During the period 118 days were fine, and on 127 rain fell.

THE PLANTS FOR DINNER-TABLE DECORATION AT THE ROYAL HORTICULTURAL SOCIETY'S SHOW, SEPTEMBER 10TH.



HAVING on a former occasion given my views on the subject of dinner-table decoration in flower-stands, it may seem almost superfluous to repeat many of the same reasons I then gave; but since then another move has been made in the matter. The Royal Horticultural Society has offered a prize for twelve plants in pots applicable to the purpose of dinner-table decorations, and that prize has been

competed for, and the name of the winner, and most likely that of the plants exhibited, will, ere this reach the reader, have gone forth to the world with the various remarks which every one is at liberty to make in such a case. If such remarks when put in print bear any resemblance to those made by the assembled company at the Show, I fear the exhibitor will have little cause to compliment himself on having pleased many; for however unpleasant it may be to repeat it, it is nevertheless true that universal condemnation was passed upon the poor plants. I use the term "universal," as I did not hear any one speak in their favour; and certainly if there were any such they formed a very small fraction in the company present. So general was the disappointment that it is as much in the defence of the exhibitors as it is against the system that I now again call the attention of the readers of THE JOURNAL OF HORTICULTURE to the matter; and those who were not at the Show in question, or have heard of the conditions under which the plants were shown, will have no difficulty in understanding the fettered conditions by which the exhibitors were bound.

The conditions were these: Twelve plants in pots were wanted for the dinner-table, which were to be grown in pots of a small size (48's I believe), and were to have naked stems up to the height of 6 inches, measuring from the bottom of the pot, and the total height of the plant was not to exceed 24 inches. Some remarks followed on beauty of form and adaptability to the purpose.

The plain meaning was that low standards with a well-proportioned head were wanted. How this was answered I need only say that the conditions precluded everything well grown, in the usual sense in which that word is used, from entering the lists, the whole of the plants exhibited numbering only a very few species or varieties. Fuchsias were in every collection, and Coleus Verschaffeltii in most of them; one or two Celosias, a Grevillea, one or two Capsicums, Eugenia Ugni, and some others; the whole being such as few buyers of plants would give any-

thing beyond a mere trifle for. The naked stem was tied up to a single stick, and in the case of some of the Fuchsias some extra tying-in of the head was also adopted.

The only plants in flower were the Fuchsias, Celosias, and a Veronica.

I repeat that a unanimous disapproval was passed on them all. In this general charge of condemnation the exhibitors ought to be exempted, for the conditions laid down limited them to the class of plants shown; certainly there could be no better plea given to aid the views I have before advanced that all table decorations ought to be below the line of vision from one person to another, and the clumsy attempt here made to place the ornamental object above that line has certainly as signally failed in giving satisfaction as anything could possibly have done.

Whether this failure in plant decoration will lead to the floral design taking a dwarfer habit remains to be seen; but certainly no one who saw the plants at South Kensington Show could pronounce them fitting objects to ornament a table, so the promoters of such exhibitions must certainly reconsider the conditions they lay down for the guidance of the public in exhibiting plants fitted for that purpose, or they will incur the censure of all but the eccentric class who pique themselves on differing with everybody else. Whimsical ideas may for a time prevail, and receive a considerable share of public support; but unless based on something more than mere whim, they are sure, sooner or later, to receive their desert. Beauty combined with utility will be found in all cases to maintain its position the longest, and the one without the other may also receive public patronage for a time. It can hardly be expected that objects which lay claim to neither (like the plants alluded to) can be countenanced by any.

J. ROBSON.

KEW GARDENS, SEPTEMBER 16TH.

THIS has been the kind of season to suit the tonchy soil of Kew Gardens, and the consequence is that every tree and plant inside and outside is looking in the most perfect health, and the flower garden was more gay than many good places had been a month earlier. I wanted to have been there in the middle of August, and it is to me a curious incident that I could not get sooner, or until the improvement in the flower gardens, there much needed, had been just effected. The head of the grand centre promenade next the lake is now just as it should be at last, and much better than most of us expected, seeing how difficult it is to get money from Parliament for real improvements.

The flat circle of grass in the centre of the gravelled head of that centre walk is now the bottom of one of the best flower-beds in Kew, or perhaps in all the country. It is 36 feet in diameter, has a rich, massive, and moulded edging of terra cotta 15 inches high or a little more. The bed is raised up to the centre as a pyramid, and in the centre is a very handsome flower-vase with pedestal and plinth, and the planting of the bed reaches up to the very plinth. The upper half of the bed was planted at the usual time, but the edging and the first 4 or 5 feet of the grand circle were only finished in time for me to see the whole in apple-pie order.

This terra cotta vase, of a warm cressy tint, is by Mr. J. M.

Blashfield, the noted manufacturer of these ornaments at Stamford, and, like all the rest of the new works at Kew, it is thoroughly well done, and as if to last for ever.

To suit the finishing round this grand circle, the four large beds of Punch have been converted into panel-beds on the Scottish system of panel-planting—a telling system which I first saw eighteen years ago from a plan which Mr. McIntosh sent me to Shrubland Park from Dalkeith Palace to criticise for him; and this, or these four beds, are the first examples of panel-planting in any of our public gardens round London, and I hope the authorities at Kew will never depart from it while I live.

Knowing more of Punch, however, than most gardeners, and seeing it thus turned out of beds two years before it is come of age, knowing also how scarlet the beds have been made by it, I would suggest that those four beds, to exhibit the system of panel-planting, should be made one-half wider than they are now. Then the extra width would be like two strings to one's bow; the beds would be more in the harmony of proportions to the grand new bed which they embrace, and also be more fitting for the new style of planting which has been adopted, and which is done to the letter of the law all but the outside edging, and that is on a wrong principle altogether for this style of work. But let me give you the pattern.

Each bed has five diamonds of Flower of the Day along the centre or axis, and a single row of Perilla runs round all the diamonds. The rest of the bed is in scarlet Verbenas, and the edge all round is made, as it were, in dots or patches of blue and white alternately. To that I have the strongest objection; besides, it violates a principle—the principle of giving variety, and the principle, too, which I find by my experience in the column for correspondents, is the most difficult to understand. Nine out of ten mistake *mixture* for *variety*. The edging is now a mixture; and as effect is lost by mixing colours, I want variety, each colour to be on its own bottom, as it were; then the different colours make a variety of colours, and as the one colour agrees or contrasts with that next to it, effect is produced. The only effect of mixing colours—as Dahlias and Roses are exhibited, for instance, is to muddle the colours and to make them of none effect. But I shall give you the key some day. Meantime let us take the grand promenade with flower-beds on each side through the centre of Kew Gardens, beginning at the bottom. From this point another great improvement which has been effected this season is very marked.

The upright Junipers and their allies, which stood at regular distances all the way up in the line of the beds, and which set off the beds in "blocks," or groups of pairs of oblong beds with pairs of circular beds at each end of them, are taken away, and the whole line of beds on each side is now free from end to end. One more improvement would finish this part as far as our art of putting flowers in form could do it: I mean the Rose-beds should be entirely remodelled. Every Rose plant in every one of the Rose-beds at Kew, I would up and bundle over Kew bridge at the ebbing of the tide, and I would plant dwarf Hybrid Perpetuals on their own roots in all of them, with a thick band of China Rose Fabvier for so many beds; Cramoisie Superieur China Rose to edge so many more beds; some with the China Mrs. Bosanquet; and some with the old Indica major, as round the outside of the Roses at the Crystal Palace. Then, if it were a bad Rose year, the beds would be full at all events, and look as green as the Rhododendron-beds.

The first pair of oblong beds at the bottom of the arrangement have *Calceolaria amplexicaulis* in the centre, a broad band of Perilla all round, and a splendid edging of the new *Gnaphalium lanatum*, for the first time. The two pairs of circles are in *Ageratum*, with *Tropæolum elegans* round for edging. Next pair of oblongs, Punch, with a row of Brilliant, and a deep mass of Purple King Verbena outside. The accompanying pairs of circles to suit in French Marigolds. The next pair, Lord Raglan Verbena and Cerastium. Then a pair of Rose oblongs; then two pairs of circles with Tom Thumb and variegated Alyssum; and an oblong between them of two kinds of *Calceolaria*, *amplexicaulis* flanked with an orange *Calceolaria*, with Purple King Verbena all round. These two *Calceolarias* are so grouped all over the garden, and look much better than any beds of *Calceolarias* I ever saw, the sulphur yellow of *amplexicaulis* and the orange yellow blend, or combine, most beautifully. The next oblong pair is all of Purple King edged with broad bands of Cerastium; and the two pairs of circles are *Ageratum* with Verbena Géant des Batailles round it. The next oblong pair are all Punch with broad edgings of *Gnaphalium lanatum*, most beauti-

ful. Then a pair of oblongs, Mignonette, accompanied with two pairs of Golden Chain and *Stachys lanata*. Here two walks cross the centre one, and the top half is a reflex of the lower. Accompanying the cross walks are four beds of Flower of the Day, Brilliant, and Purple King Verbena, and four of Zelinda Dahlia edged with *Calceolarias*, all in first-rate style; but equally good are four beds of Brilliant edged with Mangles', and four with *Calceolaria amplexicaulis* and Perilla, edged with *Cineraria maritima*. The grand new raised bed aforesaid is thus planted:—Scarlet Verbenas next the massive edging, then three rows of *Calceolarias*, two rows of *Cineraria maritima*, two rows of Mrs. Vernon Nosegay, three rows of Punch above it, one row of Perilla ditto, and the top part in *Calceolaria amplexicaulis* with the orange *Calceolaria* which suits it so well. Turning to the conservatory-terrace are four beds of Punch and Variegated Mint, and four of *Petunia* Countess of Ellesmere and Alyssum, four of *Ageratum* and dwarf Tom Thumb *Tropæolum*, and two of Zelinda Dahlia edged with *Calceolaria*.

The terrace pattern is very richly planted this year. The principal beds are the centre one with a vase in it, and Perilla round it, the body of the bed being Cerise Unique edged with Flower of the Day. Then four beds of *amplexicaulis* and orange *Calceolaria*. There are two large V-shaped beds across the axis of Perilla, embracing a similar bed all white, with Alyssum on both sides of the centre bed; and between the *Calceolaria*-beds come two beds of Purple King, and outside of them two of Brilliant, and at both ends of the centre bed two of Lord Raglan Verbena. The great outside four corner beds are of Tom Thumb, and one bed in the centre at each end is of Golden Chain. The other half of the terrace and the head of the lake are duplicates of the above. But there is a vacancy in grass on each side of the centre walk across the terrace, which ought to be patterned in flowers to suit the rest, and make a perfect whole of the conservatory-terrace.

The beds on the west side of the conservatory, and in front of the old museum are equally gay and well done, and nothing now seems wanting but a reformation of the Roses, and to festoon in chains the climbing Roses, now at the top of their pillars, beyond the conservatory. But the work which the grand new conservatory, in the pleasure ground, has caused for the last eighteen months is immense.

The building itself is really most splendid, and is the most substantially built house in the kingdom, and yet there are two wings to it not yet begun. Inside it is really a Crystal Palace for plants, with all the arrangements most substantial and complete; no less than eight thousand feet of the largest hot-water pipes to heat its greenhouse range. All the plants are to be planted in beds, these being now in course of preparation with fresh-cut turf, on which the plants are first to be arranged in their pots and tubs to see their effect, and to get them secure before winter, so as not to hurry and to do and undo the final planting; then, when all are safe from the winter, they will begin to trench the turf, and mix it with the natural soil at the bottom, which is a deep bed of gravel, and will require no extra draining.

There are two thousand cubic yards of prepared compost of loam, peat, and leaf mould, and seven hundred cubic yards of peat already on the spot for filling the beds in the conservatory—the four corner beds to be all of Rhododendrons; and the roof above is so ventilated with wheel-and-rack machinery, that one-half of the roof can slide down over the rest, so as to let in the summer rain to the beds as if they were in the open ground. One would think now, the difficulty at Kew would be to find plants to fill this immense space.

But the best part of the story is this: Botanical arrangement is to give place to decorative effect in this planting-out in our most national garden, and one feels a national pride in recording the fact. But would you believe that floristry, in its roughest forms, and smoothest edges, is to be fostered at Kew for the use and gratification of the million? Yet so it is to be.\* I actually looked over eight dozens of the best Scotch Auriculas, gathered from Dundee, through the Carse of Gowrie, Perth, and Stirling to Edinburgh for this very thing. Or would you credit the fact that the very pots for these and for the large specimen plants which are to fill that grand conservatory, are made in Glasgow? The Messrs. Austin and McAslan, once famous for Scotch Roses, are not less so in the present day for supplying flower-pots, and pots of the largest size to Kew Gardens, of better make and material, and at a lower figure than they could be had at any place between Kew bridge and Glasgow.

The first curiosity I met with in the arboretum at Kew is known to some few gardeners and men in the trade—the plant called *Podocarpus Coreana*, throwing off sports like some *Taxus* or *Picea* freely enough; so if your *Podocarpus* of that kind should do the like do not wonder at it, or send it up here as a curiosity. All the Sikkim *Rhododendrons* have now bloomed at Kew—*Ancklandii* is one of the best of them, and is even larger than *Nuttalli*; *argenteum*, not quite pure white or the best habit, as big as either of them; *fulgens*, probably the best scarlet one, and more of a dwarf sort; *formosum*, very good; and for crossing, to bring the race within bounds and proper dimensions, none of them, or of all the races, is preferred before *ciliatum* after all. The first of them all which appeared in public was this *ciliatum* sent from Chatsworth to Regent Street. But the cross of *formosum* and *Dalhousianum*, which was obtained by J. Anderson-Henry, Esq., of Edinburgh, is said to be a first-rate plant, and better at Kew than either of its parents; and from the cut blooms of it at the Floral Committee, I should say better everywhere else.

I had been under the wrong impression for some time about *Abies Mertensii* being rather tender—after another turn among *Abies*, however, I am glad to find the impression altogether wrong; none is more hardy at Kew, and certainly none is more graceful after the *canadensis* section, and it sports amazingly from imported seeds. The Mount Atlas Cedar is still keeping the lead there as the best sort of the Cedar-of-Lebanon look for most people. One bushel of the seeds of *Araucaria imbricata*, from one of Mr. Stevens' sales, has produced from three to four thousand healthy seedlings. They have a collector from Kew in Japan, and almost all the recent Japan plants which were at the exhibitions are to be seen at Kew. Of *Retinospora obtusa*, my own favourite of the Cypress-looking plants of Japan, they have a large number of seeds; also a most extraordinary dwarf from *Cupressus macrocarpa*, which will never get to be a foot high according to present appearances.

The new lake has been full of water several times this summer—they can let it off and on with the tide, and now they have the true China geese there, which are very tame and beautiful birds. These were introduced exactly as the Messrs. Sturgen introduced the Cochinchina fowls, being the remains of a live cargo taken by the captain of a vessel to supply the spit on the way home.

The greenhouses are all show-houses now, and they are as gay with common plants as any conservatory in the country. There is a new house for tree Ferns, in which they all look exotic as they ever have been. But I find I must put off my in-door notes till I get over Hampton Court, when I shall have enough on hand since last May to keep me on for ever so long. I will just end with the grand *Victoria Lily* in two houses, and the *Cissus festoons* round it in that next the conservatory. In that house it is most noble this season, having twenty-five leaves in all, and fifteen flowers in full, with four more coming the day I saw it; and the bow of the *Cissus festoons* is reversed this season by a tie from the middle of the band, pulled up and fastened to the roof—a singularly beautiful arrangement.

D. BEATON.

### GOOD LETTUCES IN WINTER.

It usually happens that the article produced in the greatest abundance during the season is the one most in request; and, in general, Nature so nicely balances the supply to the demand of everything more immediately depending on her, that the oldest and most illiterate inhabitant of rural districts foretels with more certainty than an astro-meteorologist that a severe winter is likely to follow a good crop of hawa on our hedges. This wise provision for the wants of the feathered creation is exemplified in many other ways not necessary here to mention; but as luxury and refinement have added considerably to the number of articles we are accustomed to regard as necessaries, we must not be surprised if Nature leaves the providing of them more to our own management than she does the wild fruits set aside for the other members of the animated creation. Nevertheless, in a certain sense, each country produces the articles of most use to its inhabitants. Fruits are most plentiful in dry, hot climates, where by their delicious juiciness they contribute to the enjoyment as well as the wants of the native population; while in cooler and more moist districts, cereals and vegetables are produced in greater abundance, and form an agreeable article in the bill of fare in everyday life. Habits and modes of living have given

certain classes a preference to special articles, and it would be wrong to find fault with this arrangement; but in the general advancement of society the wants of the community become multiplied to an extent little dreamt of by the more primitive settler in an unexplored district. It is one of the features of that very luxury which has augmented to such an extent the number of useful articles our gardens possess (vegetable as well as floral)—and the ardent admirers of good, useful things at table have no right to despise the floral beauties as being less useful, for, excepting the very commonest of all articles of food, rigid adherents to the maxima of some of the doctrines propounded by certain of the strict sect, whose cognomen is a long unpronounceable, and, therefore, unnecessary name, insist that every article not absolutely wanted to support life in the most frugal way is a luxury, and must, therefore, be eschewed as such in favour of this doctrine. I have nothing to say on the contrary, so long as a temperate course be adhered to, the number of such gratifications as witnessing and admiring the growth of good vegetables, fine trees, and gay flowers, cannot be too much increased, as they all tend to develop that grand lesson which points to their original existence.

Useful, good articles, therefore, being admissible to any extent, let us see how far improvement can be carried in the way of furnishing our tables with an article not always found in the best condition at all times, the subject of the present chapter being one of the most common of garden vegetables, nevertheless, it is one of the most popular, and, in a general way, one of the most wholesome, especially in hot seasons; but as it is not always to be had in good order at all times, let us try to explain how that may be done more effectually than at present, and show that *Lettuce*, which is the vegetable we mean, may be had in good condition in March, as well as in July or August.

Like many things else in the vegetable line, especially such as are eaten uncooked, quickness of growth secures one of the best qualities of this vegetable. Its newly-formed leaves collecting themselves into as small a space as possible to shut out the daylight, are in the most admired condition when their whole previous existence extends over a very short period, as by that the firm, fibry matter which gives this and other plants consistency, has not had time to form: hence a rapid growth accompanied with other points of excellence is what is sought for in the *Lettuce*, and to effect this object the best ground is seldom thought too good for it. This matter is so well understood by the caterers to the great metropolitan family, that the tracts devoted to the growth of this and similar vegetables may be regarded as comprising some of the richest and best lands in the kingdom, and these are rendered still more so by the liberal supplies of dung with which it is treated. The crops are, of course, all that could be desired, and in their way as near perfection as in our present knowledge of such things, we are able to place the point of excellence to be. Good *Lettuce* being, therefore, best had in the way here spoken of, we may be assured that, by following the footsteps of those who produced it, a similar result will meet our endeavours. Unfortunately, however, we are not all favoured with a situation like that of the banks of the Thames, where barge-load after barge-load of dung can be obtained to dress the already rich ground. The demands upon the dung-hill in the distant country place are so great, that some discretion on the part of its managing genius is wanted to apportion each claimant with its due quantum. Unlimited quantities cannot, therefore, be granted without entailing a corresponding deficiency on something else, consequently the country gardener has not the chance of the suburban one in growing this and sundry other vegetables to the perfection that might be wished, although with prudent measures and favourable circumstances united, a good result may be expected, and is often accomplished.

Having shown that this vegetable is a greedy devourer of the fat of the land, let us see how this can be given to it without so much recourse to the dung-cart. The sowing and other features of the cultivation having been gone into in former articles, it needs only to be said here, that although a rapid and luxuriant growth produces the crispest and best article in summer, it by no means furnishes the one capable of withstanding the hardest winter. On the contrary, a more tardy growth, checked by the absence of that food it devours so greedily when in vigorous health, tends to prepare a plant capable of braving the storms of winter better than the more mushroom-like growth of the more delicate article; but circumstances of other kinds also operate on this as well. Cold weather checks vegetation, however favourable the soil may be for it, and, added to this, Nature justly

balances her work with the capabilities of her workers, and growth to a great extent ceases in the autumn, at a proper time, even if a cold atmosphere does not intervene. Vegetation in a measure ceases, and the previous growth hardens to withstand the cold that is to come, and this hardening in the case of the Lettuce becomes, of course, a defect in the article produced. The lesson, therefore, to be taught in the case is simply to place the plant in such circumstances as will insure a more quick and continuous growth than would be the case in winter if only allowed to struggle on in the open ground, unprotected and exposed to all the rigours and changes of an ordinary autumn and winter—say, for instance, such as usually occur in the centre and north of England.

As this article is intended principally to show the means of obtaining a good Lettuce in winter or early spring, the ordinary routine of summer treatment need not be gone into, and that for the winter may be summed up in a few words. In some cold pit which can be covered with glass, plant a good breadth of the best Winter Lettuce in the early part of September, allow it to grow on without any protection until frost or very heavy rains threaten to chill the ground, then put on the glass giving plenty of air, and in very severe weather cover up with mats or straw so as to exclude frost in a great measure, at the same time admit as much light as possible on all occasions, and the growth of the plants not being much checked, the vegetable will have much more crispness than winter Lettuces usually have, when they are merely autumn-grown ones kept alive during the winter. A better way than protecting them in frames would be to keep them in large houses of glass, which by-and-by may become fashionable, as a large amount of light could be admitted and the greater body of moderately warm air would take longer time in cooling down to the freezing-point; besides which the plant would enjoy an atmosphere less loaded with the exhalations of herbage likely to promote disease than when crowded into a frame; but the latter way will do, and until the class of glass structures of which I speak become sufficiently plentiful to meet cases like the above, we must be content with frames, and with careful management good useful Lettuce may be had all through the dark days and up to the time that out-door-grown ones come into use.

J. ROBSON.

### A FEW GOOD BULBOUS PLANTS FOR OUT-DOOR PLANTING.

WHILST continuing my notes upon some of the most attractive of the herbaceous plants, bulbs, annuals, &c., in their respective divisions, I cannot help referring to a numerous amount of queries which I have received as to where the majority of the plants referred to by me in No. 73 of this Journal could be purchased. Judge of my surprise when, upon reference to some of our leading nurserymen's catalogues of the current year, a very small minority of those plants could be found at all—not even the beautiful Lord Anson's Pea (*Lathyrus magellanicus*), could I find. This can only be explained by the nurserymen's supposition, possibly experience, that, if in stock, those varieties which require rather more care than usual are seldom or never a ked for.

In the following list of a few bulbous plants it has often occurred to me, that some of the same could be used most advantageously in the boxes, &c., now so common upon the windowsills of town houses, that there is more variety wanted—a change from the scarlet Geranium, the yellow Calceolaria, Mignonette, and Stocks, which we everywhere so monotonously see. I would not do away with any of these, but mix along the front side of these boxes a few of the many showy bulbs attainable: and would they not be very pleasing, as amid their flag-like leaves, with a back row of scarlet or yellow alternately, their flowers hung over the edge of the box? Whilst alluding to window-gardening, I would remark that I do not ever remember seeing a nicely-sown row of the showy *Nemophila insignis*. Tried in one of those positions, it would seem to be one of the most fitting plants for this purpose.

**COBURGIA INCARNATA.**—When flowering, this plant has a magnificent spike, bearing upon its top four beautiful, pendent, scarlet flowers. It is nearly hardy, but does best planted about 7 inches deep in rich sandy soil in early spring, taking it up just before the first autumn frost when the leaves are decaying, and keeping it quite dry during winter, away from frost. Native of Peru.

**STROPTANTHERA ELEGANS.**—An elegant species, having bold prepossessing flowers. Usual height, between 5 inches and

7 inches. The leaves, a pale green, ending abruptly in a point. Flower, in colour white, having a lovely eye, being red encircled with a ring of dark purple and orange. It requires a little protection in winter—a small heap of tan, ashes, or best of all, cocoa-nut fibre, as so often recommended by Mr. Beaton for all gardening purposes. This plant has a great liking to thorough good loamy soil and sand. Cape bulb. Flowers in June.

**WATSONIA MERIANA.**—A showy scarlet flower, with the merit of requiring no other care than planting out in sandy peat, to be occasionally transplanted. Cape bulb.

**VIRESSEUXIA VILLOSA.**—This, the old purple peacock Iris, may be too well known to need description here. Suffice it to say that it is one of the best, being very showy when four or five bulbs are planted together. It should be planted out in April. Time of flowering, July.

**GEISSORHIZA VAGINATA.**—A showy flower with glaucous leaves, from which the flower-stalk protrudes; the flowers being tri-coloured. Requires the slight protection before alluded to in winter, when it does best planted out. Generally flowers in August. Cape bulb.

**GEISSORHIZA ROCHEANA.**—This, the old plaid *Ixia*, well known, as were most bulbs about the time of the advent of the current century. It has a rather weak stem, having a tendency to droop. I give it a place here as being one of the most useful for window-gardening as before alluded to. To be planted the first week in November, slightly protected. Flowers in May.

**BESSERA ELEGANS.**—A lovely plant, requiring the same or like treatment as the *Crocus*, with the essential provision of a good sandy soil, to be taken up when the leaves have decayed. Generally flowering in September. Native of Mexico.

**ANISANTHUS SPLENDENS.**—A splendid plant when planted and grown *en masse*, throwing up spikes of crimson flowers a foot or so long. It luxuriates in the usual part peat, leaf mould, and sandy loam. It has a decided aversion to excess of wet when dormant in winter; and should be protected properly by having a hand-light placed over it, slightly protected in frosty weather by an additional mat or so. Generally flowers in March and April. Cape bulb.

**HOMERIA SPICATA.**—A fine plant with a jointed stem producing flowers in abundance; perhaps one of the most showy as regards the number of flowers upon one stem fully expanded at once. The bulbs bear a great similitude to the *Crocus*, and require the same treatment in good soil, but *must* be taken up each autumn. Flowers June to August. A Cape bulb.

**SPREKELIA FORMOSISSIMA.**—This flower is in colour the deepest crimson, about 1 foot high. It should be planted 5 inches or 6 inches deep. If left out of doors all the year, it likes a dry border. But the most advisable way is to treat the bulbs like those of Tulips, taking them up in the autumn. Generally flowers in June and July.

**BADIANA RUBRO-CYANEA.**—A splendid variety of this genus, the flowers being exceedingly bright in colour—namely, of a deep blue, with more or less deep or bright crimson. If planted tolerably deep it will do well out of doors, but should be kept as dry as possible: it will then flower better, as each year it becomes more established. Generally flowers in June and July. Cape bulb.

**IXIA PATENS.**—Perhaps this is tolerably well known, as it is by no means a rare kind;—generally detected easily at first sight by the crimson tint upon its leaves. It stands tolerably well in the open ground when once established, but should be grown at least one season in a pot. When turned out in the early spring, to be slightly protected in severe frosty weather and heavy rains. If successful, it will in effect amply repay the trouble taken. Flowers from May to July.

**IXIA CONICA.**—I cannot help giving this a place if only as an excellent one for window-boxes, &c., as it can be planted in the same when the other plants are put in in May. Though this one only expands its flowers when the sun is upon them, they are yet very pretty when closed; the buds being conical in form and of a rich crimson colour, varying materially from the colour of the flower when expanded, being a bright orange with darker centre. Generally flowers in August.

**ANTHOLYZA ETHIOPICA.**—A fine plant, with flower-spikes some 4 feet high or so, requiring but slight protection in winter. Flowering very freely, having expanded occasionally a dozen flowers upon one spike. I have seen no less than thirty fully expanded, but it was a monstrous spike. The leaves are marked prettily, being what may be called semi-striped. Generally flowers from June to August. Cape bulb.

**MILLA BIFLORA.**—A markedly pretty plant, having large, pure white, star-like flowers, requiring a slight protection in winter. Its flowers remain expanded rather a long time. A native of Mexico.

**CHLIDANTHUS FRAGRANS.**—A very sweet-scented yellow-flowered plant, which, when treated in the way we habitually treat the *Belladonna Lily*—planting it under a south wall, or front border of a stove or greenhouse—is a very nice sweet little object; yet it will do in an herbaceous border admirably if taken up before the autumn rains set in. I once in a hurry, when a more severe and earlier autumn frost than usual occurred, dug one of these patches up, and threw it into the corner of an overhead stove-hole-shelf, not thinking to look at it again until required in March for planting-out. I found it in a far better condition than others which I had dried and taken every care of. This bulb is *Zephyranthes* or *Lachenalia*-like in producing so very many small bulbs. They are so numerous as to require almost constant division when being replanted. Generally flowers in July.

**BRODIAEA GRANDIFLORA.**—Three or four bulbs in patches round a *Rhododendron*-bed look very pretty, as it thrives only in peat. In colour a dark purple. From North America.

**GLADIOLUS CUSPIDATUS** is a singular-formed, bright, varied-coloured species, worthy of any trouble that bulbs in general require. It has the merit of being an early flowerer. I have seen it in flower the last week in May.

In conclusion, permit me to make a short dissertation upon the beautiful **GUERNSEY LILY**. From past queries by correspondents of this Journal, I find that the primitive cause as to why this Lily will not flower better when grown here is in practice entirely overlooked, although in theory every one is perfectly conversant with the cause—our summers being too cold and too short. We generally grow or rather flower them in pots; but when once flowered we never repot and give them reasonable opportunities to form fresh flowers in fresh-grown bulbs. We might as well expect the *Hyacinth* after one year's forcing to stand twelve months in the same pot and then flower equally well again. This, as every practical gardener knows, cannot be done. But let us see what can be done with those bulbs when flowered in preference to throwing them away.

Select the warmest spot in the garden—the little border attached to the stove or greenhouse. Dig the soil out 2 feet deep; fill it again with two parts gravelly river sand, one part decayed leaves, and one part good fibrous loam. When the plants have flowered turn them out in this annually. When your Melons and Cucumbers are pulled up in the autumn lean the lights over the plants against the front wall, so protecting the leaves until they begin to decay.—*W. EARLEY, Digsweil.*

## NEAT, INEXPENSIVE, AND SECURE COLD PITS.

THE season is now coming round when cold pits constitute a source of the greatest interest to the majority of your readers, and as I have found the kind I am about to describe all that could be wished, I trust the suggestion may prove of practical use to those who, like myself, are compelled to trust to such appliances for the protection of their plants.

The fact that a double-cased pit is much more secure than a single one is well established, and when the space is filled with such a nonconducting medium as sawdust, I believe the utmost degree of safety possible to obtain is secured. The object I have had in view, then, has been the construction of such frames in the cheapest, and at the same time neatest manner. Boarding is objectionable, as, unless planed and painted, it is always slovenly in appearance, gathers filth and damp rapidly, and, if even done in a rough way, is more expensive than my plan.

To construct then—say a two-light box, first procure the sashes and about 100 feet of battening  $1\frac{1}{2}$  inch thick by 4 inches wide, some four-inch stuff for posts, and half a hundred strong, large slates; the whole, irrespective of the sashes, which may, of course, be new or old, costing about £1.

Having selected the site, excavate to the depth of 18 inches, fill in with stones, brickbats, or other rough drainage, to within 4 inches or 5 inches of the top, level off with coal ashes, and drive your posts, six in number, one for each corner, and two in the centre, after having charred their ends. Drive or cut them to 2 feet high at the back, and 15 inches in front, double rail all round with the battening, leaving the top and bottom rails the

thickness of the sash lower than the side ones, and also cutting the edges to the required bevel. Put in a centre rail flush with the two end ones, and make rebates by nailing on firmly strips an inch thick; repeat the railing close to the ground, and the framework is ready for slating. This may be done by simply placing the slates edge to edge, or by lapping them. A far better plan, however, though it involves an extra half day's work, is, previous to putting the frame together, to have notched out at the width of each slate spaces 2 inches wide and half an inch deep. These having upright pieces nailed into them previous to slating form an admirable break joint, and add materially to the strength of the entire structure.

The slating has now to be accomplished, and though a very simple operation to those who understand it, is a most difficult one to those who do not. The slate having been placed in position, the nail-holes are made where required, by sharply striking the beak of a slater's hammer, or failing that, a blunt-pointed punch through the slate, if the stroke be too gentle the slate will probably be split, and if too hard the resulting hole will be larger than required. A very little practice will, however, render one expert enough for all purposes. The slates of one end being all nailed in place, it becomes requisite to cut them to the bevel, and this is best accomplished with an old saw, but may be done with a slater's knife or a billhook, cutting from the outside and making the edge of the wood act as if it were the part of one blade of a pair of shears.

We will now suppose the whole slated in, and the intermediate space filled with sawdust, all that remains to be done is to board over the space at top and bottom, where the sashes slide, whilst the same spaces at the sides may be slated, and the work is completed. Such a frame as this I do not believe the hardest frost ever experienced in this country could possibly penetrate, and the only fear is of its getting in from below or above. The first might be guarded against by sinking the walls a foot or more, and the second must just be managed as other cold frames are. On this subject, however, a few hints may not be thrown away.

In guarding frames from frost, wetness is the great thing to be avoided. A wet mat is almost worse than no protection. It is, therefore, of great benefit to have an old tarpauling or other waterproof covering to throw over the mats, carpets, or whatever is employed. In the case of frosts of long duration, a layer of sawdust 3 inches thick, and the said covering over it, constitute the most secure protection possible.—*M. G. CUNNINGHAM.*

## TANK-HEATING A SMALL GREENHOUSE.

WILL you be kind enough to inform me if I have a trough 8 feet long, 1 foot wide, and 6 inches deep, would it heat a greenhouse 9 feet long, and 8 feet wide, 5 feet high in front, and 8 feet at back? Also, if three three-quarter-inch pipes will do instead of a boiler, and how low should the fireplace be? The trough to be made of wood with a slate top. Would it do to give the wood a coat of tar or paint before the top goes on?—*T. P. S.*

[Your trough will answer well enough if you get heat enough in it. It had better have no tarring inside or out. If you wish it to last, unless the wood is very old and well seasoned, we would not even paint it. We cannot say so much of your three three-quarter-inch pipes as a boiler, as you do not say how many feet you mean to use, or if you mean merely to bend them, or make a coil of them over or in the fireplace. The latter would be best and most expensive. Then the trough should be divided, except an open space at the farther end, and the upper bend of the coil should join one side of the trough as the flow; and the lower side, the other side of the trough as the return. The coil and furnace should be 3 feet at least below the trough. Unless for some particular object, if you must have a fireplace, we think a small flue would be cheaper and better, and it might be so sunk that the top would be on the level of the floor if desirable. But, for such a small house, a small iron stove with flat top for a water-pan would be the simplest and cheapest, with a smoke-funnel right through the roof or at back.]

**LAW'S PATENT BIJOU DRAINER.**—This simple but most effective cover for the holes of flower-pots is deserving of general use. It is most effective, which cannot be said of crocks, is made of zinc so that it is durable, takes up a very small space, checks

the entry of worms, is always ready for use, and is very cheap. It is made of three sizes, three-quarters of an inch diameter, 1 inch, and 1½ inch.

## NOTES WHILST RESTING.

(Continued from page 473.)

ALTHOUGH in Guernsey the average lowest temperature even of January, is more than 3° above the freezing-point, yet it must not thence be concluded that its winters pass away without the occurrence of frost. Although the majority of its winter and early spring nights have a temperature so high above freezing as to far more than balance the temperatures of those nights when the thermometer sinks below 32°, and, consequently, to raise the average as I have stated, still frosts do occur, and so late in the spring as to be fatal to the blossom of the wall fruit trees. Indeed, so prevalent are these frosts, that a crop from such trees is nearly as uncertain as in England, unless they are efficiently protected.

It is usual, in England, to attribute the sudden dying of the branches of the Moorpark Apricot to the extreme cold and sudden vicissitudes of our winters and springs; but this cannot be the cause, for I noticed in Guernsey that this Apricot suffered there from a similar sudden decay of its limbs. There are no intense colds or violent vicissitudes of temperature there sufficient to destroy a tree's main branch, though the frosts of spring are of sufficient intensity to disorganise its blossom.

I have said that spade husbandry prevails in the island, but it does not do so to the exclusion of the plough; and for what may be termed the crop of Guernsey, the Parsnip, the ploughing has to be very deep. "It is called," says a writer thoroughly conversant with the island, "*la grande charrue* (the great ploughing). The earth has to be turned up to a considerable depth, and this is effected by means of a large plough drawn by four or six oxen, and, sometimes, twice as many horses. So large an array of cattle is not to be found on one farm, and the work is performed, therefore, by a contribution of the neighbours, who are repaid by the like joint-stock assistance, the whole being attended by a sort of holiday bustle, which cannot fail to surprise a stranger. It is, in fact, a holiday, for, besides being regaled with cakes and cider during the work, those who have given their assistance are entertained with a substantial supper in the evening by the proprietor of the field."

In this ploughing a small plough goes first, opening the furrow to the depth of about 4 inches, and this is followed by the larger plough, or *grande charrue*, which increases the depth to nearly four times that depth.

There is a variety of the Brassica in almost every cottage garden, which may be called the Tree Cabbage, for its stem is usually about 5 feet high, many are still taller, and one I saw measured nearly 9 feet. These stems are dried, cut to an appropriate length, painted to imitate cane, varnished, and sold under the name of "Jersey Cabbage sticks."

I must not omit my few notes on the Chaumontel Pear. As in England, so here, the fruit produced on standard trees is small, and so dark bronzy-coloured as to seem a variety altogether different from that which is grown against a wall. The aspect is not a matter of indifference, for Mr. De Jersey told me that he found the finest specimens were produced on a wall facing the east. A western aspect produced the next superior, but a southern aspect is altogether too hot for this Pear.

I confess to not considering it *novum* among our best Pears. If eaten when in perfection its flesh is sugary and melting, but is deficient in that perfumed flavour possessed by such more modern Pears as Williams' Bon Chrétien, and if eaten even just before perfection it is insipid and hard, and if just past perfection it is bitter. I presume that this my opinion is heterodox, and is evidence of a depraved palate, for specimens of this fruit to the extent of 8000 or 10,000, and each weighing from 9 ounces to 18 ounces, are still exported from Guernsey annually, realising, according to the size, from £3 to £6 per 100. Between two and three hundred bushels of smaller-sized fruits are also exported every year, but fetch a much lower price; and I may observe that all good authorities in the island agree that Pears weighing from 12 ounces to 15 ounces are usually superior in flavour to those which are heavier.

Fig trees are abundant in the island, and always growing as standards. Indeed, there are many orchards of them. They are chiefly of the purple variety, but the green-fruited is also fre-

quently met with. The fruit is most abundant in September, and may then be bought in the fruit-market at 3*d.* per dozen. I saw many very large Fig trees, but none equalled one that grew at Mon Plaisier, as late as about the year 1825, when it died. Its trunk was more than 7 feet round, and its height about 20 feet, the branches covering a circle more than 40 feet across. The lesser branches made 187 small faggots, and the trunk, main branches, and roots, filled two Guernsey carts.

I am quite certain that the Fig might be extensively and profitably cultivated as a standard orchard tree in some parts of the Isle of Wight, and other parts of our southern coast. My conviction is founded upon seeing such an orchard some few years ago between Arundel and Worthing. I omitted to make any relative notes at the time, but I will extract some from Mr. Phillips' "Companion to the Orchard."

"There is an orchard of Fig trees at Tarring, near Worthing, in Sussex, where the fruit grows on standard trees, and ripens as well as in any part of Spain; these trees are so regularly productive, as to form the principal support of a large family. Although the orchard does not exceed three-quarters of an acre, there are upwards of one hundred trees, that are about the size of large Apple trees, the branches extending near 20 feet each way from the trunk. Mr. Loud, the proprietor of this little figgery, informs us, that he gathers about one hundred dozen per day during the season, and that he averages the trees to produce him about twenty dozen each. The fruit ripens in August, September, and October, a part of the year when the neighbouring watering-places are frequented with fashionable company, that insures a ready sale for this agreeable fruit, at good prices. Figs were so abundant at Tarring one year, that the inhabitants made wine of them.

"The second crop, we find, has occasionally ripened; the fruit, which, although smaller, is exceedingly sweet, is of the white and purple varieties. Two of these trees are now about seventy-five years old, having been planted in the year 1745 by John Long, who raised them from some old ones in an adjoining garden, near the ruins of the palace of Thomas-à-Becket in that town, who, tradition says, brought these trees from Italy, and planted them himself. The soil of the garden is a deep black loam on chalk.

"The trees are but seldom and sparingly pruned, which we conclude is the cause of their being so prolific, as it is remarked that Fig trees rarely produce much fruit where the knife is regularly used. When they grow too luxuriantly, it has been found better to destroy a part of their roots, and to fill up the space with stones or broken bricks, than to prune the branches too much."—QUIS.

(To be continued.)

## THE USE OF AMMONIACAL GAS IN A HOTHOUSE.

KNOWING that the effluvia of ammonia act healthfully on growing plants, I recently instituted experiments on this substance, by putting half a pound of carbonate of ammonia (common smelling salts) into a wide-mouthed glass jar, and placing the vessel in a small Orchid-house. For some days I had satisfied myself with removing the cork, and allowing the effluvia to escape for an hour or so at a time in the early morning or late in the evening, without any perceptible results, except the strong odour.

But one day I opened the bottle about noon, and allowed the escape of the vapour all the afternoon, while the full sun was on the house, shining, too, directly upon the bottle. The house was shut, and the enclosed atmosphere was at the point of saturation with moisture from the flooded floors. The thermometer under the table, therefore in the shade, rose to 86°.

On opening the door about four o'clock, I found the odour very strong, exactly like that of a newly-turned dunghill, and some of the plants showing damage. The worst case was that of a *Musa coccinea*, which stood so that the leaves stretched over the bottle; of this all the lower leaves, the edges of the foot-stalks, and the leaves and points of suckers in various stages, had turned of a deep brown hue, and were withered.

A wall on the opposite side of the house on which the sun's direct beams fell, had been faced with moss, in which many plants were growing. Of these, a *Tradescantia* (sp.?), widely spreading, showed the evil in a few of its leaves, blackened and curled at the edge. Three young plants of a fine variegated

*Begonia* (*B. Marshalli*) had the outer leaves somewhat injured, but the younger leaves quite killed. *Nephrودیум molle* had one frond partly blackened. Out of about 120 species of Ferns and *Lycopods* growing in the house, this was the only one that suffered.

Of about fifty *Orchids*, none were in the least degree damaged, except a *Calanthe veratrifolia*, of which some leaves were blackened on the edge slightly, and a leaf unfolding had its tip much injured. This plant was standing close to the ammonia-bottle.

In the immediate vicinity there stood, besides, *Caladium argyrites*, *C. tricolor*, *Linum trigynum*, *Gardenia florida*, *Dendrobium nobile*, and *Clitoria ternates* and *Cissua discolor* on wires above. All these, as well as a large number of other plants, including some aquatics, as *Pistia*, *Pontederia*, *Limncharis*, and the delicate little *Marsilea quadrifolia*, enjoyed a perfect immunity.

The plants are, universally (except the scorched specimens), looking very healthy, though I cannot certainly say I have seen any decided deepening of the green hue from the ammonia.

The damage I have recorded above will not prevent my continuing to use it, but it will suggest caution in the mode of application. I attribute the injury to the full sun producing a too rapid and too copious evaporation of the ammonia.

As I think the records of one's failures are often not less instructive than those of one's successes, I submit the above results to the numerous amateur horticulturists, who, like myself, are readers and admirers of your Journal.—P. H. GOSSE, *Sandhurst, Torquay*.

#### PUTTERIDGE GARDENS.

It is always a source of pleasure to notice with approbation any attempt to add to the enjoyments of our business-wearied population. It is so, even when something of the spirit of business enters into the arrangements, and the substantial benefits conferred are accompanied by a certain amount of the darksome shadow incident to most of our earthly joys; much more so is it the case when the gratification bestowed is the effect of pure benevolence, and followed by none of the regrets resulting from indulgence in amusements of a questionable character. Of this better kind is the privilege of visiting the very beautiful gardens at Putteridge, freely extended to all classes in this town and neighbourhood thrice every year, by the gallant proprietor of Putteridge Bury, to whom we desire, at the close of another round of public admissions, to tender our grateful acknowledgments. To those residing in the immediate neighbourhood any description of this lovely spot is quite unnecessary, as there are but few who, by repeated visits, have not become better acquainted with it than they could be made by the best efforts of either pen or pencil. We have, however, reason to believe that our little publication finds its way to many who, owing to distance and other circumstances, can know it only by report. For their sakes we attempt to record what we saw during a recent visit.

The mansion of Putteridge, about four miles north of Luton, is situated on the top of one of the ridges of hills which form so conspicuous a feature in the scenery of this part of the country, and which belong to the range known as the East Anglian Heights. From this commanding elevation views are obtained of Lilley Wood on the north, and portions of the beautiful village beneath, changed from a scene of wretchedness into one of loveliness and comfort—the gilded vane of the church showing above the trees, indicating at once the direction of the wind, and the existence of one of the “bulwarks of our land.” On the north-east is the miniature plateau of Lilley Hoo, whose grassy face, interspersed with Thorns and Hollies, has formed the recreation ground of picnic parties, for aught we know, from time immemorial. On the east side of the mansion there are fine peeps through the trees of the diversified ground, terminating in the heights of Osley; and from the same spot, and other parts of the grounds, rich views to the south-east, terminating in the romantic, Ivy-covered church of Kingswalden, nestling among the trees, as if seeking a peaceful shelter from the rude alarms of the world beyond. On the south the farm-house and village of Mangrove attract the eye. On every side the district gives token of excellent farming, bountiful crops standing upon the arable portions; while here and there on grassy slopes cattle and sheep find ample pasturage, and graze in quiet content. The mansion itself is one of those snug, comfortable residences in

which the utility of a dwelling has not been sacrificed (as is too often the case) to the architectural beauties of the structure. Neat in its outline, it is kept still more so outwardly by frequent painting; it being one of those cemented houses requiring this to be done. The interior, we believe, is also kept with scrupulous care. The buildings attached are painted either white, or of a very light stone colour. The offices are on the west side of the house, and beyond them the kitchen garden and the various other appurtenances extend to a considerable distance—the latter consisting of turf pits, &c., not very beautiful, indeed, but forming a necessary portion of the floriculturist's laboratory. On the south side of the wall separating the offices from the pleasure ground, there is a roofed-in verandah of some length, uniting with a conservatory well filled with the flowering plants of the season. This verandah forms a nice dry promenade in wet weather, and a pleasant shade when the heat makes such a retreat desirable.

The terrace, extending on the east side and on the north and south ends, is bounded by a ribbon-border some 600 feet in length, and planted this season in straight rows, beginning next the grass on the terrace with *Lobelia speciosa*, followed by *Scarlet Geranium Tom Thumb*, yellow *Calceolaria*, *Ageratum mexicanum nanum*, the highest row at the back being *Love-lies-bleeding*, which, though beautiful, we understood did not quite please the planter; as he wished it not only to show above the *Ageratum*, which it does, but to droop with its bell-rope-like racemes of flowers over the banks on the east side of the terrace, the ground on that side being from 3 feet to 6 feet lower than the terrace. Owing, however, to the coldness of the season, this fine old cottage-garden plant has not grown so strong as usual; had it done so, we can scarcely conceive a finer effect than would have been produced by this magnificent border, not only on the terrace side, which is exceedingly beautiful, but also when surveyed from the walk below.

Before entering on the terrace, however, we should have stated that, at the north, or principal entrance to the mansion, there is a large square of gravel, smooth, and without a weed, and that the north end of the terrace abuts immediately on this gravel. We observed here a fine new feature—namely, a row of vases, at regular distances on the turf, filled with *Geraniums*, &c., and connected together by festoons of climbers, so as to form a break between the gravel and the terrace, and so far to serve as a substitute for a low, ornamental wall, which we understood Mr. Fish had long desired. [Would not a similar wall carried round this terrace, and, perhaps, round the south and west sides of the Italian garden, be an improvement?] We cannot help thinking that Mr. Fish has to produce great results from somewhat limited means; in fact, some of the principal lessons to be learned at Putteridge, by a careful observer, are how to make the most of simple materials—never to feel discontented or downcast because you cannot get exactly what you want, and never to scorn the commonest flower—nay, to like it all the better, if beautiful as well as common, because everybody that can lay out a penny for seed may have it. It requires neither powerful spectacles nor much thought to be convinced that Mr. Fish has made the rare discovery that true taste is as economical in its methods as it is beautiful in its results.

Having now got on the terrace and noticed the ribbon-border as above, and seen an extra number of vases by the sides of the walks, we notice, between the walk and the house, thirty small square beds, fifteen in front of the dining-room and fifteen in front of the drawing-room windows, forming two groups separated by a breadth of flagstone, in front of the east entrance by a glass corridor. These beds are themselves separated from each other by narrow stone panels, serving both as a division and a walk. Every time we have seen them these beds have been differently arranged. This season they are filled chiefly with dwarf plants on the crossing system, so that all can be easily seen from the windows. We will endeavour to give an idea of this system of planting, as we thought the effect produced uncommonly beautiful. Form a square of 5 feet or 6 feet; draw two diagonal lines cutting each other in the centre; make the spaces occupied by these lines a foot in width; plant these with one colour, and the four small angles or triangles with another colour. As examples—one bed had the crossed lines filled with yellow *Calceolarias*, and the angles filled with *Purple King Verbena*; another crossed with *Scarlet Globe Geranium*, and the angles filled with white *Ivy-leaved Geranium*; a third crossed with the soft, white, variegated-leaved, scarlet-flowered *Perfection Geranium*, and the angles with the rich pink *Christine*

Geranium; a fourth crossed with the orange *Gazania splendens*, and the angles filled with blue *Lobelia speciosa*. This will serve to show the ways in which these four beds are arranged. With a due regard to the mixing of colours, many very nice effects may be produced. Whether this arrangement is the best we can hardly say. We must confess that our own notions incline to the pyramidal form in which we remember to have seen them planted. On making inquiry, Mr. Fish informed us that that method had been abandoned from its having to some extent intercepted the view from the windows. Most likely another year will present us with a combination not only quite different, but more beautiful than any preceding one. Although these level beds occupy only a small area, they contain flowers sufficient to stock a tolerably large garden.

The ground on the east side of the terrace, which slopes to the level of the park, has a walk through it, and is chiefly planted with varieties of Thorns and a few *apecimen* Laurels. About the middle used to be two groups of Roses divided from each other by a walk and steps leading to the terrace. These suffered so much in the winter of 1860 and 1861 (so disastrous to Roses throughout the country) from the severe frost, that all have been removed, and two groups formed of bedding plants, the one an exact counterpart of the other, and planted on the level. Each group consists of nine beds in the form of a square. The centre bed is a scalloped square, itself centred with white *Hendersoni* Geranium, bounded by red *Compactum* ditto, and a broad edging of *Gnaphalium lanatum*. The four rounded triangular beds consist of two of *Prince of Orange* and two of yellow *Calceolaria*, edged with blue and white *Lobelias*. The four outside beds have patches of lilac *Verbena* in the centre, bounded by low *Scarlet Geraniums*, a border round them of dotted purple *Verbenas*, and an edging all round of white variegated *Alyssum*. These groups have been pronounced by many to be the most beautiful in the garden; and certainly, remembering the old rosery, we were particularly struck with the improved appearance of this part of the grounds.

Turning now to the south side of the mansion, we missed what used to be a very unique style of ornamental gardening. The front of the house is ornamented with a lofty, elegant, glass-covered conservatory, joining to a verandah covered with zinc, which, along with another large conservatory placed in its centre, extends some 300 feet, communicating with the offices and kitchen garden. Part of this verandah next the mansion had also a glass front, and here, and in the loftier building, used to be rows of large plants in vases, with drooping plants hanging over their sides. These, besides their artistic beauty, formed a noble background to the Italian garden in front. We understand that the moisture and the scent were rather too much for these living in the adjacent rooms, so that those places are now nearly empty, and hence is accounted for the increased number of vases by the sides of the walks of which so much notice was taken by the visitors during our recent visit.

South of these corridors, surrounded with a terrace of grass and gravel, is a sunk Italian garden nearly 3 feet below the level of the terrace previously described. The sides of this garden consist of four sloping banks of closely-shaven turf, affording a delightfully quiet contrast to the dazzling brilliancy of the flowers. Broad gravel walks surround all four sides of this garden, with ample grass margins, which are reached by steps at the centre of its sides. The beds, eighty in number, are in circles and squares, divided from each other by grass paths radiating from a fountain in the centre. These beds are filled with contrasting colours of scarlet, white, yellow, purple, orange, and blue, of various shades, and so similar in height that from every point the eye takes in the whole. Perhaps the most conspicuous this season, and showing how advantageously the simplest flowers may be placed in the most important situations, are fine beds of white *Feverfew* and yellow *Calceolarias*. Last year these beds were all bordered; but this season the separate beds are chiefly of a single colour, and every bed full.

Opposite this, and along the sides of a walk, are a series of raised circular beds, about 16 inches above the grass level, with a large hoop over each so as to resemble baskets, the hoops being covered with beautiful creeping plants. Last year each of these beds was filled with three rings of contrasted colour rising from the edge to the centre, the raised edging hidden by masses of pretty small *Nasturtiums* and *Convolvulus minor*. This season two semicircles are drawn from the outside, so as to meet in the centre of the bed. These circular lines are chiefly planted with *Geraniums*, and the two opposite spaces in each bed with

contrasted colours of *Verbenas*. We observed two beds crossed with *Perilla*, two spaces filled with a soft yellow *Calceolaria*, and the other two filled with a scarlet *Nosegay Geranium*, which looked very pretty. Backing these, and at their termination, are four large beds filled with pyramidal *Roses* and *Hollyhocks*, edged with *Dahlias*, *Gladiolus*, &c., and next the grass we could not help noticing that two beds had rings of white *Alyssum* and *Virginian Stock*, which anybody can grow; and that other two had massive edgings of *Fumaria lutea*, which is almost naturalised in many woods and dells, showing that the commonest things are not to be despised.

Among other raised beds are a pair, in front of the verandah and west of the Italian garden, which are very striking. These are circles, some 16 feet in diameter, raised 2 feet above the grass, and covered with *Ivy*. These are crossed much the same way as the baskets! the cross lines planted with *Excellence*, a strong-growing, scarlet, dark horsehoe-leaved *Geranium*, *Perilla nankinensis*, a purple-leaved plant, is planted on each side of these two lines, so as just to be lower than the *Geraniums*. The two opposite larger spaces are filled with variegated *Alma Geranium*; the two smaller with yellow *Calceolaria*; a wreath all round outside consists of *Tom Thumb* scarlet *Nasturtium*, some of which are allowed to hang over and drape the *Ivy*.— (*Luton News*.) (To be continued.)

## REPORT ON THE CABBAGES

GROWN IN THE GARDEN AT CHISWICK DURING THE SUMMER OF 1862. By ROBERT HOGG, LL.D., F.L.S.

OF the sixty-one varieties of Cabbages examined, the following were the only distinct sorts:—*Fulham* or *Early Battersea*, *Atkins' Matchless*, *Sugar Loaf*, *Early Plaw*, and *Early York*.

FULHAM . . . . . F. DANCER, J. JESSOP, C. BAGLEY.

As the type of the *Fulham* or *Battersea* Cabbage, that was selected which is grown by those experienced cultivators Mr. Joseph Jessop, of Chiswick; Mr. Francis Dancer, of Little Sutton, Turnham Green; and Mr. Charles Bagley, of Fulham. The care which these gentlemen bestow upon the selection of their stock, and the skill with which they conduct their gardening operations, are a sufficient guarantee for the excellency of the selection the Committee made by which to compare all the other varieties. There is so distinct a character in the true *Fulham* Cabbage from every other, that it is impossible to mistake it. The leaves are large, round, and broad, of a dark bluish-green, and with a thick succulent midrib. The head is large, round, or roundish-ovate, and very solid. In the purest forms the lower leaves spread out in the form of a sort of ruffle round the head, which stands boldly out, while the leaves occupy the position of the "guard petals" in the flowers of the *Hollyhock*. The plant is set so closely on the ground that there is no space between the latter and the leaves, and the bases of the leaves themselves are so close together that it is impossible to get even a finger between them. Such, then, being the type adopted, all the following were either more or less pure stocks of that form:—

BLENHHEIM . . . . . SUTTON & SONS.

The same as *Fulham* or *Battersea*.

ATKINS' MATCHLESS . . . . . MINIER, NASH, & NASH.

This is a distinct sort, and is a small form of the *Fulham* or *Battersea*, producing a conical head, and with dark green foliage.

BARNES' EARLY DWARF . . . . . CARTER & Co.

The same as *Nonpareil*.

CARTER'S EARLY } . . . . . CARTER & Co.

*Carter's Matchless* }  
These are both the same as *Fulham* or *Battersea*.

CATTELL'S RELIANCE . . . . . HURST & McMULLEN.

A very fine stock of the true *Fulham* or *Battersea*.

COX'S EARLY LONDON . . . . . HURST & McMULLEN.

The same as *Fulham* or *Battersea*.

EARLY CHAMPION . . . . . MINIER, NASH, & NASH.

A fine stock of true *Fulham* or *Battersea*.

EARLY COOMBE . . . . . SUTTON & SONS.

The same as *Early Plaw*.

EARLY EMPEROR . . . . . MINIER, NASH, & NASH.

The same as *Fulham* or *Battersea*.

EARLY NONSUCH . . . . . HURST & McMULLEN.

A remarkably fine stock of the true *Fulham* or *Battersea*, one of the best in the collection.

EARLY PARADISE . . . . .	HURST & McMULLEN.
The same as Fulham or Battersea.	
EARLY PARAGON . . . . .	HURST & McMULLEN.
The same as Fulham or Battersea.	
EARLY LANCASHIRE . . . . .	FLANAGAN & SON.
The same as Fulham or Battersea.	
EAST HAM . . . . .	TURNER.
The same as Fulham or Battersea.	
ENFIELD MARKET . . . . .	MINIER, NASH, & NASH.
This very closely resembles the Fulham, but it grows with rather more leaf, and does not come in so soon.	
HEALE'S IMPERIAL . . . . .	HURST & McMULLEN.
The same as Fulham or Battersea.	
JACON'S EARLY . . . . .	MINIER, NASH, & NASH.
This is a very fine stock of the Fulham or Battersea.	
KING OF THE CABBAGES . . . . .	TURNER.
A good stock of true Fulham or Battersea.	
LITTLE PIXIE . . . . .	NUTTING & SONS.
This bears a very close resemblance to the Dwarf York, and in the opinion of the Committee does not differ materially from a good stock of that variety.	
MATCHLESS DWARF . . . . .	NUTTING & SONS.
The same as Atkins' Matchless.	
MAY'S PARAGON . . . . .	TURNER.
The same as Fulham or Battersea.	
MITCHELL'S PRINCE ALBERT . . . . .	TURNER.
A very fine stock of the Fulham or Battersea.	
MYATT'S ECLIPSE . . . . .	HURST & McMULLEN.
A true stock of the Fulham or Battersea.	
NONPAREIL . . . . .	NUTTING & SONS.
This has evidently been obtained originally from the Fulham or Battersea. It is much smaller in all its parts, and comes in rather earlier, but the general resemblance is very much the same.	
NONPAREIL IMPROVED . . . . .	MINIER, NASH, & NASH.
This is a very beautiful stock of the true Nonpareil.	
PARAGON . . . . .	CARTER & CO.
The same as Fulham or Battersea.	
PEARSON'S EARLY CONQUEROR . . . . .	HURST & McMULLEN.
A very fine stock of the true Fulham or Battersea.	
PRINCE OF WALES . . . . .	HENDERSON.
The same as Fulham or Battersea.	
PRINCE'S NONPAREIL . . . . .	HURST & McMULLEN.
The same as Nonpareil.	
SEALEY'S VICTORIA . . . . .	HURST & McMULLEN.
The same as Fulham or Battersea.	
SHEPPARD'S MARROW . . . . .	HURST & McMULLEN.
A mixed sort, but the best of them are the Fulham or Battersea.	
SHILLING'S QUREN . . . . .	MINIER, NASH, & NASH.
The same as Fulham or Battersea.	
SUPERFINE EARLY DWARF . . . . .	NUTTING & SONS.
A true stock of the Fulham or Battersea.	
SUTTON'S IMPERIAL . . . . .	SUTTON & SONS.
The same as Fulham or Battersea.	
TILEY'S EARLY MARROW . . . . .	MINIER, NASH, & NASH.
This is the same as Atkins' Matchless.	
WHEELER'S IMPERIAL . . . . .	CHARLWOOD & CUMMINS.
The same as Fulham or Battersea.	
WELLINGTON . . . . .	MINIER, NASH, & NASH.
A very pure stock of Fulham or Battersea. The best in the collection.	
WEST HAM . . . . .	TURNER.
The same as Fulham or Battersea.	

### BOUQUETS.

EVERY bouquet is a bunch of flowers, but every bunch of flowers is not a bouquet. Without taste in the selection and arrangement, a bunch of flowers is a bunch of flowers and no bouquet. There are few persons who are really competent to make a perfect bouquet, by which I mean one in which the flowers are well selected, properly arranged, and the effect of the whole the best as regards the harmony of colours, and the perfect exhibition of

each flower. How difficult it is to arrange flowers in a bouquet in such a manner as to satisfy a person of cultivated tastes, many who have tried it know; they are aware that it is a hard matter to avoid getting too many red flowers here, and too many yellow ones there, too many green sprigs or too few, to avoid an undue prominence of one flower, and a too retiring disposition of another, to escape the destruction of the delicate hue of a favourite flower by contact with another of a higher colour, to avoid the loss of the delicious fragrance of the Heliotrope by too close connection with a sprig of Lantana.

There are many flowers which are handsome in the garden but not fit for the bouquet. Many are too large for use except in very large ones for special occasions, the decoration of a supper-table for instance. Some are offensive to the sense of smelling, others to the sense of touch. Some are only open in the broad sunlight, and close in the darkened room.

A better effect is produced by using flowers of decided and high colours than by the use of those delicate and subdued tints. White, crimson, scarlet, deep blue, dark maroon, &c., are the colours which appear to the most advantage.

Double flowers are preferable, as single ones if of large size will have their beauty destroyed by the crumpling of the petals. Small single flowers, however, are unobjectionable on this account, and may be freely used. Regard should be had also to the character of the flowers as regards duration in bloom. Some flowers fade almost as soon as they expand; others lose their petals very soon, and by their fall leave an opening in the bouquet. Too many fragrant flowers can hardly be used. Few persons are satisfied with enjoying the beauty of a bouquet; they must also inhale its fragrance. Heliotrope, Mignonette, Sweet Peas, and fragrant Pinks are not only invaluable for their perfume, but are also beautiful in appearance.

Flowers growing in spikes are not in general well adapted for bouquets, but they may be used in the centre of pyramidal ones. Those with very short stems or no stems at all, as Hollyhocks and Balsams, can hardly be used for bouquets, but may be used by themselves in very flat dishes with a few green leaves between and around them, and thus make very handsome ornaments for a table or stand.

Small bouquets are better than large ones; they are more easily arranged, and individual flowers show to more advantage in them. For the mantel or brackets where they will be level with the eye, they should be arranged in pyramidal form, the flowers with the longest stems and, as far as possible, the larger ones in the centre, and the very small ones on the outside. For tables or stands, take a large, round, rather flat dish, and put a lemonade glass or small tumbler or cup in the centre. Make up your flowers into small, loose bouquets, put one in the centre vessel, and the others around it in the large dish. This is a better way of managing than by putting the flowers in separately, as the water can be changed without any trouble, whereas if the flowers are loose they must be re-arranged every time they are disturbed.

One of the most difficult points in the formation of bouquets is the proper contrast of colours, and it is a pretty difficult matter to lay down rules to regulate this. By a little practice almost any person of good taste will soon learn what arrangement of colours will be the best. You can hardly spoil a bouquet by too many white flowers; and although too many crimson or scarlet flowers make a bouquet too gay for many persons of refined taste, yet they can be used very plentifully, and will make very showy bouquets at all events. A few blue flowers only should be used, and yellow flowers, if used at all, should be introduced very sparingly and ought to be of small size. Rose-buds and partially-opened Roses should be used and not those fully expanded, as they soon decay and the petals fall.

Green leaves and sprigs form an important part of the bouquet. The leaves of the sweet-scented Geraniums are excellent for this purpose. Some of the Ferns and Lycopodiums are good. Many shrubs and perennial plants furnish fresh shoots and leaves, which prove useful. Mignonette may be used profusely for greens.

It is frequently recommended to put salt or charcoal in the water in which the bouquets are to be placed, but I have never discovered any benefit from this practice. Use soft water and change it every day, which will not be much trouble. Some people use wet sand instead of water; this is not as convenient as water, for if the sand becomes dry, the flowers must all be removed before the sand can be wetted, for if sprinkled while the flowers are in the sand, the beauty of many of them will be spoiled.—(Albany Country Gentleman.)

## ARCHITECTURAL FEATURES—THEIR PROPER POSITIONS—TRUE GARDENESQUE STYLE.

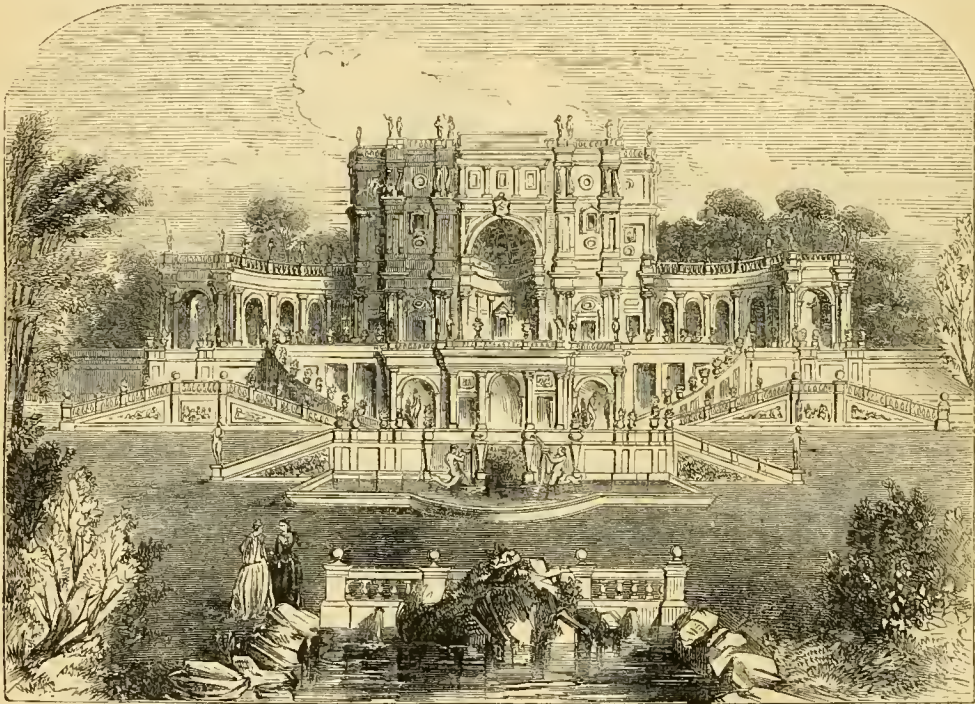
BY H. NOEL HUMPHREYS, ESQ.

TOWARDS the close of the last century, an exaggerated taste for the simply natural, or what has been termed the picturesque, banished from English gardens many of their best and most appropriate features—among others, that simple and yet noble adjunct, the terrace. Brown, says Sir Uvedale Price, has been celebrated for the bold idea of taking down Richmond Terrace, and his successor for the still bolder notion of blowing-up the one at Powis Castle; while the fine architectural character of these features was to be replaced by gently undulating turf and serpentine walks, and these winding forms were not merely used to blend the garden into the landscape, but commenced at once, close to the house, where straight lines, in accordance with the form of the building, were so much more appropriate. By this means the landscape features were brought into immediate contact with the residence, making no difference between the arrangement of the ground close to an architectural composition, and that at a distance; "between the habitation of man and that of sheep." The destruction of our fine old terrace-walks by the race of landscape gardeners of the last century, headed by Brown, was partly the result of the extravagant excesses to which architectural gardening had been carried, particularly in France and Holland, where the fine taste of the Italian school had been so

exaggerated as to become caricature—a term which may be fairly applied to the Dutch gardening of the end of the seventeenth century, which was imported into this country with the accession of William the Third. In this Anglo-Dutch school the architectural decorations were over-elaborated, and degenerated into the most wretched taste; trees were cropped into the forms of court ladies; statuary reduced to Dutch shepherds, and these shepherds and shepherdesses painted to imitate Dutch nature; in addition to which were multitudes of pretty terraces connected with endless archways and countless steps. Such abuses of art found, first, satirists to ridicule them, like Horace Walpole, who laughed at the idea of thus "walking up and down stairs in the open air;" and then Kent and Brown, bold innovators, swept them away, leaving nothing in their place—nothing to form, as it were, the setting to the gem—no harmonious concord to accompany the main building, with other tones in the same chord—no framing to set it off—leaving them, in fact, like a picture without a frame, surrounded with nothing but

"Shaven lawns, that far around it creep,  
In one eternal, undulating sleep."

Yet the "natural" style, as it was called, or rather this poor sham of Nature—these artificial slopes, imitative hillocks, and



CASINO SACHETTI AT ROME.

unnaturally winding walks, were yet felt as a relief, after the reign of the over-wrought Dutch and French terrace school, and the fame of these *jardins Anglais* travelled to the Continent, where they were imitated in the grounds of almost every chateau, palace, or villa of importance, but imitated with rather more judgment, for the *jardin Anglais* was almost always placed at a distance from the house, from which its irregular features were concealed by the stately forms of trees cropped into architectural form, or some other arrangement in accordance with the character of the dwelling. Yet this was not always the case; the new English system appears occasionally to have been carried to excess; the Abbé De L'Isle, in his poem "Les Jardins," complains of hills, lakes, and sloping woodlands being crammed into situations totally unfitted for them, either from their position or extent, in the passage beginning with, I think—

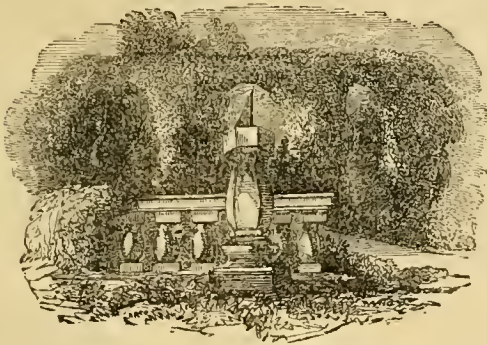
"Des lacs et des montagnes sur un arpent de terre."

And I recollect, very recently even, when last in Paris, going to see a furnished house in the *Chaussée d'Antin*, which was adver-

tised, among attractions, to possess its *jardin Anglais*. This interesting feature I found actually existing in a back court of some 60 feet in depth; but the smallness of the space had not caused any of the main features of the *jardin Anglais* to be omitted: there were the undulating lawn and serpentine walks, the belt of Scotch Firs, the winding rivulet with its rocky cascade, and the lake; also the *forêt des Sycamores*, formed by groups of six or seven small and rather miserable specimens of that tree.

In these preliminary remarks, I have endeavoured to show that the school of gardening, in which architectural ornament is overdone, and that in which it is altogether absent, are equally defective; and I shall, therefore, attempt to point out the extent to which architectural features may be used in gardening with advantage. It may easily be conceived that a house of considerable architectural pretension, placed at once in the midst of winding walks or sloping lawns, would appear less complete than when fronted by an esplanade or terrace, however moderate in extent or simple in construction.

Of the old gardens, it has been said that they were formally laid out; but they were laid out to accompany that which was necessarily formal and symmetrical—namely, the main lines of the residence, to which they served as a sort of mounting or frame. The engraving exhibits a rich—perhaps over-rich—example of a villa residence of the high Italian school, surrounded with its legitimate architectural embellishments, its natural framing and accompaniment: it is the Casino of the Sacchetti family at Rome, built from the designs of Pietro Barottini da Cortona, and was once one of the finest specimens of this class of garden and villa architecture in existence, but when Vasi published his engraving it was described as then going to decay. From this imposing composition, it may be inferred that I consider architectural works, on an enormous and costly scale, as necessary to give due effect to a country residence, and blend it properly with the surrounding landscape; but such is not the position I am about to assume. On the contrary, I think that even a simple turfed embankment, surmounted by a low hedge, formed of some hardy evergreen shrub, cropped very square and flat at the top, might, either with or without the addition of a single and simple flight of steps, and a few appropriate pedestals and vases, be sufficient to produce the effect described as suitable, or, at all events, form a very desirable approach to it. In accordance with the more irregular and picturesque forms of cottage architecture, the terrace might be guarded by balustrades of simple rustic work of branches, which would produce a very agreeable and appropriate effect. A principal cause of the agreeable effect of stone or brick terraces is that they harmonise in material, and, consequently, in colour, with the main building, thus carrying out its tone to the landscape; but still another step of modulation is requisite—the perfect blending even of these secondary architectural features with the foreground of the landscape, and this may be judiciously effected by the aid of cropped trees; which, while they agree in colour with the landscape, yet harmonise in forms with the residence and terrace, and so become a link holding harmoniously together with the gardenesque and the picturesque—the artistic and the natural—restricting ourselves in using these phrases to the irregular forms of nature, as the masters of landscape painting have loved to paint them, and not in the extended sense given to the term by Price and others.



The engraving exemplifies this effect, in which the architectural and regular forms of a piece of balustrade and sundial, find a certain degree of analogy in the artificial arches formed by some cropped Limes, while the tone of colour of the latter accords with that of the irregular shrubbery beyond, and thus the blending between art and nature becomes gradual and pleasing.—(*Gardeners' Magazine of Botany*.)

### CUTTING A HEDGE OF AMERICAN ARBOR VITÆ.

WE have a hedge of American Arbor Vitæ about 180 feet long. It has been planted about three years. The plants were rather large when they were put in—the lowest 4 feet and the highest about 8 feet or 9 feet high. It was cut for the first time this spring, and certainly it grew much better in consequence. It was only cut on one side. Ought it to be cut on both sides? and when should it be cut again?—DARRY AND JOAN.

[There is no hedge plant which is more pliable, and less likely to suffer in the least from close pruning, or clipping, or shearing

than the American Arbor Vitæ in deep light loamy, or sandy soil, or on chalk; but is not a very good hedge plant on wet, clayey land. There are hedges of it open to the public behind the new conservatory at Kew, which are from 5 feet to 8 feet or 10 feet high, and not quite 6 inches through at the bottom, and barely an inch thick at the top. We would cut the American Arbor Vitæ on both sides alike, cutting it in by pruning if it needed it, clipping it with the shears if that would do, or switch-cut it with the switching-billhook for making quick work of it, and any of these cuttings we would do any day from the 1st of March to the last of October; but when the hedge was as it should be, one looking-over in April and once again about the end of July would keep it straight and right for a whole year. The Chinese Arbor Vitæ makes a better hedge than the American Arbor Vitæ; but we have seen more than one hedge of it made in one week, and over 12 feet high, and that at one-half of the expense it would cost to make any other evergreen hedge.]

### PORTRAITS OF NEW AND RARE PLANTS.

**AGAVE GLAUDESCENS** (Glaucous Agave).—*Nat. ord.*, Amarillidaceæ. *Linn.*, Hexandria Monogynia. Native of Mexico. Flowers in autumn. Spike of flowers curiously deuced.—(*Botanical Magazine*, t. 5333.)

**PHILADELPHUS HIRUTUS** (Hairy Mock Orange).—*Nat. ord.*, Philadelphiceæ. *Linn.*, Icosandria Monogynia. It has also been called *P. trinervus*. Introduced from Oregon by Messrs. Veitch. The Mock Orange is most popularly known as the "Syringa."—(*Ibid.*, t. 5334.)

**OURISIA COCCINEA** (Scarlet-flowered Ourisia).—*Nat. ord.*, Scrophulariaceæ. *Linn.*, Didynamia Gymnospermia. It has been called also *Dichroma coccinea*. "This truly lovely plant, never yet known in cultivation, and of which no coloured figure (before) has anywhere appeared, was recently imported from the Andes of Chili by those enterprising and eminent nurserymen, Messrs. Veitch & Son (a firm, we believe, of three generations of the family), of Exeter and King's Road, Chelsea." Probably hardy, "but best cultivated in a cold frame."—(*Ibid.*, t. 5335.)

**EPIDENDRUM PRISMATOCARPUM** (Prism-fruited Epidendrum).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. In gardens it is known as *E. Uro-Skinneri*. Native of Chiriqué, Veragua, Central America. Flowers pale yellow, blotched with purple. Blooms in July. Introduced by Mr. Low, Clapton Nursery.—(*Ibid.*, t. 5336.)

**DIMORPHOTHECA BARBERLE** (Mrs. Barber's Dimorphotheca).—*Nat. ord.*, Composite. *Linn.*, Syngenesia Polygamia necessaria. Native of Krellis' Country, Caffraria; a lovely plant with most brilliant purple flowers. Flowers in June.—(*Ibid.*, t. 5337.)

**AZALEA BRILLIANT**.—Raised by Mr. C. Turner, Royal Nursery, Slough. "Finest flower of its class," dark scarlet.—(*Floral Magazine*, pl. 113.)

**TWO-COLOURED BEE LARKSPUR**.—Raised by Messrs. Downie, Laird, & Lsing, of Stanstead Park and Edinburgh. Sepals dark blue, petals creamy white.—(*Ibid.*, pl. 114.)

**GLOXINIA VARIETIES**.—Raised by Mr. W. Bull, Exotic Nursery, King's Road, Chelsea. *Lauretta*, violet lavender; *Beauty*, tube white, limb cerise rose; *Anonyma*, same tint as *Lauretta*, but rather more pinky; and *Fairy*, limb white, throat rose colour.—(*Ibid.*, pl. 115.)

**NEW JAPANESE LILY**.—Species not determined. Sent by Mr. Fortune from Japan, to Mr. Standish, Royal Nursery, Bagehot. Deep bronze red, spotted with black. It has "a double row of petals, the outer row reflexing, the inner row semi-erect."—(*Ibid.*, pl. 116.)

**LILIUM AURATUM**.—"Decidedly pre-eminent among the introductions of 1862, and to Messrs. Veitch & Son belong the honour of having been the first to flower it and introduce it." This gold-banded Lily was brought from Japan by Mr. J. G. Veitch. It grew on hillsides where the thermometer falls to 16°, so that there can be little doubt of its being hardy. It attains a height of 4 feet, has from three to five flowers on the top of its stem, and each flower from 8 inches to 10 inches across! They are white with a broad stripe of golden yellow down the centre of each segment of the corolla, and studded over with reddish-purple, wart-like spots.—(*Florist and Pomologist*, p. 129.)

**LONICERA AUREO-RETICULATA** (Gold-netted-leaved Honey-suckle).—Sent from Japan by Mr. Fortune, to Mr. Standish, Royal Nurseries, Bagehot. "An elegant, slender, climbing shrub. Leaves bright green, with all the veins marked out (like net-

work), with golden yellow." It is a beautiful plant and the Editors may well say, "It is seldom our good-fortune to present two such sterling subjects in one issue," as this Honeysuckle and Mr. Veitch's Lily.—(*Ibid.*, p. 136.)

#### WEST RIDING CONSOLIDATED NATURALISTS' SOCIETY.

THE above Society during last week, held its third quarterly Meeting at Mr. Henry Ashton's, the Queen's Head Inn, Heckmondwike, where upwards of one hundred members of the different local Societies met to discuss the different facts in natural history which had occurred since their last Meeting at Wakefield. There were members from Halifax, Wakefield, Horbury, Huddersfield, Ossett, Cleckheaton, Batley, Dewsbury, Mirfield, and all the surrounding villages. Mr. Samuel J. Swift, of Gomersal, was elected Chairman, and Mr. Fryer, of Heckmondwike, Vice-Chairman. After the preliminary business of the Meeting had been gone through, the Chairman called upon Mr. John Armitage, of Almondbury, to arrange, and Mr. J. Bartlum, of Huddersfield, to name the botanical specimens, which they did in a most efficient manner, showing that, although only working men, they possessed something more valuable than riches in knowledge, gained by diligent study, application, and perseverance, otherwise they could never have gone through such a host of plants giving the local and scientific names to each one. Mr. Armitage exhibited a specimen of *Deilephila Galii*, recently captured in the neighbourhood of Huddersfield, which is the only specimen which has been taken in this locality during the last five years. Mr. Ellis, Secretary to the Society, said that there was one subject which he had been desired to introduce to the Meeting, and this he did with the greatest pleasure, as he knew there were gentlemen there who had a practical knowledge of the subject, and who would, he thought, be able to answer the question whether *Bombyx Callunæ* is a distinct species or only a variety of *Bombyx Quercus*? Some people, he knew, had an idea that the larvæ collected from hedgerows, &c., during the spring months, and which make up and come to perfection during the summer are the larvæ from which come Callunæ, and that those which remain in the cocoon one year are the true Quercus. It so happened that he himself had Quercus which had been collected in the larvæ this summer, and which were now in the store-boxes at home, but he was sorry to say that he had no Callunæ. Mr. Mellor, of Halifax, said, that from what he had seen during his experience, he had no doubt that the Callunæ was a variety of the Quercus, and not a distinct species. The subject was well canvassed over by the Meeting, and it was decided that Mr. Mellor was right in his conclusions. Mr. Swift expressed himself quite satisfied with the result, with which he agreed, and he had no doubt that their Society would from the extensive and varied lands over which it now spread, soon be in a position to answer and settle a great many questions in natural science which were now left open. Mr. Shipstone, of Halifax, spoke on the salutary tendencies the study of nature had upon children and young persons;—how, whilst contemplating the beautiful arrangements and perfection of nature, it was impossible, almost, not to be led to admire the power and wisdom of the Creator. The Chairman read a communication from the Editor of the *Entomologist*, to the Secretary of the Society, and he said he hoped that as the publishing of this weekly paper gave them what they wanted without their having to embark in the printing and publishing business, they would all give it their utmost support both in contributions and subscriptions. A deputation from a Naturalists' Society in Leeds applied to be admitted to join the West Riding Naturalists' Society, which was agreed to. After speeches from several other gentlemen, and passing a resolution that no person should be admitted to their future Meetings without producing his ticket of membership, or by appeal to some of the Presidents of the local Societies present, Mr. Booth, of Huddersfield, moved, and Mr. Ellis seconded, a vote of thanks to the Chairman, which having been duly responded to, the Meeting closed between seven and eight o'clock.

#### WORK FOR THE WEEK.

##### KITCHEN GARDEN.

SUCH ground as is now becoming vacant to be trenched, manure being applied if necessary, and to be ridged or left as

rough as possible, this should always be done whether the ground is wanted immediately or not. *Artichokes, Globe*, cut down the flower-stems of the late plantation as soon as done with, and keep the plants free from decayed leaves. *Cabbage*, continue to plant-out the main crops. Keep the late seed-beds free from weeds. *Capsicums*, the green pods of the large sorts to be gathered if there is any appearance of frost. *Carrots*, slightly thin the autumn sowing, and keep them free from weeds; as soon as the main crop is full grown they should be taken up. *Cauliflowers*, they should be looked over frequently, turning down a few leaves over the hearts, for they are readily spoiled by frost. The young seedlings must not be allowed to stand too thickly in the seed-bed; the thinnings to be planted-out thinly to make good stocky plants. *Celery*, attend to the earthing-up of the crop that is likely to be wanted for use soon, so as to get it well blanched. *Dwarf Kidney Beans*, provision should be made for protecting them from frost lest it should occur shortly. *Onions*, slightly thin the autumn sowing when they are a few inches high. Immediately the main summer crops have done growing pull them up, and house them when dry. *Parsley*, cut down a portion of the spring-sown, so that it may shoot again before winter. Pot some good roots to place in a forcing-house for furnishing a supply during severe weather. Remove or dig-in all decayed leaves, and all litter that affords harbour for slugs. Gravel-walks must come in now and then for a share of attention in weeding and rolling.

##### FLOWER GARDEN.

Cut off the flower-stems of herbaceous plants as soon as they become shabby, and endeavour to prolong the beauty of Phloxes, &c., by keeping them well supplied with water at the root. As cold nights have now set in, scarce plants, or any others which it may be desirable to secure before they are injured by frost, should be taken up and potted at once, or carefully covered where there is the least cause to expect injury. For the formation of a new shrubbery, or the removal of large shrubs, see that the ground is properly prepared by trenching, and draining if the soil be moist or retentive of wet. When a change of weather to rain sets in, evergreen shrubs or trees may be planted. To be successful in the operation four things are necessary—trenching the ground, the preservation and regular distribution of the roots, and shallow planting. The removal of deciduous shrubs should be delayed to the end of next month.

##### FRUIT GARDEN.

Give a final nailing to all fruit trees that there may be nothing to obstruct the perfect maturation of the wood. Fig trees out of doors to be liberally supplied with water to enable them to swell-off their fruit. Every shoot of useless wood on the Vines out of doors to be removed and the branches laid-in close to the wall. Espaliers and dwarf standards, or indeed any kind of fruit trees which exhibit more tendency to produce useless wood than fruit, should be root-pruned when the leaves have fallen; cutting-out any useless shoots at the present time so as to expose the wood as freely as possible to light and air to ripen it.

##### STOVE.

This structure should now be nicely arranged, and both heat and humidity reduced by degrees as we get less solar light. Top-dress any plants that may require it, and see well to the drainage of all, particularly those which are established plants and have not been repotted for a considerable time.

##### GREENHOUSE AND CONSERVATORY.

Keep New Holland plants that have been placed under glass cool and airy, and avoid crowding, especially such plants as are in a growing state. Every plant to be allowed sufficient space that all the foliage may be exposed to light and air. Instead of huddling specimens too thickly together, it would be better to consign some of the least valuable to the dung-heap. As mildew is apt to infest Heaths which have been growing freely in a shady situation in the open air and are in rather a soft state when taken in-doors, apply sulphur freely on the first appearance of the enemy. One of the first things claiming attention at the present time is to get bulbs potted for forcing, as much of the success of early forcing depends upon early potting. Pinks and Violets must also be looked to. The greenhouse should be prepared immediately to receive the plants. It is advisable to have every part of the brickwork limewashed, the woodwork scrubbed with a mixture of soft soap and water, the flues or hot-water apparatus in good order, and, in short, everything in readiness, so that there may be no delay in housing

the plants when a change of weather renders it necessary. Although the dewy nights of autumn are very beneficial to plants exposed to them, it is advisable to guard against the pots being exposed to heavy rains, which would materially affect their safe keeping during the winter. Also tie such plants as may require it, so that there may be no delay in housing them.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

KEPT hoeing all the ground, weeds or no weeds, as if the small things were making their appearance. The scuffle of a hoe, and a little sun, often prevent much work afterwards. Have had a good deal of Sow Thistle this season, and wondered where it could have come from, until we found a very luxuriant patch in a wood at no great distance. The winged seeds had found a nice home in our pulverised ground, and sought to fly no further. I frequently see mounds of Thistles in hedges by the sides of roads, &c. (and good farming beside them, too), with enough of winged seeds to cover the fields all round them. One disadvantage of employing soil from the highway side is, almost the certainty of getting a fair allowance of Thistles and Groundsel in it, which if not cut up or pulled up early, will soon take possession of pots and beds. Proceeded with pricking-out Cabbages and Cauliflowers, for which we as yet can find no room, and planted out the last beds of Celery as we could get the Peas off for the purpose. Planted out Endive and Lettuce in earth-pits, where a little protection could be given them.

### MUSHROOM-BEDS.

Earthed-up the Mushroom-bed in Mushroom-house, as the heat showed no tendency to rise to injure the spawn. Being short of droppings, even for these shallow beds of about a foot in thickness, I use fully the half of that, of rough, shortish litter, mixed with very turfy, half-decomposed soil to firm it. The surface of the bed is chiefly droppings, pretty well dried before being thrown together, and to this is added fully a third of rough, fibry soil. I have thus used more soil than usual, and I do not think I have lost anything by it, as the crops generally are all that could be desired. I dislike the material being violently heated if it can be avoided, and, therefore, however short the bed may be, it is made up at different times—say in two or three layers, and well trodden and beaten each time, to keep out the air, and prevent heating, and consequent decomposition, as we wish the strength of the manure to go with the Mushrooms, and I always find that the fresher the manure on these shallow beds the better the produce. For large beds, well-wrought stable manure does very well, and, perhaps, the very best large beds I ever had, out of doors, or in sheds, were made of half-spent manure, rather caky, that came from linings of hot-beds. These, well shaken and thrown into a heap until they ferment a little, and then beat firmly into a bed of the required shape, will generally produce long and well. But for the shallow beds of which I am speaking, and which independently of the *must*, owing to dearth of materials, I rather prefer for the everyday supply, whatever the bottom of the bed be, I like the top in which the spawn is to be inserted to be chiefly droppings of horses, mixed with fibry turf, and the droppings just so fresh as not to heat violently. Now, here I beg pardon if I answer some half a score of inquiries, the writers wishing me to do so, though writing privately, contrary to orders, which I hope, however, they will attend to in future. 1. "As to the temperature of a bed when spawned." About 80°, if the heat is declining. Make sure of the latter fact, for if rising, it may reach 100° or 140°, and then farewell to the safety of the spawn. In these shallow beds I like to be sure of the declining. Insert the spawn slightly covered, and then if the heat still decline, place 1 inch or 2 inches of the fresh droppings all over the bed, which will set the spawn running, and draw it to the surface. 2. "How thick do you spawn?" Generally pieces rather larger than Walnuts every 5 inches square. If thinner, the beds will long be thin; thicker, the bed will produce more at first, but will soon exhaust itself. On an emergency I have made a shallow bed, sowed it over with spawn about the size of marbles, covered with an inch of soil, kept a moist heat of from 60° to 65°, and gathered in a month; but generally only for a fortnight or three weeks. 3. "Temperature of bed and atmosphere?" The former from the free action of the spawn which will produce heat, may range from 75° to 85°. The surface of the bed or the atmosphere

of the place may range from 55° to 65°, and never higher if you wish for good Mushrooms. 4. "Do you still surface the bed with cowdung?" Not so much as I did, unless the dung in which the spawn runs is wasted, dried, and poor, and for two reasons: first, in winter, Mushrooms were thick and fleshy, which I thought the pink of perfection, but there seemed to be a difficulty in cooking them so as to have them thoroughly done all through; and in the summer time, if the cowdung was at all fresh when used, though the fine Mushrooms looked nice, there was more of a tendency to have maggots in the stalk. For these reasons we often, if the horse-droppings are dry, prefer damping the surface before putting the soil on; but if cowdung can be got, and sheep or deer dung moderately dry, and a couple of months old, these objections will not apply. In fact, with a lot of such materials, and heating above 80° prevented, I have had fine produce even without artificial spawning. Once more—

*Time and Mode of Earthing-up.*—After spawning examine the bed carefully every day as soon as the spawn begins to run. The heat will rise a little, but if not likely to get higher than new milk, the sooner the bed is earthed the better. I generally give about 2 inches, the first rough fibry loam, the second part well-ribbed stiffish loam. This is levelled, beat as firm as possible, levelled nicely, well watered, and a clean spade drawn over it so as to have a clean, smooth, shining surface, which permits of sweeping, &c., nicely afterwards. As soon as the surface is a little dry, and the heat is not too much, we cover with a little straw or hay, which prevents the surface cracking and keeps the bed uniform in temperature. Generally in such beds the Mushrooms show on the surface in about five to six weeks. The bed just earthed-down will most likely yield about the beginning of November, and those in the sheds with a little covering will keep on well till then, and longer if we want them. I find I am mistaken as to lastly. There are two other inquiries, "How to know good spawn?" It is of a whitish nature from innumerable small white threads permeating the mass, each so small as to be next to individually undistinguishable. If there are many white threads as large as sewing cotton the spawn is considerably spent and will not produce so well, unless there are a great number of the smaller ones. 2nd. "Where to procure first-rate spawn?" Here I must decline. All our eminent seedsmen and nurserymen take a pride in keeping it good, but sometimes even they are deceived. I have had bushels sent which were just as much food for the carriage, as the carriage cost more than the spawn was worth as manure; but these are exceptional cases, and respectable firms as a rule make sure of sending out a first-rate article; and my own experience leads me to the conclusion, that there is no reason for delaying supplying their customers because their present season's stock is not ready, if they have a good supply left of what was a good article last year. I have used spawn of my own making four years old, and it showed no diminution of vigour. As previously explained, it was kept cool and dry. Where, however, but little is wanted, it is a waste of time to make your own spawn. When you use barrowloads in the twelvemonth it is a different affair.

### FRUIT GARDEN.

Much the same as last week, with the exception of gathering early fruit, Filberts, &c. I notice that, though Apples are pretty well up to the mark, the early Pears are as yet deficient in flavour; Plums, on the other hand, are good, and some finer in flavour than usual. These are some of the things that are difficult to account for. Some *Bon Chrétien* Pears are, though good in size, more woolly and less aromatic than usual. Fearing we would hardly have enough of Strawberry plants for forcing, took up some that had been pricked-out on a border late last autumn, but do not expect they will do so well as early layers of the present season. Went over all such early-potted ones, giving the pots more room, that the sun might exert more power on them, and cut off every vestige of a runner. All beds and rows in the open garden ought to have been so treated, but we have not got at them all yet. Strawberry plants in pots will, after this, have what watering they want early in the forenoon. As the pots get crammed with roots, well water merely to prevent flagging of the leaves. If the pots are not set on boards, or some hard bottom, they should be lifted frequently to prevent the roots going into the ground; as, for all early work, ripening of the buds is now more important than luxuriant growth.

### ORNAMENTAL DEPARTMENT.

Potted Primroses, Cinerarias, &c.; moved Camellias, &c., where they could be sheltered; moved Pelargoniums, Fancy and florist,

where they could be protected from rains, after they had been pruned-in; planted Pinka, &c., where room could be got; loosened the binding of budded Roses; tied-up and secured Dahlias and Hollyhocks, and will have to do so with Asters if they are to do well, as the heavy rains have beat down their heavy heads; removed a number of large leaves from lines and beds of dwarf Dahlias, to give more room and air, and strength to the flower-buds. The white and purple Zelindas have been as full of bloom as they could be; the Crystal Palace Scarlet has hardly ever been dense with us, whilst, close to the wall in the laundry-yard, under the care of the superintendent of that department, it has been a dense mass of bloom with scarcely a leaf to be seen for two months. The heat reflected from the wall made all the difference—perhaps not quite all; the roots consisted of the large tubers, but little thinned. We are often nonplussed to find that plants thrive better in some of these unlikely places than with us. I have read, with much interest, Mr. Chitty's remarks on "Window-Gardening." For the outside of the window the Sedums and Houseleeks answer well in towns. In a rather close alley, I lately met with a pretty box in the shape of a rough, picturesque basket, with a broad rim, and chiefly filled with Sedums, with long, dependent shoots of the *Lysimachia nummularia*, clothed with their golden blossoms. It quite took away the sombre look of the court. In spring the box held a few Violets, Anemones, Crocuses, and Tulips; and in the autumn two or three Scarlet Geraniums were placed in its centre, and the Sedums acted as a border, and the Moneywort was a graceful fringe or drapery. We like, if we are able, to attend to the inquiries of all such gardeners, as well as those having more space. From several we are requested to give more elucidations as to

#### CUTTINGS.

Thus one says—"You once recommended never to let the cutting feel its removal from the parent plant more than is possible, and that the more leaves you allow to remain on a cutting, the sooner it will make a plant, provided these leaves can be kept from flagging. Now I can place a Geranium cutting in a small pot at once, keep it pretty well from flagging, why, then, should I follow your advice or practice, and leave only a small leaf or two at the point of the cutting?" Why, indeed? Had we the room and the convenience that you have, we might do just as you do, as certainly we should get large plants sooner, with less trouble. But then our circumstances are different from yours. If we allowed all, or nearly all, the leaves to remain, we should want much more room than we have. Again: if these leaves are allowed to perspire much more than they absorb, they waste the strength of the cutting; and they would do so in our case, because we have not the means for making these leaves absorb instead of perspiring; and every leaf that fades would give us the trouble of picking it off, or else endanger the cutting, and other cuttings, by means of damping, &c.

In order to put many cuttings in small space, in the case of Geraniums, we remove the larger leaves, and thus avoid picking off faded and yellow leaves afterwards. We would be inclined to leave more leaves on the smaller Fancy Pelargoniums; but in the case of strong-growing Scarlet Geraniums we think, however unscientific, that at this season a few small leaves at the point to carry on the growth will be sufficient, and secure plants with less trouble than when more and larger leaves are left. The same principle will apply to the propagating of all bedding plants; and in the case of all, just for saving trouble in shading and syringing, and nipping off faded leaves afterwards, I make it a practice to have fewer leaves than I used to do. Thus, a little stubby cutting of Verbena, 2½ inches long, with two or three little leaves at its point, will bear an amount of air, and of light, and even of sun, which would cause a similar slip with two, or four, or more large leaves to droop at once. This reminds me of some inquiries as to keeping the Verbena plants now in beds over the winter. If they are small plants and bloomed little, you may take them up and pot them. If they have bloomed well and have grown strong, it will prove to be labour thrown away before next April, for you may keep them over Christmas and then they will begin to say, Good-bye. You had better even now secure plants from them, first by laying some short pieces, by placing them over some small pots filled with light rich soil, and keeping the shoot in the soil by a stone placed above to keep it down. This is the best for those who have no frame or hand-light. Where either of these is present I prefer such short stubby cuttings even now. From a dozen to twenty may be inserted in a pot of 5 inches in diameter after

it is well drained, filled within half an inch of the top, and surfaced with silver sand. These cuttings should all be drawn through weak tobacco water after they are made before inserting them, holding the root-ends in your fingers, as they are liable to have thrips less or more after September, and one cutting so infested will soon make havoc of a frameful. These must be kept close during the day and shaded from the sun, and hardened-off as soon as struck. If a little bottom heat can be given by plunging the pots in a mild heat, the cuttings will strike sooner. Up to the first ten days of September we would prefer them to be cool. We saw lately bottom heat given to a couple of hand-lights in this simple way. The mowings of a small grass plat and the sweepings of the leaves from beneath two Mulberry trees were placed together firmly, some soil put over them, and then 6 inches of ashes. By having a little air on even during the day, more at night, just dewing the cuttings in a bright day, and shading from sun, the cuttings would be plants in fifteen days; and whether from layers or cuttings, each of these tiny things will be more useful than the largest old plant of Verbena in the garden taken up and kept over the winter.—R. F.

#### TO CORRESPONDENTS.

\*\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the "Journal of Horticulture, &c.,"* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

PRESERVING PEAS GREEN FOR WINTER USE (A. S.).—This desirable result has certainly not yet arrived at the state of perfection we expect of it, and we have heard of many failures; but the following mode has been reported to us by a person well qualified to judge of such matters as being very successful.—Carefully shell the Peas—then put them in tin canisters, not too large ones; put in a small piece of alum, about the size of a horsebean, to a pint of Peas. When the canister is full of Peas, fill up the interstices with water, and solder on the lid perfectly air-tight, and boil the canister for about twenty minutes; then remove them to a cool place, and they will be found in January but little inferior to fresh, newly-gathered Peas. Bottling is not so good—at least, we have not found it so; the air gets in, the liquid turns sour, and the Peas acquire a bad taste.

GLADIOLUSES (Hymmn, Aberdeen).—You must not pot any of the Gandavensis breed before the third week in January, but keep them with you! Potatoes till then; after that your own way is right.

PROPAGATING CINERARIA MARITIMA (Idem).—Keep your seedlings till spring, and then the tops will make you more and more cuttings every three weeks, and then they will root like your Verbenas under the same treatment.

OLD PLANTS OF SCARLET GERANIUMS (Idem).—The branches will make you beautiful cuttings, and now you must lose no time in rooting them in pots in or out of doors till the frost comes. These cuttings would do famously to plant out next May, when the north-east winds leave you for the spring.

LOBELIA ERINUS CUTTINGS (Idem).—Nothing comes easier from cuttings than *Lobelia erinus speciosa* in the spring, and in a slight hotbed; but you must keep a few of the old plants over the winter to get cuttings from; and the best way to do that is yet a secret in all places south of the Dee. It is this. To look out in September the most bushy plants, to cut them down half way, to lift them with a little ball of earth about the roots, and to plant them in a sunny spot for a month or six weeks, and then to pot them when they are quite dry, to keep the tops quite dry all the winter, and the roots rather moist. Some people are so foolish, in the south, as to cut down, take up, and pot their Lobelias the same day, in October; and, of course, those of them who have not gardeners lose them from damp, and from not having growing shoots on them at the time of potting.

BEL-BEP TO FLOWER THE YEAR ROUND (Sarah).—The Spanish and English bulbous Irises follow the last of the May Tulips, and last a good while; and the Ramosus section of Gladiolus follow, and continue till the Gladiolus Gandavensis come in, and they and the Tritomas reach down to the Guernsey and Belladonna Lilies. But there are great numbers of small helbs to bloom from May to August, beginning with Anomathca, and on through Alströméria and Allium, to Zephyranthes and Atamasca Lilies.

HYACINTH SNOW IN THE NORTH OF IRELAND (Narcissus).—We think the latter end of March would be a very suitable time for holding a show in the north of Ireland; difference of climate would be hardly appreciable in such a dower.

PLANTAIN ON TURF (A Subscriber).—We know of no mode of eradicating it except by the spud, or, rather, by a knife. We have employed women to effect a similar eradication, and then sprinkled Suckling seed over the bare places. In a week or two all was green again, and very few Plantains appeared the next year. The present month is a good time for the process, and care should be taken to scoop out the roots deeply. A little earth may fill up the holes before sowing the Suckling.

**ROUGHNESS ON GRAPES (J. Hill).**—It is called by gardeners *the rust*, and they consider it is caused by handling the berries, or the head of the gardener rubbing against them in the process of thinning. These may be causes, but we rather incline to think that admitting cold currents of air suddenly upon the berries is the usual cause.

**BALSAM SEED (J. Ring).**—We regret that you are disappointed, but if you knew as much about the vendor as we do you would not be surprised.

**PINE APPLES (G. M.).**—You are no more entitled to exhibit an Enville as a Queen Pine than you are to exhibit a common Nonpareil for a Bradstreet's Nonpareil. They are distinct varieties. We cannot tell the weights you inquire about. They were not published.

**WIREWORMS IN ASPARAGUS-BEDS (A. M. R.).**—There is no mode known to us of destroying the vermin without destroying the Asparagus at the same time. As the beds are not old we should be inclined to take up the plants very carefully with a fork, lay them in the ground, pare and burn the top spit of the beds, manure them, and replant the Asparagus. This cannot be done until early next spring. To avoid disappointment you might insert young plants at the same time, and remove these if the older plants prospered.

**GOLD AND SILVER FISH (T. S. N., Clapham Park).**—They will become dark-coloured, and then much resemble carp, for they belong to the same genus. Are you quite sure a pike is not in the water? We knew a pond where fish could not be retained—at least, they disappeared unaccountably. It was cleaned out, and but one fish found, but that was a pike weighing twelve pounds.

**HOLLYHOCK PROPAGATION (M. G. C.).**—Cut down the stems at once, and manure the ground round the plants liberally. Hollyhocks may be propagated from buds, and although July is the proper season for doing so, yet we should try it now with some of the greenest of the stems. In July the following is the mode of proceeding:—When the Hollyhocks are tied up to the stakes for the last time, all the inferior stalks, or those that are likely to hide the rest too much from the sun, or, indeed, any that are too much crowded or ill-placed, were cut away as useless formerly, but now they are made into cuttings to increase good sorts, or save one the trouble of sowing seeds of them every year. Every leaf on a shoot will make a cutting if you take a part of the stem and the eye at the bottom along with it; but the easiest way is first of all to cut the shoots into as many pieces as there are leaves or joints, then to split the pieces down the middle, so that every half has its own bud and leafstalk; the blade of the leaf is not necessary, but it is best to keep 2 inches of the leafstalk; the soft pith in the centre of the split parts should be scraped out, as it is liable to cause damp or mouldiness; the pieces are then planted an inch deep in sand, under a hand-glass, or a cold, close frame, and sometimes with no better help than the shade or shelter of a north wall; part of the leafstalks are above the sand, and mark the centre of each cutting; the bud at the bottom of the stalk will soon push, make roots, and be in all respects as good as a seedling, besides being true to the sort.

**GERANIUM (A Clergyman's Wife).**—The flowers and leaves were so shrivelled that we are in doubt as to the name, but think it is the Shrubland Pet Geranium, a neat Oak-leaved kind. We do not know how it happened that it kept so badly in winter, unless it was too wet. It will stand a good amount of dryness in a pit. We are glad you succeeded so well with Verbenas. We are at a loss whether the Geraniums or the Verbenas became sickly after August. Very likely a little top-dressing or watering with liquid manure would have made them all right.

**CLIANTHUS DAMPIERI (G. K. J.).**—This plant is very unwilling to be repotted or meddled much with. A very young plant will do better than a large one, even for planting-out. However, we hope yours will do well. We should prefer the cold end of the conservatory. The finest plant we ever saw was at Messrs. Veitch's Exeter Nursery, against a wall out of doors.

**INSECTS (An Old Box Kale).**—The best thing you can do is to fumigate the house twice with the smoke of the best shag tobacco, taking care that the smoke is cool. The leaf was withered, but we noticed two thrips dead, so there can be no mistake as to the enemy. Where they came from is another question, and one more difficult to answer will be how, by constant care, to keep them away.

**VARIEGATED LEAF (M. F.).**—We could not make out your plant from the variegated leaf, fresh, though it was, in that beautiful oilskin-like fabric; but we put it into the hands of a botanical friend, and he was never yet beaten, even by a leaf.

**WINTERING ENOTERA LAMARCKIANA (A Subscriber).**—Take up some of the plants now, and plant them inside a cold frame; but we should think them hardy enough in your locality—at least, that they would do with very little protection. But the long, fleshy, fangs of roots may be kept like Dahlia roots, but not dried, for a whole winter. In a very cool cellar they would keep in sand as well as Carrots, we should think.

**GRAPE PRIZES (J. H.).**—Without having seen and tasted the Grapes it is quite impossible for us to say how the three prizes should have been distributed. There is too much of actual comparing required.

**RIDDELL'S PATENT BOILER (A Constant Reader).**—We believe it effects what the patentee states. We shall be obliged by a report from some one who has employed it.

**FLOWER-GARDEN PLAN (T. S. B.).**—Yours is the most complete, and the most concise plan and reference, and, of course the easiest for us, we have yet received. A beautiful flower garden of thirty-three beds on a space of  $2\frac{1}{2}$  inches by 34 inches, and the figures referring to the thirty-three beds with the names of the plants, occupy the first or top 3 inches of a page of note paper. At this rate all the plans and references for forty or fifty acres of flower garden would not occupy more than one page of common post paper; and of course that would lessen our expense and our trouble just fortyfold. The largest-sized bed need be no bigger on the plan than could be covered by a lady's thimble, with the number beside it; and the centre bed should be invariably No. 1, the plan not to occupy more than one half a post page, and all the references to be on the same page with the plan, and all to read without changing the page, just like a page of this Journal. "T. S. B.'s" garden is exquisitely planted. The only change which would improve it would be to put Brilliant for Golden Chain in 13, 14, 15, and 16—the four outside corner beds, Brilliant being the strongest of all his colours. His whole letter consists of "Please criticise. T. S. B." So that all that we require for giving a judgment on the largest concern might be put in four lines of a page of post paper.

**NAME OF FERN (A Country Curate).**—It is *Pteris hastata*, a native of South Africa. There must be some mistake on the part of whoever states that it was "found in a wood in Staffordshire."

**NAMES OF PLANT (B. A. S.).**—*Artemisia maritima*, or Sea Wormwood, a native of the sandy coasts of Portugal.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

SEPTEMBER 25th. STAFFORDSHIRE. *Sec.*, Mr. W. Tomkinson, Newcastle. Entries close August 25th.

SEPTEMBER 25th. MIDDLETON. *Sec.*, Mr. T. Mills. Entries close September 10th.

OCTOBER 28th and 29th. CALNE. *Secs.*, A. Heath and F. Bally. Entries close October 15th.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.

### PRESERVATION OF EGGS.

(Translations from M. Jacqué's work on Poultry continued.)

It is known that eggs are generally used in kitchens, and that the means of preserving them in winter are very important. Messrs. Alibert and Mariot-Didieux have classed together nearly all the discoveries made on this subject.

Mr. Alibert writes thus:—

"Next to the meat, eggs are the most important product of the fowl; they constitute a food at once agreeable, salubrious, and very nourishing. In some pursuits, the yolk and the white are employed for different purposes.

"As food, the general use of eggs and their chemical composition prove that their nutritive value is about equal to that of meat. They contain, in fact, the substances destined for the formation of the organs of the chick when under the influence of incubation, and these same substances are found in meat in a state that is only slightly different: such are the albumen, fat, oils, sugar, colouring matter, salts of lime, magnesia, potash, soda, sulphur, phosphorus, &c. In the egg, the nutritive substances which compose it represent, with the exception of the shell, about the quarter of its weight when they are dried up—this is also the proportion of the solid matters of meat; the three other quarters are water, which evaporates by desiccation.

"These being admitted, will lead to the conclusion that the production of 2 lbs. of eggs requires the same quantity of food as the production of 2 lbs. of meat. This has been proved by our observations and our calculations. Laying hens must consume the equivalent of 20 or 24 lbs. of hay, or 12 lbs. of corn, in order to give 2 lbs. of eggs; when non-laying animals are in question, the same quantity of food, consumed in the shortest possible time, produces an increase of 2 lbs. of meat.

"The principal quality of eggs destined for food or for sitting is to be *fresh*—that is to say, recently laid (six days in winter, two in summer); at that age they have suffered no change. Eggs exposed to the open air and the variations of temperature lose by evaporation part of the water they contain; the void resulting from this loss is supplied by air, which penetrates the shell; the air-chamber at the large end increases in size, the internal parts from contact with air absorb it, change in smell and taste, and, according to circumstances, sooner or later arrive at a state of putrid fermentation. The heat of summer, changeable weather, incubation of barren eggs, interrupted incubation of those that are fertile, are the causes that generally bring about these alterations.

"It is easy to perceive the signs that mark freshness, staleness, or alteration in an egg when it is broken. The dimensions of the air-chamber and the smell are signs that leave no room for doubt. But when eggs are whole it requires practice to distinguish fresh from stale.

"The following characteristics belong to a fresh egg:—  
"First, A rosy yellowish look, and freedom from slightly green livid shades.

"Second, If it has great translucency, which can be discovered on examination, by putting the egg between both hands, forming a hollow circle and placing the egg between the eye and the light, or, better still, putting it on a sheet of white paper at some distance from a very light window, and examining it in different positions through a paper rolled like a telescope and blackened inside. If, in this examination, nothing opaque or cloudy can be seen in it, if the air-chamber is not perceptible, or if it is only seen as a small tip or end, the egg may be presumed to be fresh.

"Third, A new-laid egg shaken lengthways gives neither rattle

nor perceptible internal displacement. Stale ones are lighter, and on shaking a shock is felt against the shell.

"Fourth, By the salt-water test. Procure an egg recently laid but quite cold; then in a vessel equal in depth to four or five times the length of the egg, put water in which salt has been melted until the new-laid egg, being laid gently on the surface of the water, falls slowly to the bottom. It will easily be understood this salted liquid will serve to separate the fresh from the stale eggs, since the new-laid, and, consequently, full ones will reach the bottom of the vessel at once by virtue of the relation existing between their weight and their bulk; while the stale, containing more air, and being, consequently, lighter, will either remain on or near the surface, or will have greater difficulty in reaching the bottom.

"When a new-laid egg is put into a quantity of boiling water representing twelve times its own bulk, it cracks and lets out part of its contents. This little accident, which is caused by the fulness of the egg and the sudden expansion of its internal parts, does not occur where there is less water, because the temperature is lowered by the introduction of the egg. Under any circumstances stale ones do not crack, because they contain a larger air-cell which yields to pressure, and then escapes through the shell. The peculiar smell of eggs boiled hard, or decomposed by putrefaction, is due to a combination of sulphur (sulphuretted hydrogen), which, among other properties, has that of blackening silver utensils.

"From what has preceded, the preservation of eggs consists in employing proper means to preserve them from evaporation, from the introduction of air, and from the variations of temperature, which may cause putrefaction."

(To be continued.)

### HASTENING MOULTING AND LAYING.

LAST year I had a Dorking pullet which began laying in December, and laid well up to August 5. She is now slowly moulting. I am anxious to experiment on making her lay this year again—say in December or earlier. Could you assist me with any information, or point out where I could obtain any?—**INQUIRER.**

[Fortunately for you and for your hen, you cannot materially hasten her moulting. All you can do is to keep her warm and well fed, but with cooling food. Stimulating food causes fever, and that prevents the formation of feathers. Let her have plenty of oatmeal mixed with new milk; feed her freely with lettuce. This will assist in moulting. When the plumage is hard and perfect, you can hasten the laying time by feeding on hempseed, raw flesh, or tallow-chandler's greaves. You must calculate the cost. You will get some eggs rather earlier, but you will not have as many as if you had allowed nature to take its course, and you will sow the seeds of disease in your bird. When pullets, fowls lay at a certain age; but, with few exceptions, hens lay at certain seasons. They become subject to the same laws as game and birds that are at liberty. When they vary, it is from different food and different treatment.]

### PONTEFRACT AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE fourth annual Exhibition of this Society was held at Pontefract on the 11th instant. The number of poultry was only meagre, owing to the smallness of the prizes. We understand, however, a much increased list will be offered next year; and we are certain, should this determination on the part of the Committee be carried out, the poultry will form, as at other exhibitions, not the least interesting part of the Show.

The most successful exhibitors were Lady Hawke, Mr. Cannan, Mr. Crosland, and Miss Beldon. Lady Hawke exhibited good *Dorkings*, *Brahmas*, and *Ducks*. Mr. Cannan's *Hamburgs* were excellent. Mr. Crosland was in his usual position in *Bantams* and *Game*; while Miss Beldon sent first-class *Polands* and *Game*.

The following is the prize list:—

**DORRING.**—First, Lady Hawke. Second, W. Pecl. *Chickens.*—First, Lady Hawke. Second, J. Hurst.  
**HAMBURGH** (Golden-spangled).—First, W. Cannan. Second, J. Crosland. *Chickens.*—First, W. Cannan. Second, J. Crosland.  
**PRESANT** (Silver).—First, W. Cannan. Second, J. Huntingdon.  
**CHESTER.**—Prize, W. Cannan.

**HAMBURGH** (Golden-pencilled).—Prize, W. Cannan. *Chickens.*—Prize, W. Cannan.

**POLANDS** (White-crested).—Prize, Miss E. Beldon.

**POLANDS** (Black).—Prize, Miss E. Beldon.

**POLANDS** (Golden-spangled).—Prize, Miss E. Beldon. *Chickens.*—First and Second, Miss E. Beldon.

**POLANDS** (Silver spangled).—Prize, Miss E. Beldon. *Chickens.*—First and Second, Miss E. Beldon.

**GAME** (Black-breasted and other Reds).—First, Miss E. Beldon. Second, Master R. H. Jones. *Chickens.*—First, Miss L. Beldon. Second, J. Crossland.

**GAME** (White and Piles).—Prize, J. Crossland.

**GAME** (Duckwings and other Greys and Blues).—First, J. Crossland. Second, Miss E. Beldon.

**BANTAMS** (White).—First, J. Crossland. Second, H. Robinson.

**BANTAMS** (Black).—First and Second, J. Crossland.

**BANTAMS** (Golden-laced).—First, W. Cannan. Second, J. Crossland.

**BANTAMS** (Any other distinct breed).—First, J. Crossland (*Game*). Second, Lady Hawke (*Game*).

**ANY BREED NOT MENTIONED.**—First, Lady Hawke. Second, W. Cannan. *Chickens.*—First, Miss E. Beldon. Second, Lady Hawke. Commended, W. Cannan.

**DUCKS** (White).—First, Lady Hawke. Second, W. Liversidge.

**DUCKS** (Rouen).—First, Lady Hawke. Second, J. Hurst. Commended, J. Hurst.

**GESE.**—First, Lady Hawke. Second, Mrs. E. Halmshaw.

**TURKEYS.**—First, W. Liversidge. Second, Miss Foules.

**GUINEA FOWLS.**—First, J. Hurst. Second, W. Jefferson. Commended, W. Jefferson.

**PIGEONS.**—*Tumblers.*—Prize, G. Gressy. *Trumpeters.*—First, I. Smith. Second, S. Fairar. *Any other breed.*—First, J. Wigglesworth. Second, B. Townsend.

The Judges were Mr. T. J. Charlton, Bradford; and Mr. Hutchinson, Thirsk.

### KEIGHLEY AGRICULTURAL SOCIETY'S POULTRY SHOW.

THIS Society's twentieth annual Meeting took place at Keighley, on Friday the 5th instant. Both in number of entries and quality it exceeded any of its predecessors. The poultry formed one of the chief attractions of the Show; but owing to the Judges getting on so slowly with their work, a great portion of the visitors had not an opportunity of ascertaining to whom the prizes were awarded, the birds being removed almost immediately after the Judges had finished, and even in this the services of two additional gentlemen were obtained to assist in the decisions. We hope next year a different arrangement will be made.

The *Cochin* class stood first on the list, but, with the exception of the prize birds, they were a poor lot. The same may be said of the *Spanish*, the second-prize adults should have been first. The *Hamburgs* came next, and mustered such a show as can only be seen at Keighley, which has been for years the nursery for *Hamburgs*. Mr. Cannan's first-prize Golden-spangled and Silver-spangled chickens deserve special mention, and it has seldom been our lot to see two such pens. Mr. Dixon's Silver-pencilled cockerel was a nice bird, but we did not like the pullets. We thought there were several pairs much better. In adult Gold-spangled the commended pen should have stood first; in fact, we can scarcely imagine how the Judges could make so great a mistake. The old Gold and Silver-pencilled classes were suffering from the moult, but they contained some good pens. The Gold-pencilled chickens were a nice lot, and the prizes as they stood were judiciously awarded. The same may be said of all the *Hamburg* chicken classes. *Polands*, *Golden* and *Silver*, were good; but in chickens we fancied Miss Beldon's *Golden* chickens should have had first position. *Dorkings* were an indifferent lot, four pens only being shown. Amongst the *Game* were some fine birds, Miss Beldon taking three out of the four first prizes with first-class specimens. Mr. A. Hodgson's first-prize *Brown Red* chickens were excellent, and were much admired. *Bantams* were an average lot, the best being Mr. Tate's *Game*, Mr. Crosland's *Blacks*, and Mr. Gerner's *Whites*.

The prizes for "Any distinct breed" went, in adults, to *Sultans* and *Black Polands*; in chickens, to a splendid pen of *White Polands* and a good pen of *White-crested Blacks*.

The *Silver Cup*, presented by the Mayor of Bradford for the best three pens of *Hamburg* chickens—*Gold-spangled*, *Silver-spangled*, and *Silver-pencilled*—was awarded to Mr. William Cannan, of Bradford, who obtained two first prizes and a commendation, against a first prize by Mr. James Dixon, and a second prize by Mr. Shaw, the other competitors.

*Ducks* were very good, especially the first prize *Aylesburys*.

The first-prize *Geese* were capital.

Only one pen of *Turkeys* was shown, to which the first prize was awarded.

There was a good display of *Pigeons*, the most noteworthy being Mr. Shaw's and Mr. Cannan's well-known birds.

The following is the prize list:—

**COCHIN-CHINA.**—First, J. G. Suggden, Eastwood House. Second, J. Firth, Halifax. **Chickens.**—First, F. G. McCrea, Second, W. Supton, Earby.

**SUSSEX.**—First, J. Dixon, Bradford. Second, W. Cannan, Bradford.

**Chickens.**—First and Second, T. Greenwood, Dewsbury.

**CHITTY-PHEASANT.**—First, S. Shaw, Stainland. Second, J. Dixon, Bradford.

**Chickens.**—First, J. Dixon. Second, J. Bird, Ilwroth. Commended, W. Cannan, Bradford.

**PHEASANTS (Golden).**—First, J. Dawson, Bradford. Second, W. Cannan, Bradford. Commended, W. Cannan. **Chickens.**—First, W. Cannan. Second, Messrs. J. Roe & Co., Glossop. Commended, W. Cannan; Messrs. H. & G. Newton, Leeds.

**HAMBURG (Golden-pencilled).**—First, J. Dixon, Bradford. Second, W. H. Dyson, Morton Banks. Commended, W. Cannan, Bradford. **Chickens.**—First, S. Smith, Northowram. Second, Messrs. Parkinson and Kenyon, Acerrington.

**PHEASANTS (Silver).**—First, D. Wilson, Sutton Field. Second, J. Newton, Silsden. Commended, W. Cannan, Bradford. **Chickens.**—First, W. Cannan. Second, S. Shaw, Stainland.

**PHEASANTS (Black).**—First, S. Shaw, Stainland. Second, J. Dixon, Bradford. **Chickens.**—First, J. Dixon. Second, S. Shaw.

**POLARIS (Golden or Silver Pheasant).**—First and Second, J. Dixon, Bradford. Commended, Miss E. Beldon, Bradford. **Chickens.**—First, W. Newsholme, Bingley. Second, Miss E. Beldon.

**DORKINGS.**—First, E. Smith, Middleton. Second, J. Dixon, Bradford.

**Chickens.**—First, T. E. Kell, Wetherby. Second, Messrs. J. Roe & Co., Gussop.

**GAME (Red).**—First, Miss E. Beldon, Bradford. Second, J. Firth, Halifax. Highly Commended, A. Hodgson, Ilwroth. **Chickens.**—First, A. Hodgson. Second, Miss E. Beldon, Bradford. Commended, J. Firth, Halifax.

**GAME (Any other variety).**—First, Miss E. Beldon, Bradford. Second, A. Bell, Burnley. **Chickens.**—First, Miss E. Beldon. Second, J. Hodgson, Bradford.

**BANTAMS (Black, White, or Game).**—First, G. R. Tate, Driffield. Second, W. J. Crossland, Wakefield. **Chickens.**—First, —Goiner, Bowling. Second, W. Newsholme, Bingley.

**ANY DISTINCT BREED.**—First, W. Dawson, Hopton Mirfield. Second, J. Dixon, Bradford. **Chickens.**—First, Miss E. Beldon, Bradford. Second, W. Newsholme, Bingley.

**DUCKS (Rouen).**—First and Second, J. Dixon, Bradford.

**DUCKS (Aylesbury).**—First, T. E. Kell, Wetherby. Second, G. R. Tate, Driffield.

**DUCKS (Black Indian).**—First and Second, J. Dixon, Bradford.

**DUCKINGS.**—First, S. Shaw, Stainland. Second, Messrs. Parkinson and Kenyon, Acerrington.

**GESE.**—First, G. R. Tate, Driffield. Second, J. Dixon, Bradford.

**TURKEYS.**—Prize, J. Dixon, Bradford.

**EXTRA STOCK.**—Cup, W. Cannan, Bradford (Chitteprat, Silver Pheasant, and Golden Pheasant).

**PIGEONS.—Pouter or Cropper.—Cock.**—First, S. Robson, Britherton. Second, J. Sunderland, Coley Hall. Commended, Miss E. Beldon, Bradford.

**Hen.**—First, S. Robson. Second, E. Brown, Sheffield. Commended, H. Smith, Skipton. **Carrier.—Cock.**—First, H. Smith. Second, S. Robson. Commended, J. Parker, Oakworth. **Hen.**—First, W. Cannan, Bradford. Second, H. Smith. Commended, S. Robson. **Tumblers (Almond).**—First, S. Shaw, Stainland. Second, W. Cannan. **Balds, Beards, or Mottled Tumblers.**—First, W. Cannan. Second, S. Shaw. **Owls.**—First, W. Cannan. Second, H. Smith. Commended, W. Cannan. **Turbits.**—First, S. Shaw. Second, Miss E. Beldon. Commended, S. Shaw. **Jacobins.**—First, W. Carlton, Howden. Second, S. Shaw. **Fantails.**—First, S. Shaw. Second, E. Brown. **Barbs.**—Prize, S. Shaw. **Dragons.**—First, J. Collier, Skipton. Second, J. Sunderland. **Trumpeters.**—First and Second, S. Shaw. **Magpies.**—First and Second, S. Shaw. **Archangels.**—First, S. Smith, Keighley. Second, J. Thompson, Eingley. **Any other breed.**—First, J. Thompson. Second, S. Shaw.

**RABBITS.—Long-eared.**—First, G. Bentley, Kirkstall. Second, J. Sunderland, Coley Hall. **Any other description.**—First, J. Spencer, Calver-lyke Hill. Second, J. Dixon, Bradford.

The Judges were Mr. J. O. Jolly, York, Mr. S. Hall, Gargrave; and to assist them, Mr. Baxter, Elslack, and Mr. Elkanah Aykroyd, Bradford; Messrs. Hall and Aykroyd taking the *Game and Pigeons*, and Messrs. Jolly and Baxter the other classes.

## WEAKNESS IN THE LEGS OF YOUNG COCKS.

**Symptoms.**—This disease attacks young birds, and young cocks more frequently than pullets. The bird is more or less incapable of holding itself up, and frequently sinks on the ground; in severe cases it is unable to stand. The health is otherwise good, and so is the appetite, the bird not having as yet suffered from want of exercise. The comb is red.

**Causes.**—This disease, which appears sometimes to attack the finest birds in preference to any others, is caused by a too rapid increase of weight out of all proportion to the development of muscle. It usually attacks the heaviest fowls, but is of rare occurrence in old birds. It is most common among the heaviest varieties, the Cochins being particularly subject to it. Constitutional weakness will also produce it without rapid growth.

**Treatment.**—Local applications are of no use; the best remedy is a dose of *china*,\* dissolved in a spoonful of water, and given every day, or else of *cocculus*.

\* An extract from the root of *Smilax China*.

A good supply of nourishing food must also be afforded, and it should be of a kind calculated to produce flesh and not fat. Barley, oats, worms, or chopped beef are preferable to rice or Indian corn.—(*Maison de Campagne*.)

## BEES VARYING IN THEIR PROCEEDINGS.

LAST July (the first week), I obtained a very fine swarm of bees. All went on well for a short time, but one Sunday there was a good deal of excitement in the hive, but at night they became quiet. Again in a few days there was the same excitement, no work being done but the air filled with bees. Since then my bees have gradually vanished. One time I thought the tomtits were at them, but I have a mousetrap baited with suet on the hive, yet do not catch any. Then I thought there was no queen; but last Sunday in spite of the rain there were many more bees and all very busy carrying pollen. I have been feeding lately. Can that be the cause of their improvement? I do not think Wanstead, Essex, is a favourable place for them, as nobody keeps any.—NEMO.

[A change of *quems* would seem to be indicated by the circumstances you state, but this is by no means certain, as changes of weather and feeding materially influence the deportment of bees. We should fancy Wanstead a good locality, and if no other bees are kept yours have the better chance.]

## LOSS OF A QUEEN.

THE formation of royal cells in the bee-hive referred to having roused my suspicion that the queen had been lost, very likely from falling on the ground during the search, as you guess, it was subsequently strengthened by the bees rather slackening their activity and crowding about the entrance in little knots, possibly discussing the peculiar quandary in which they were placed, and the weather prospects for the marriage tour of their youthful princess; besides, a way was always cleared for the entrance of any stray drone making his appearance, so unusual in the middle of September, those in my other hives having all disappeared some time ago.

The 15th inst., being warm and beautiful, between one and two, by the merest chance, I caught a glimpse of a queen entering this hive, and noticed as she disappeared, the extreme point of her tail had an open, loose, white appearance, similar to what we see in a worker after losing its sting. May I conclude from such an appearance that impregnation had been effected, and, therefore, trouble you again with this query?—W. J.

[What you saw was the undoubted sign of impregnation. The drone does not long survive, but returns to the hive to perish. It would be interesting to know the exact period when egg-laying commenced after an impregnation effected so late in the season.]

## SUBSTITUTING A LIGURIAN FOR A COMMON QUEEN BEE.

WILL you inform me which is the safest and surest method of introducing a Ligurian queen to a stock of the common species, as I am going to supply my stocks with queens of the Italian species—at least some of them, and wish to accomplish it without sustaining the loss of any of the Ligurian queens? My plan which I intend adopting (if it meet with your approval) is to fumigate the bees I intend to introduce the queen to, search out their own queen, and also fumigate the queen I intend supplying, and then bury her in the middle of the stupified bees. Please, also, inform me if there are any particular features in the pure Ligurians, whereby I can be able to recognise whether they are a pure breed.—JAMES BOOTHMAN.

[The substitution of a Ligurian for a common queen is always attended with considerable risk, but we believe that the fumigation which you propose will reduce that risk to its minimum. You are, doubtless, aware that some of our best apiarists\* consider that fumigation when pushed so far as to produce insensibility, is permanently injurious to bees; and if this be really the case, it is a very serious objection to your plan at this season, when the fumigated bees are all you have to rely on to carry your stock through the winter. We believe our correspondents "A. W.," "A NORTH LANCASHIRE BEE-KEEPER," and "SIBERT-

\* Dzierzon, the great German apiarist, also condemns fumigation.

ON-THE-WOLD," adopted fumigation, and that the two first were permanently successful, whilst the Ligurianised stock belonging to the latter perished during the following winter. The reason of this difference in the results may possibly be, that the successful experimenters operated earlier in the season, so that the fumigated bees were pretty well bred out before winter set in. One piece of advice we must give, and that is, on no account to expose the Ligurian queen to the risk of injury by subjecting her to the narcotic smoke. Successful modes of effecting the desired end have been detailed by "A DEVONSHIRE BEE-KEEPER," "B. & W.," and "J. N.," in Nos. 9, 69, and 74, of our New Series.

We consider that a pure Ligurian queen should breed only Ligurian workers, and of these the greater number should have two well-defined orange-coloured rings on the abdomen.]

## BEE'S TREATMENT OF THEIR QUEEN.

### BEE'S IN A SMOKY ATMOSPHERE.

It must be admitted, that with all our long-cherished notions of the loyalty of our little favourites, a more intimate acquaintance with their domestic arrangements compels us to lower the character of the little heroes, and regard them more in the light of matter-of-fact utilitarians, devoted certainly to their queen as long as she can serve them, but devoid of the higher virtues of compassion and benevolence. We shall never find a ward for the sick in a bee-hive. Yet I have heard of an instance in which a queen was allowed to end her days in peace, after being of no further use. An accurate and practical bee-keeper informed me he once had a first swarm which he examined two days after swarming, and was surprised to find that no eggs had been laid. Wishing then to ascertain the state of the queen, on turning out the bees he found the swarm possessed two queens, one evidently very old, and the other very young. The old queen did not survive many days. This was a remarkable instance of amity on the part of both the queens and workers.

That the bees will become the royal body-guard, and defend their sovereign from threatened danger, surrounding and imprisoning her *con amore*, the instance to which I alluded in the communication to THE JOURNAL OF HORTICULTURE of August 5th affords reasonable grounds for such an opinion. With a profound admiration of the general correctness of the deductions of Huber, I had some misgivings as to the result which he described on introducing a strange queen into a hive possessing a recognised sovereign, and tested it by introducing a young queen into the upper part of a uncomb-hive. In an instant she was seized and surrounded by workers, and the most desperate struggle ensued. The queen evidently used her sting freely, as many of her assailants fell around, contorted as when stung. The queen mother pursued her avocations, merely avoiding that part of the comb where the struggle was taking place. After three or four hours the cluster broke up, and as I could not see the captive, I turned to inspect the other side of the hive. There I found another dense cluster had formed, but this was calm and still. In a quarter of an hour this also gave way, and to my surprise I saw, not the stranger, but the sovereign (a marked one) quietly pass from the centre of the mass. Looking at the entrance there lay the body of the victim. I could not then doubt that when she had fallen, some bees unaware of her fate, had rushed to the defence of their own queen, and detained her till assured that danger was past, by the removal of the intruder; and such I think will be found to be the normal sentiment in a hive.

Of all the extraordinary freaks of the workers lately recorded, that seems to be pre-eminent where they were found by "A DEVONSHIRE BEE-KEEPER" to attack their hybrid queen, which had been a few minutes in the hands of assailants. Could it be possible that in those moments she had been stung or even touched by the venom from a sting, which might have exasperated her own bees?

It is singular, that when a queen is stung the effects should be less apparent than in the workers. She merely seems to sicken and sink, while their legs become paralysed, the body distorted, and the neck twisted. Is it that immunity from pain is one of the prerogatives of royalty?

It must, too, be granted that when under the excitement of anger the wise little bee really does very foolish things. A few days ago I saw two or three bees dragging a dead companion out of the hive. Meeting with some obstruction at the entrance,

they became very angry, and one so far lost its temper as to sting the dead bee. The punishment was summary, for the sting could not be withdrawn, and they fell together. The burthen was dragged along by the sting, which I assisted in vain to disengage. I may add here, that I never could provoke a queen to use her sting, or even to bite; but last year a drone bit me so sharply that an inexperienced hand would have let him go.

An inquiry was made a few weeks since if bees would thrive in the vicinity of a smoky town; and to this I can reply in the affirmative, having known an apiary which was always healthy, in the suburbs of a manufacturing and very smoky district, where there was not only the smoky atmosphere from steam engines and manufactories, but the deleterious vapours of alkali works east their blighting influence over trees and evergreens. The bees did pretty well on the garden flowers and fruit trees, and later in the season on the white clover.

One question I would ask of apiarians, Does any one know an apiary enclosed on all the sides in a shed which continues prosperous?—INVESTIGATOR.

## BEE'S EJECTING EGGS FROM THE CELLS.

I HAD a first swarm in June 1860, and, that being a very bad season, had to feed it. I began to feed in August, and continued till October. The last week in October I found two queens—one the old and the other the young queen; and in the first week of November I found another young queen only partly hatched. I kept the hive through winter, with the intention of joining them to another in the spring of 1861. When spring came, the hive worked and loaded as well as any hive I had. I was sure there was a queen in it, and was certain she could not be impregnated, so I was determined to keep it as it was to see the result. Well, it worked and loaded as well as the rest, and when I fed it, it took all I gave; but when taking the feeder away, I found it covered over with eggs about two or three days old, and the bees continued to throw the eggs on the floor-board, even as late as June. I believe there was only one drone hatched, and no young bees, and the hive dwindled away. I expected them to breed drones: according to Huber, if a queen is not impregnated within twenty days her future progeny will be drones only. The question in my mind is, did the bees know the eggs were drone-eggs, and so would not allow them to come to maturity? But what most surprised me was the bees continuing to load till they were all wasted away. I leave it with you, as being better able to clear up the mystery.—C. B. HEMINGWAY.

[We really must profess ourselves unable satisfactorily to explain this mystery. Where so many eggs were dropped on the floor-board, we should fancy some must probably have been deposited in the cells. Our German friends notice a disease which renders a queen bee unable to retain her eggs; and if this were the case in the present instance, it would undoubtedly solve the enigma.]

## STUPIFYING BEES WITH CHLOROFORM.

HAVING a weakly stock of bees in a common straw hive, of which there was no chance whatever that they would survive the winter, and being also unwilling to resort to the match-and-brimstone plan, so justly condemned in THE JOURNAL OF HORTICULTURE, I was determined to take them by means of chloroform as recommended in "Bee-keeping for the Many." My mode of operation was this:—The hive to be taken and a neighbouring strong hive were simultaneously chloroformed with two teaspoonfuls as prescribed. When all was quiet the weak hive was removed, the bees swept carefully into a newspaper, and were gently mingled with the inhabitants of the other hive, which were also lying stupified. Although this operation was attended with a great degree of success, yet I am inclined to think this was not so complete as it ought to have been. The next two days the bees seemed much excited, and a great many, which the chloroform had evidently killed, lay dead beneath the hive. I fancied also that I could discover some fighting going on.

Would any of your apiarian correspondents kindly inform me, First, Whether there was any error in the mode of operation, as "Bee-keeping for the Many" does not enter into details; and whether I was right in chloroforming both hives?

Secondly, Is it usual under such circumstances for some of

the bees to be killed? If not, can they account for the circumstance in the present case?

Thirdly, Should the hive have been slightly propped-up to have allowed the free circulation of air for a few hours to expedite the reanimation of the bees?—R. J.

[When the late Mr. Payne penned the paragraph relating to chloroform in "Bee-keeping for the Many," it had but recently been introduced, and I feel certain he must have written without much, or probably any, practical experience of its effects. What these really are has been well described by Mr. Fox in No. 518 of the Old Series of THE COTTAGE GARDENER. The only mistake which "R. J." appears to have made was in using chloroform at all for uniting bees, instead of the excellent plan of driving described and strongly recommended in pages 45 and 46 of the same little work. My opinion is that Mr. Payne, or in fact any man who has once succeeded in uniting stocks by driving, would never be induced to subject bees to the injurious effects either of chloroform or fumigation.—A DEVONSHIRE BEE-KEEPER.]

## HONEY AND WAX AT THE INTERNATIONAL EXHIBITION.

(Continued from page 464.)

INDIA.—Several specimens are catalogued, but I could only find two or three muddy samples, tasting much about the same as the Ceylon cocoa-nut sugar-honey, which would certainly never be appreciated by the honey-consumers in this country. I was disappointed in not finding more and better samples from India, as I had been recently informed of the excellency of the honey of that part of the world. My own packing-case was among the first to enter the Exhibition, and for reasons not interesting to the public, was about the last to get fixed. It served as a sawing-bench for numerous carpenters during a whole month, and underwent the most trying gyrations for honeycomb, yet, strange to say, only a comb or two in a straw super got smashed. The Indian products, I believe, came in late, so I take it the honey got small by degrees from the long journey, in a similar manner, perhaps, to my own packing affairs on their return to Woodstock. I had gone to some expense for special contrivances in packing my fragile goods; so I made all tight and forwarded my case here by Great Western Railway, to have it ready to return to London and repack my exhibits. It arrived to me gutted—cloths, wrappers, cord, spare labels, &c., all gone.

*Mauritius*.—I read "finest honey," which I could not find; so it is either not in the Exhibition, or I was not sufficiently lynx-eyed to find it out, and to save repetition on this head, it must be my excuse for other countries of which I make no mention.

JAMAICA.—Society of Industry, Lucca, send ordinary specimens of yellow wax; and J. Brass, Esq., honey of "Apis mellifera," which is given a medal—can it be for flavour?

CANADA.—J. Lyman & Co. exhibit some very good yellow wax—a magnificent court in woods. I could scarcely tear myself away.

*New Brunswick*.—A parallelogram box-super of honeycomb (similar to those from Nova Scotia), contributed by R. Jardine, St. John's, with a specification, "not to be opened," "do not touch"—a nice white sample to look at. Some, however, had run out on to a piece of paper, which had to succumb to the knob of my pencil. It was thin and insipid.

*Newfoundland*.—Charles C. Keane sends a nice white sample of Bermuda honey, and some very good white and yellow wax.

NEW SOUTH WALES.—W. Harbottle contributes "native bees-wax;" J. S. Norrie, Pitt Street, also sends a large cake of wax. Both are tolerable as to quality, and to the latter is given a prize medal.

*Queensland*.—Several specimens of indifferent-coloured honey. That exhibited by W. Staughton, sen., "Doughboy Creek," is the whitest and best. He gains a medal for yellow wax; and Mr. Marshall, Brisbane, sends some tolerable white wax, which is also awarded a medal. There are several other very fair samples both of white and yellow wax here.

*Tasmania*.—Reminiscences of "B. & W." led me to inspect this court narrowly; but nothing relative to bee-keeping could I find. It is, however, magnificent in woods. A case of artificial pears and apples, with "honourable mention" appended, gained my high admiration, and if their representatives in the

flesh are as good-looking and good-flavoured to match—sing hey for the pears and apples of Tasmania.

BRAZIL.—A cake of greenish-coloured wax, and one of good white ditto, gained an "honourable mention" to J. M. Dos S. Carneiro. G. A. G. de Albuquerqu shows a cake of black wax, which is black enough to a certainty. Other specimens of various-coloured wax are there, and good for purposes to which they could be applied no doubt; but the chief feature in the case is a collection of bees, with their wax and honey, exhibited by M. F. Lagos, from the province of Ceará, which could not but prove interesting to scientific naturalists. But in the name of sleepless nights, can any pleasant sensation derive from the mosquitoes? Surely M. Lagos could have found a happier class for his case than these irritating, blood-sucking fellows. There are twenty-four species, with sixteen specimens of wax, and sixteen ditto of honey accruing. A label in the case notifies that there should be twenty-three bottles of honey, so I suppose those minus to have been lost. The names of the species are as follows:—

*Lima*.—Very small. The honey is the colour of Scotch heather honey, and it resembles much for flavour that of common English. Wax black.

*Gupira*.—Size of our house fly. Honey dark brown. Wax black.

*Yaty*.—One-third the size of a house fly. Honey inclining to black. Wax dark brown.

*Mandaçaia*.—Size of a small wasp. Honey heather-coloured. Wax inclining to black.

*Gaucho*.—Size of a house fly. Honey heather-coloured. Wax inclining to black.

*Tamos-nos embora*.—Size of a house fly. Honey black. Wax grey.

*Tatara*.—Two-thirds the size of a house fly. Honey very dark brown. Wax inclining to black.

*Tubiba*.—Size of a house fly. No honey. Wax black.

*Buxú*.—Two-fourths the size of a blue-bottle fly. No honey or wax.

*Euxy*.—Size of a house fly. Honey none. Wax none.

*Gapuchu*.—Size of an attenuated wasp. Honey none. Wax none. (We have its fac-simile on the mignonette to-day, working as eagerly as the common bees. Sept. 2.)

*Gabocho*.—Size of a small wasp.

*Arapuá*.—Size of our small black bee. Honey black. Wax dark brown.

*Mombuca*.—Size of a house fly. Honey dark brown. Wax black, though not quite as rare if it belongs to this bee.

*Wrussú*.—Size of a small bee, and of a yellowish hue. Honey black. Wax dark brown.

*Mosquito*.—Size and colour of a just-born sandy bacon weevil. No honey, of course.

*Sanharó*.—Size of a house fly. Honey dark brown. Wax grey.

*Maça-branca*.—Light-coloured, two-thirds the size of a house fly. Honey dark brown. Wax brown. The honey resembled much in flavour the cocoa-nut sugar honey.

*Cutia ou de purga*.—Sandy-coloured, size of a house fly. Honey the colour of rhubarb. Wax black.

*Mondury*.—Sandy-coloured, size of a common bee. Honey colour of rhubarb. Wax black.

*Manoel d'Abreu*.—Sandy, two-thirds the size of a house fly. Honey dark olive green. Wax inclining to black.

*Bocca torta*.—One-third the size, and shape and colour of a wasp. No honey or wax represented.

*Amarello*.—Ditto.

*Chapó*.—Size of an attenuated hornet, and in life must be much the same colour, having also its upper wings much the longest. Honey and wax nil.

This case of bees is given an "honourable mention," and to the honics and wax a medal.

On entering the Brazilian court there is a case exhibited by B. Quintanilha, of pretty gladiolus-looking artificial flowers, made from insects' wings. It deserves and has gained a medal. The getting-up of this court should be retained as a pattern for future Exhibitions.

FRANCE.—*Aisne* sends parallelograms of yellow wax; and some nice samples of honey are sent by M. de Tillancourt.

*Somme*.—Large quantities of yellow wax; some of it by M. Vignor, apiculteur, is especially good, and there are some good samples of honey.

*Seine et Marne*.—Honeycomb middling; and wax by Lelogeais fils, apiculteur.

*Seine et Oise*.—"Miel en rayons et en vase pour la table, par M. Delechenaux."—Honeycomb for the table worked in a salad-bowl, sent by Mr. Youngoak. There are also yellow wax and in carefully closed bottles specimens of honey, which is here classed under the name of each species of flower from which the honey is derived. We found these maxims, "L'abeille charme les loisirs du cultivateur et elle moissonne gratuitement pour lui une récolte qui ne lui coûte rien."—The bee charmeth the leisure hours of its owner, and gathers for him gratuitously a harvest which costs him nothing. Again, apropos to some very-well-done representations of agricultural and horticultural vegetables in wax. "La terre peut être comparée à une machine, et son amelioration est la source la plus féconde de la production à bon marché."—The earth may be compared to a machine whose improvement is the productive source of fruitful markets. The translations are my own, so those who read must run and not stay to criticise.

*Loiret* Collective Exhibition show white and yellow wax, and honey; and *Pelegrin Frères*, Orleans, honey of Catania in pretty little globular glass pots, and white wax. Very good.

*Cher* Agricultural Society send honey of Sologne, dark-coloured; and there is some yellow wax by M. Berton Gault.

*Charante* Agricultural Collective Exhibition contains a great display of hives, honey, wax, &c., which should have a better light, being placed in a dark corner under a gallery. The products are otherwise neglected, and it is the worst-compiled case of any in the French court; it is, moreover, unfinished, and devoid of glass behind, to the temptation of numerous unauthorised tasters—so much so, that some of the supers are emptied completely of their contents, and others in a fair way of soon becoming so. The majority of the honeys have more the flavour of English honey than any I have operated upon, and that which at present suits my judgment best is some clear run honey in those pretty little pots previously mentioned, and called "Miel de Table Catinais"—table honey from Catania; and if any honey deserved a medal this certainly should have had one. Of the congealed sorts here, I considered that the best was from M. Victor Simon, apiculteur, Sequeville-en-Bessin (Calvados), and called "Miel de Normandie"—Normandy honey. Of the numerous specimens of flaked wax shown by M. P. Faivre, apiculteur, Scurre, Côte-d'Or, Nos. 22, white, and 26, yellow; and amongst numerous specimen cakes, a large yellow cake (No. 1), named "Cire de Blé noir, or Sarazin (Calvados) Harcourt de St. Jean," are very good. There is a bottle of what I take to be mead-vinegar, called "Vinaigre d'eau de Miel;" and if that be so, I am not a solitary exhibitor of that stimulative appetiser. I could not get at the bottle! Here is also "Hydromel-mead," or honey-wine, which I did get at; but I would not advise any other person to do so, for the flavour is simply beastly—like bee-bread and water, half and half, and as dark-coloured as catsup. M. Durant and M. Antoine are both exhibitors of Hydromel; but the taste of one was enough for me.

There is a classical glass urn of honeycomb here of tolerably good colour and flavour; but, unfortunately, the lid is broken, which admits the dust, though when the supers are quite emptied it will prove to be in dangerous proximity to the bipeds. Fortunately, the honey-gingerbread is up on high, and protected by the glass. I have been through Downington, and bought gingerbread there, which, on the supposition that I now liked that epicurean production, I much prefer. Here are numerous beehives and a hackle, the workmanship of which no one could complain of: but go and see them. For practical utility, in my opinion, they fall short of those exhibited by our English makers, and having an eye merely to my own country I thus speak. The majority of them are not large enough for England. In a mild winter starvation would soon stare the colony in the face; and in a severe winter the frost would soon penetrate completely through them, unless they were much swaddled-up, and then would come damp and dysentery. There are two, nearly approaching to some Austrian hives, which I mean to speak of; otherwise I do not care to dwell upon them. A "Nourris-cur à cuvette" tin bee-feeder is shown, which may prove to do all that its name implies; but I am wedded to my fig-drum of that ilk. No medal or mention is given to a single production in this extensive collection.

*Drome*.—M. Girard shows some good yellow wax. In special exhibits, Class 4, Gillord, Bres., Paris; and G. Bureau, Bordeaux (Gironde), show wax in cakes, lumps, and scraped, of very fine quality; also, some comb quite black, I suppose for contrast to show what it may be educated to become at last. M. Barton

Gault d'Aubigny, also sends some honey and some yellow wax.

*Algeria*.—Amongst several exhibitors of honey in this French department, Ahmed Charouch (Constantine), sends a very nice sample, which gains a medal. Kada Kelouch à Sidi bon Mediuc (Ozan), has the next best, "Miel de 1861," which also gains a medal; Belog of St. Denis du Sig (Ozan), a fair specimen of virgin honey, 1861, and he gets a medal. Abbé Abram, of Ozan, is next best, and he has a cake of good white wax. Böensch, apiculteur at Kouba, has also a sample of good yellow wax.

In scrutinising the French south-west court, I observed No. 1226, E. d'Orleans, Batignolles, Paris, an excellent kind of straw "matting for vines," against walls I presumed. They would prove one of the best protectives I know of for any sort of fruit tree in blossom against walls in the spring time, or for covering over frames, &c. A machine in miniature for making them is also exhibited. They have got a medal. At the same stand is a capital sort of thatch shown worked (as it is intended on a larger scale), on to the roof of a shed, forming in miniature a "hackle," that I should say would rejoice all lovers of that sort of bee-hive-protecting material. It is given an "honourable mention."

I revisited this stand several times, but was each time unfortunate in not meeting with an attendant who could furnish me with particulars, or give me specifications. A note also refers one to another person's stand close by, which I applied to but could not succeed. It would be worth any gardener's, farmer's, or bee-keeper's while to visit this stand, and take an inkling from those productions.—UPWARDS AND ONWARDS.

(To be continued.)

**BLACKBERRY WINE.**—Over as many quarts as you have of berries, pour so many quarts of cold water which has been boiled. Bruise the berries well, and let the whole stand for twenty-four hours, stirring it occasionally; strain the juice, and put 1½ lb. of sugar to each gallon of liquid; stir it until the sugar is dissolved, and put it into a cask with a quarter of an ounce of isinglass to two gallons of liquid; let it remain open until the next day, when it should be bunged. In two months it may be bottled-off, and will be found a very pleasant wine.

**ANOTHER.**—Measure your berries, and bruise them, to every gallon adding one quart of boiling water. Let the mixture stand twenty-four hours, stirring occasionally; then strain off the liquor into a cask, to every gallon add 2 lbs. of sugar, cork tight, and let it stand till the following October, and you will have wine ready for use, without further straining or boiling.

**HOW TO PRESERVE CUCUMBERS FOR WINTER USE.**—Put 1 lb. of alum and three quarts of salt to one barrel of pickles; water sufficient to cover them, and lay a cloth on top. There will a scum rise on top, which take off with the cloth, and rinse it in cold water. When you wish to use them, soak overnight; or, if you like them pretty salt, just rinse them off, scald the vinegar, and pour upon them.

## OUR LETTER BOX.

**KEEPING A COW** (*Native worth*).—We hope before long to give some particulars relative to the keeping of a cow or cows on a small plot, as is practised in Guernsey. In the meantime we recommend you to buy "How to Farm Two Acres Profitably," by J. Robson. You can have it at our office for a shilling. In that book you will find full directions for cow management. We recommend you to have an Alderney or Guernsey cow, for the two names apply to one and the same variety; but a cow will be dry for about a month annually, just before calving.

**SOVE MILK** (*F. Hayes*).—This will not do your fowls any injury. For profit—that is, for a good supply both of eggs in winter, and chickens for table, you cannot do better than by keeping Partridge-coloured Cochinchina pullets and a coloured Dorking cock, having fresh pullets every year.

## LONDON MARKETS.—SEPTEMBER 22.

### POULTRY.

We have little change to note since last week. Young Partridges have been rather more plentiful; but, at present, the supply would seem to show this one of the worst seasons on record.

Large Fowls .....	3 0 to 3 6	Ducks .....	2 3 to 2 6
Smaller do .....	2 6 ,, 3 0	Partridges .....	2 0 ,, 2 6
Cheekens .....	1 3 ,, 1 9	Rabbits .....	1 4 ,, 1 5
Geese .....	6 0 ,, 6 6	Wild do .....	0 3 ,, 0 9
Grouse .....	4 0 ,, 4 6	Pigeons .....	0 3 ,, 0 9

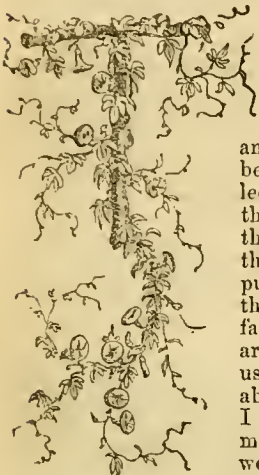
WEEKLY CALENDAR.

Day of M'nth	Day of Week	SEP. 30—OCT. 6, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.	Sun Sets.	Moon Rises and Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.						
30	Tu	Lachenalia angustifolia.	29.882—29.731	78—45	S.E.	—	m. h. v1	m. h. 40 af 5	m. h. 9 10	)	m. s. 9 58	273
1	W	Balsamina latifolia, &c.	29.676—29.562	75—48	S.W.	.14	2 af 6	v	25 a 11	8	10 17	274
2	Tu	Browallia speciosa.	29.987—29.834	73—40	N.W.	—	4 6	35 5	morn.	9	10 36	275
3	F	Drimia altissima.	30.107—30.067	71—49	S.W.	—	5 6	33 5	43 0	10	10 55	276
4	S	Disporum fulvum.	30.056—30.000	73—39	S.E.	.03	7 6	31 5	2 2	11	11 13	277
5	SUN	16 SUNDAY AFTER TRINITY.	30.007—29.968	73—48	W.	.05	9 6	28 5	18 3	12	11 31	278
6	M	Damasia pubescens.	30.128—30.038	63—53	N.E.	.01	10 6	26 5	32 4	13	11 49	279

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 63.4° and 43.6° respectively. The greatest heat, 80°, occurred on the 4th, in 1859; and the lowest cold, 27°, on the 2nd, in 1853. During the period 120 days were fine, and on 125 rain fell.

NEW FLOWERS OF THE SEASON.

NO. 1.—VERBENAS.



THE high-sounding titles and brilliant descriptions with which "novelties" are introduced are oftener belied than confirmed by the reality; and I do not think that we need be surprised that it is so, or be led into fierce invectives against the honesty of those who give them. I am quite aware that there is a system of dishonest puffing current; but oftener, I think, it is to be attributed to the fact that things about which we are personally interested seem to us so much better and more valuable than other things. Thus, I have met at the great shows many people, strangers to me, who would insist that they had better Geraniums and other things than

those exhibited. One gentleman would contend that the seedlings which had obtained the prize were by no means worthy of it. "Why, sir, I have better here with me?" and he forthwith showed me some blooms immeasurably behind in all points those which he condemned. He had no pecuniary object in lauding his own flowers, as he never (so he told me), sold them; but his eyes could not see clearly, because his own feelings were interested in pronouncing his own to be the best. So, now, exhibitors have always much better flowers at home; and had it not been for "the family" wanting the Grapes and Peaches, they would have sent such fruit as would have completely beaten out of the field those that they were obliged to send. Hence one never does, until flowers are distributed to the public and get into many hands and under many eyes, obtain really the true character of novelties; and then so many prove worthless, that many and loud are the remonstrances and angry exclamations against being taken in. I have, thanks to the kindness of many growers, had opportunities of seeing the leading novelties in my own garden and elsewhere; and the notes which I have jotted down may be incorrect indeed, but they are impartial. I have, therefore, thought it well to set down a few notes of the leading varieties of the season, and commence with Verbenas.

The death of one or two raisers, and the great wetness of the summer of 1861, have been rather against the production of novelties in such large numbers; while the increasing quantity of bad sorts which come from France has led nurserymen on this side of the channel to be very cautious in recommending these productions. The season has not been a favourable one; for a long time after they were planted-out cold, rain, and sunless weather prevailed, and, as a consequence, plants made little or

no progress; and, as is always the case in such a condition, became the prey of green fly, and in some cases thrips, to an alarming extent. In July they began to push; but it was altogether a cheerless month, and the beds were not half filled. A brilliant August, however, brought them on rapidly; but after its close, early in September, some heavy and continuous rain, lasting in some cases forty-eight hours, completely destroyed their beauty and made it difficult to gather a sufficient number of trusses to show on the 4th of September. I am now describing my own experience, and believe it was not unlike that of many of my neighbours. In such circumstances it may be impossible to decide accurately as to the merits of flowers; but in August when they were at their best my notes were made, and must be now taken for what they are worth.

**ARIOSTO IMPROVED (Osborn).**—This is a very excellent plum-coloured variety. Ariosto was raised by my friend Mr. Banks, and remained for long the best in its class. Another seedling of his Zampa is good, but hardly full enough in the truss. Ariosto Improved is large and full and of good habit.

**FOXHUNTER (Millar).**—This flower has proved itself worthy of its high reputation. It is an advance on Firedy, but so like it, that if the two are put up together it would be almost impossible to tell them; but it has a great advantage in the style of its growth, which is strong without being rampant or open in the centre of the plant. It is a very free bloomer.

**LADY VICTORIA SCOTT (Thompson).**—I do not know whether this has been up to the mark elsewhere, but I have not seen in it anything remarkable.

**MASTER CORNET (Wills).**—Crimson, with white eye. With me it has proved to be too small for any good effect, though a very free bloomer.

**MODEL (Wills).**—Carmine lake, with lemon-coloured centre. This also is too small, as far as my judgment goes.

**JENNY LIND (Wills).**—A light lavender-coloured flower, free-blooming, and may prove an effective plant for bedding.

**LITTLE HARRY (Wills).**—A very dwarf habit; may be useful for small beds, but must not be grown with others. Colour a dark crimson.

**MARMION (Newton).**—A beautiful novel shade of carmine, with yellow eye. Truss large and well filled, and likely to prove a very effective flower.

**AMY ROBSART (Elphinstone).**—A good bright rose, with yellow eye. Good habit.

**ORIENT (Elphinstone).**—Rich lake, with white eye. Truss large and good. A very pretty and bright flower.

**SIR PHILIP (Wills).**—My plant of this made very little progress until late in the season, and then certainly did not come up to the character given of it. I have lately seen a few trusses on the plant in better condition, so that probably it may improve. Colour, a bright scarlet crimson.

**LADY GREY EGERTON (Wills).**—A somewhat novel shade of crimson. Truss large and habit good. I think this is likely to prove a good and useful flower.

**DESDEMONA.**—This has been described as of the same habit of growth as Purple King. Nothing could be more different from it than my plant, as it had the awkward habit of running away from the centre, and thus leaving a bare space without flower. I am not sure that it will always do this, for I have found that some sorts will do so one season and not another.

**LE BON NICOLAS.**—A richly mottled pink variety, of continental origin, and very striking. I do not think it is as well known as it ought to be.

**L'AVENIR DE BELLENT.**—This I received from Mr. W. Bull, of King's Road, Chelsea, and it is decidedly in my opinion and that of my neighbour Mr. Banks, one of the best of new Verbenas. It is a light rose or peach, with a brilliant carmine spot in one petal, and a narrower and lighter one in the others. The habit, too, is good, with abundance of bloom.

**ANNIHILATOR (Perry).**—I received, through Mr. Bull's kindness, Mr. Perry's new seedlings; but as I grew them in pots, I should hardly like to say what they are likely to prove out of doors. I have, however, seen those that I mention here in a neighbour's garden, and think Annihilator is an effective and useful flower.

**DECORATOR (Perry).**—The same may be said of this flower.

**BETRICE.**—I do not know whence this flower comes, or whether it is new; but it is a very pretty mottled one, and will be, I think, useful for bedding.

Amongst the productions of the present season, Lord Leigh, Lord Craven, and Rugby Hero, are promising flowers.

Among the older varieties, Great Eastern, Firefly, Madame Herman Steiger, Anglaise, and Ida, are deserving of cultivation more extensively. The three latter one sees but seldom, but they are flowers of good properties. Last season was so favourable for saving seed that there ought to be plenty of new ones, but as yet I have not heard of many. I hope to see the raiser of Foxhunter next week, and to hear whether he has anything very good this season. Doubtless having won a reputation, he will be careful not to risk it by sending out any inferior varieties. There is, I cannot but think, still room for improvement. As a florist I say this, for the rotundity we look for has not been attained, and there is no reason why it should not be.—D., Deal.

#### HAMPTON COURT GARDENS, SEPTEMBER 22ND.

ONE of the very best of the old Nosegay Geraniums—namely, Mrs. Vernon, along with two other kinds, on Harry Moore's system, have stood sentry-like at the outer gate to the entrance of the Palace-yard for the last nine years, and yet Mrs. Vernon, also one of the best bedders for the Dutch style of so many square yards to a bed, has not yet been brought into the bedding-list of the establishment. It is a favourite at South Kensington and at the Crystal Palace; but it is only in a bed like the new great circular bed next the lake at Kew where Mrs. Vernon can be shown off to the best advantage—that is, to be on the face of a slope with a mass of scarlet either below or above it.

During so many years, however, Mr. Donald has been quietly restoring the flower-bed arrangements to their original standing in the true old style of the Dutch school, and it is questionable if there is one place in Holland itself, or in any part of the Low Countries of the Continent, where the true Dutch school of gardening design two or three hundred years back is so well preserved and exemplified at the present day as at Hampton Court; and for that reason I would not alter one bed or one inch of a border in the whole garden, even if by so doing I should propitiate the favours of all the students of all the schools of architecture and of landscape gardening in the world.

Of all the conservatism in this conservative world commend me to the conservatism of the schools of art, and having that I would go with the fashions and follies of an age to the very end of the tether in flowers and in how to do them, and to set them off in any one fashion which might be the uppermost.

It is not yet ten years since you might have got up a shooting party to kill rats or rabbits at the very garden entrance of Hampton Court Palace, and then the original Yew trees all round the great half-moon circle in front of that entrance, together with those running down direct from the front door to the head of the Dutch water-lakes, were, as it were, in the last stages of decay, covered over with ivy to make them look green, and stilled with scrubby herbaceous plants over their roots and lowest boughs—enough to drive all conceit about a garden out of all who had seen them. But look at them now, renewed not only in their looks and strength, but restored to the very idea of the man who ordered them to be planted centuries ago. Yes, every one of them has to occupy a flower "knot"—that is, what we now call a flower-bed. Where they have ceased to be, some substitute will be found; so that now

the whole face of the garden is as flat, and as regular, and fully as expressive of the school which it represents as a Dutch clock.

Then, in just the same unobtrusive way, Mr. Donald has been improving the style of planting the beds, and of matching the colours, cutting according to his cloth, according to the means allowed to him for making both ends meet; and in another year, or at least in two more seasons, the arrangements all over the garden will be complete. The system of running the colours is now perfected all over the flower-beds, beginning with red, then white, then blue, after that a yellow, and then a neuter colour, and so on exactly throughout.

The herbaceous border which is the bed for the wall plants along the whole length of the Palace-side of the garden, is this season for the first time laid down on the ribbon plan, but the first ribbon had also to be cut according to the cloth or stock on hand to do it with. Every row in that ribbon is half a mile in length all but 3 yards. Then suppose you plant all the plants at 14 inches apart in the row, or not quite 15 inches, it would just take two thousand plants to plant one row of this ribbon, and that was the actual number which was allowed and could be spared at the time.

There are many kinds of neutral beds at Hampton Court, but I must not particularise more of them than those called selfs. *Stachys lanata* is a self-bed; *Antennaria*, or the old *Gnaphalium margaritaceum*, is another as good; then *Geranium sanguineum*, divided in the spring, makes a fair self with no lack of flowers for a whole season. *Vinca major variegata* is another which ought to be planted thick enough at once, and never to be trained down, but only to be pinched and stopped occasionally, and it will last for many years without renewing. Indeed, the older the plants and the more crowded, the more variegated they are. There is another excellent move here for enlivening this bed still further—namely, to plant out a regular distribution all over it of the double dwarf yellow French Marigold. Just try that plan next season, but make the cuttings of the variegated *Vinca* this autumn.

Variegated Mint and Variegated Alyssum make self-beds. *Lamium purpureum* and *purpureum variegatum* make two good selfs. Lavender Cotton, or *Santolina chamaecyparissus*, which was lately suggested, is found to make one of the very best self-beds, and none better than the common Lavender, trained down in the spring if the plants are old. *Cerastium tomentosum* is one of the best self-beds there, and to keep so many square yards of it in one uniform mass of height and thickness, they "foot" it all over several times in the season, which was quite new to me. Edgings of it might be done the same way, but to "foot" a thing, in garden language, means that you should tramp it all over with the feet, not missing one inch of it. *Cerastium Biebersteini* is to be done there next season just the same way, and a fourteen-inch edging of it is also to be put round a large bed of *tomentosum*.

Mr. Donald takes the same view as your humble servant of *Biebersteini*. No matter whether they, or we, or you think the one better than the other, for all that is mere fancy; the two are sufficiently distinct to make two beds in the same garden, and not only so, but the one to make a contrast with the other, and being everybody's plants and no trouble, private fancies will not supersede public utility in their instance.

*Alyssum saxatile*, old plants divided early in the spring, and when in the flush of bloom the spikes of flowers thinned-out one-third, continues in second-rate bloom for the rest of the season, and for a spring bed none is better. After that it is even richer than some self-beds. *Alyssum sempervirens* is a fine bed while in flower, and a thorough self or neutral when out of bloom. But what would you say to two large beds of London Pride? They made the pride of this garden this very spring, and two of the best selfs when their pride was over. Mr. Donald has planted the variegated *Vinca*-bed with creeping flowering plants as *Verbena melindres*, *pulchella*, the two *Impératrice* varieties of *pulchella*, *Sabini*, *Hendersoni*, *Seymouri*, and lots of others which my good people missed in the race for novelty. Purple King, Lord Raglan, General Simpson, and Madeleine, were the best *Verbenas* this season at Hampton Court; *Defiance* and *Speedi* (a dwarf scarlet), the next best. Uncle Tom, a large purple *Petunia*, was the best of them. *Lantana erocea* failed as did all the *Lantanas* in most other places. A large bed of *Chrysanthemum coronarium* *alias* *regale*, a double yellow, did very well, as did *Chrysanthemum frutescens*, a flower which is very largely in the Paris market, and which blooms all the year

round. Also, a Pomponne called Frederick Peel, a brown flower, has kept on the whole of the summer. Beauté de Boudoir was the best Heliotrope, and a fine bed it did make.

The best Geraniums were—Alma (Dennis's), certainly the best bedder of the greenhouse class; Old Ignescens, very good; Boule de Feu, the very best of all the Scarlet Geraniums, beating Punch and Crystal Palace, and all the scarlets I ever saw, it has Nosegay flower-stalks, and is without exception the best I have seen; the old Brompton Scarlet was also very good. Lady Middleton was very fine; and Trentham Rose, which is all but the same as Lady Middleton, in most places, is not worth a great here, the same at South Kensington, but is preferred before Lady Middleton at the Crystal Palace, so that Boule de Feu may not be one-half so good in other places as it appeared to me to be at Hampton Court, so much depends on soil and situation that no one can be sure of a Scarlet Geranium except by the proof of growing it; Magnum Bonum is always a good scarlet under trees here; and Rubens is nearly as good. I often wondered that my own Stella, which has been out five years, never took the country by surprise; but now it is getting into repute, and I should think wherever it did suit, no other Geranium could take the shine out of it. But the truth is, all good seedlings are so run upon in propagation, first by the breeder, and immediately after him by the buyer, that there is no life left in them for the first few years. Mr. Donald has a fine variegated Geranium, a seedling of his own, called Lucy Kerr, with Cerise Unique flowers, and a sport from Général Pélissier, which promises well.

Mr. Donald has paid close, practical attention to the question of variegation in plants, and his matured view of it is this: he would induce a disposition to variegation by the use of pollen from a variegated sort only; then, having given the predisposition to variegation to his seedlings, he would convert a green-leaved seedling into a variegated one by manipulation, rather than that the seedling should come variegated in the first instance, and for this reason, a variegated seedling never comes true to the type of either of the parents, but a green seedling is often a true cross, inheriting the good points of both the parents; then, by forcing such a plant to become variegated, the desired type is got hold of. And that is exactly my own idea, only arrived at in a different way. I shall never give up the belief until it is decided by a fact of easy proof, and that proof to come the same in repeated experiments, and my firm belief is, that all the dispositions of all the plants on the face of the earth, whether in degrees of variegations, of fruitfulness or unfruitfulness, of being liable to this or that disease, of being a dwarf or giant of its race, or any other disposition whatever, are stamped on them at the moment the seed is impregnated, and that all such dispositions must be referred to the conditions in which the parents were at that time; also, that no art of man can afterwards alter any one of such dispositions.

Then, how is it that Mr. Donald can alter a green to a variegated disposition by manipulation, and still be in the same track as I am? Nothing is more easy to understand. He places the plant under an unfavourable condition to its active growth—say, he plants it four times deeper in the worst undrained soil, and in the coldest bottom in the garden, and that seems to help on the predisposing cause to variegation which the plant received with its birth. Then suppose the seedling to have been shed in the wilderness. An accident might just as soon, or sooner, have forced on the original predisposition, or whatever you may call the quality which was stamped on the seedling at the impregnation of the ovule. You may as well attempt to prove that chemistry is capable of making, or creating a new plant, as to assert the possibility of giving a new quality to any of the old plants.

The author of all our most beautiful variegated Geraniums, as Mrs. Pollock, Lucy Grieve, and Italia Unita, is of the same mind as we are, and would prefer a sport from a seedling, first having induced the disposition in it to be a variegated seedling from the seed. Then, if you understand all this, would it not appear to be the best way for getting all golden leaves, and zoned leaves, and, perhaps, other kinds of leaves equally remarkable for departing from the normal type? at least, it would be so to me. And, now, there is no practical gardener, as far as I know, who has the least idea that he can originate a variegated plant otherwise than by pollen in the first instance, and that is, certainly, one great stumbling-block being removed. Then, as to the notion of variegation being a disease, the thing is now too childish in the face of all we are acquainted with to the contrary to be entertained in practice or by practical men of the present day.

Neither at Kew nor in Hampton Court Garden could I find any clue to the authority for *Gnaphalium lanatum*. There is only a provisional tally to it in the botanic arrangement at Kew. What has struck me all along is this: that I had known this new and most useful plant forty years back, as a trailing, straggling, and troublesome customer from the Cape, when it was the fashion to grow up all plants one-sided, and this the worst of them to get to do so. I have now traced it to the nursery of the Messrs. Lee, of Hammersmith, from which it first "came out;" and if they did not make £2000 clear profit by it that is not my fault. A more generally useful plant never left that celebrated nursery, and I shall hazard the opinion that it was a companion to the first *Fuchsia coccinea* in the hands of Lea & Kennedy, before the present firm were in long clothes. Miller's Nosegay Geranium, one of the originals, is called sanguineum at Hampton Court, where they are as partial to it as they are at South Kensington; yet, at Kew and at the Crystal Palace they do not seem to have yet discovered its properties.

Strange to say, no *Lobelia speciosa* out of a pot does any good at Hampton Court; but this season Mr. Donald sowed the seeds in the open bed, and now he has it like other people. All the plants of it to the right and left of me, and in my own sanctum, are from a sowing made in the open ground at the beginning of March last. But I must close with a surplus again.

D. BEATON.

### THE PEAR AS AN OPEN STANDARD AND AS A WALL TREE.

THE flavour of fruits has been a subject that has, from a very early period of gardening records, more or less engrossed the attention of cultivators; and although there is no lack of connoisseurs, there are comparatively few who have attempted to throw much light on the cause whereby fruits of the same variety should differ in flavour when grown under similar circumstances. Yet that it does so is an unquestionable fact; and some of the cases are so self-evident that a few examples will suffice to define what is hereby meant by the term "inexplicable," or, in plain language, a case where a reason for the anomaly is difficult to assign.

In an orchard on grass of mixed Apple and Pear trees we have several large trees of the Marie Louise Pear, which in favourable seasons bear well, the fruit being much smaller and more russety than the same kind trained to eastern, northern, or western walls; but they are infinitely superior to the latter in flavour—so much so, that some have doubted their being the same variety. But the difference is entirely due to the conditions under which they are grown, for they were originally from the same stock. Another variety of Pear, Williams' Bon Chrétien, is exactly the same; large, fine-looking fruit grown on the walls being inferior in point of flavour to the same when grown on open standards, the fruit of the latter being much smaller. Now, these examples are difficult to understand on the generally received notions that cultivation, training, and other judicious management, tend to produce good fruit. Certainly it is finer-looking fruit than the other; but being obtained at a much greater cost, in smaller quantities, and of inferior quality, the question naturally arises, Is it prudent to plant Pears against a wall? To this a qualified answer must be given. At such a place as this (Linton), most certainly it is not advisable to plant either of the kinds above mentioned; but at a place less favourable to the growth of Pears as open standard trees it may be different. Still, the question has to be asked, Why are the fruit on the walls so much inferior to the standards, the soil and climate being the same? This involves a question for which the following suggestion may, perhaps, supply an answer.

Assuming the soil on which both the open standard and wall trees above alluded to are growing, to be exactly adapted to the wants of a fruit-bearing Pear tree (and I have reason to believe that it is so), we have here a manifest example of the evil effects of pruning and managing a fruit tree. The wall trees, of course, receive the usual summer and winter treatment; while the standards have had nothing whatever done to them excepting thinning-out the branches more or less severely once in six years or so, and gathering the fruit when ready. With regard to the certainties of a crop I can say but little, the one being as good as the other; and I have never seen much on the wall trees when the other failed, so we must not deduce much from that, but consider the causes of the one being so much better flavoured than the other; and my opinion on this

point is that the wall-tree fruit is overfed. The tree being denuded of branches and shoots to a great extent, both in winter and summer, to make it conform to the situation it is placed in, and the crop of fruit being seldom proportionate to the activity of a vigorous root, an undue amount of food is forced into the cells of the fruit, and it is swelled beyond its proper proportion, while sugar and the other items constituting flavour are not furnished in a like ratio: hence a full-grown but indifferently flavoured fruit is the result.

Perhaps some one will urge that the greater amount of air the standard-grown fruit receives is the cause of its merit. This may, perhaps, have something to do with it; but I am still of opinion that when a fruit grows really well in a state of nature, its quality is rarely improved by cultivation, especially when such severe measures are adopted as those taken by the dresser of the wall-grown Pear tree, cutting off, as he does, nine-tenths or more of each season's growth every year. Some fruits may benefit by a treatment of this kind, but I have much doubt of the Pear doing so, as some consideration is always due to the natural habit of the tree operated on; and when we know that the Pear in a wild state assumes an almost-forest-tree character, we must pause ere we seek to reduce it to the condition of a dwarf. Fruit it may bear in such a condition, and such fruit may now and then assume a more or less unnatural character, just in proportion to the paucity of its numbers; but its true character can hardly be developed in so limited a space, and either extraordinarily overgrown specimens, or sickly diseased ones will be the result where Nature has not been consulted in its production.

The above case is not the only one of a like nature that has come under my notice. Many years ago a new garden was formed in one of the northern counties, and some hothouses were intended to have been built, but something occurred to prevent their being put up at the time, and at the eleventh hour the gardener, who had planted the other walls with trees suitable to their respective places, planted some dwarf Ribston Pippin Apples against the south wall intended for Grape-houses, expecting they would be removed the following year. But delay after delay in the building of the hothouses occurred until the trees came into bearing, and most beautiful fruit was the result—fruit that carried off the prize at a provincial show, and, I believe, would have done so at a metropolitan one also by its appearance; but this fruit was of indifferent flavour: the place was in a certain sense too good for it, in the same manner as the south of Europe is too mild and warm for the Apple in general. Some other instances of a like nature might be adduced; but as my object was merely to call attention to the Pear, it is needless recording more.

It is proper to observe, that in soils and situations less favourable to the Pear than Linton, the differences between the open standard and wall-grown Pear might not be the same as it is here; but where it is similarly suited to the growth of that fruit, I expect the result will be the same. A healthy aged Pear tree is in a more natural condition to bear good fruit, than one that is continually undergoing amputation of full three-fourths of its entire framework. A gouty habit may tend to swell the fruit of the latter to an unnatural size, but it must be at the expense of the sugary matter which gives flavour and quality to it, as it is exemplified in some other fruits that are more gross feeders, atmospheric influences being also at work in both cases alike; but as the Pear is not generally regarded a gross feeder, it is less likely to run into that condition in the enlargement of the fruit as it is to fail in producing that perfect one which meets the palate of the connoisseur. Be this as it may, certain it is that the finest-looking fruit are not always the best flavoured, Pears especially being more deceptive in this respect than other fruits.

If any of the readers of THE JOURNAL OF HORTICULTURE know of a case similar to the above, or one widely different from it, they will do good service to the community by recording it. I should also like to know the quality of the fruit produced on trained pyramid trees, whether it is better than on trees of natural growth, and how they compare in quality. My own convictions are, that when the climate, soil, and other circumstances favour the growth of the Pear, it produces better fruit as an open standard than as a trained tree; but I am not wedded to this opinion, and I only limit my views to the kinds suited to the place. This whole subject, however, is well worthy of being ventilated, and deserves the attention of all.—J. ROBSON.

[It is quite certain that unnaturally large Pears are not so

fully flavoured as those of a natural size. In Guernsey we were told by the Chaumontel growers that those weighing from ten to fifteen ounces were much superior in flavour to those of much larger size. It is the same with the Gooseberry, and probably with all other fruits. The pampered show Gooseberries of Lancashire are infinitely inferior in flavour, not only to the fruit of the smaller-fruited varieties, but to unbloated specimens of the same variety. The bloated berries have been unable to elaborate all the sap forced into them, and, therefore, its watery constituents predominate; for ripening is neither more nor less than converting the watery and gummy parts of the sap into sugar and aroma.—Eds.]

## MANAGEMENT OF SPRING-FLOWERING BULBS.

ONE great merit in spring-flowering bulbs is the ease with which they are made to produce their flowers. This, added to their cheapness, is the reason for which they are eagerly sought after at this time of the year, and certainly they are well calculated to produce a lively appearance in the garden at a time when it would be otherwise comparatively bare of flowers. Those who grow them on a large scale will, most probably, by this time be supplied, and those who fully understand their proper treatment, procure them as soon as possible after they arrive in this country, knowing full well that in such matters delays are dangerous, and that, generally speaking, the first comers have the best choice; but for decorating villa gardens, windows, &c., they are not generally obtained till late in the year, and often not till they begin to grow in the shop windows. Experienced growers well know that in this case the bulbs are injured, although they may produce their blooms properly, because the rudiments of these are already formed in the bulbs; but then it is much better to have them in the ground before this takes place.

In the purchase of bulbs it is advisable to have an eye to the purpose to which they are to be put. For instance: if intended for decorating the borders of a villa garden, it is scarcely worth while to choose the choicer kinds of Hyacinths and Tulips; for of the former there are plenty, usually catalogued as border Hyacinths, priced at about 4s. per dozen, smaller generally than others, but equally good and oftentimes producing as good spikes of bloom as the high-priced ones. The same may be said of Tulips. There are sorts equally showy with the best—as the Van Thol, Double Tournesol, and Rex Rubrum, which are sold at 6s. and 7s. per hundred in ordinary seasons. These answer admirably for planting in borders, and will be found less expensive than better kinds, for it must be observed that a dozen or two of Tulips or Hyacinths may seem enough to enliven a border; but experience will show that their appearance, when planted and in flower, will be very insignificant, and nothing to the fine massive effect produced by a quantity of less expensive but equally showy sorts; and even where they are not massed but only placed about the borders in small patches, it takes a great number to make any effective display. Something may also be said with regard to colour and prolonging the season of blooming. In the former case some would object to the glare of scarlet and yellow presented by the Van Thol and Tournesol Tulips, as wearying to the eye, and certainly it is not advisable to confine oneself to them. But they may be varied by Crocuses of different colours, Snowdrops, and early Narcissus, and also by means of Hyacinths, which vary considerably. As regards the season of flowering, this may be prolonged by using such bulbs as flower successively, beginning with Winter Aconites, followed by Snowdrops, early Tulips, Crocuses, Hyacinths, early Narcissus, medium Tulips, late Narcissus, and late Tulips. These flower during the months of March, April, and May, and by a suitable arrangement they may be placed so that they may all be seen to advantage at their several times of flowering.

I once planted a bed entirely of different kinds of spring-flowering bulbs, both with the object of keeping up the display as long as possible, and of varying the colours, so that the bed while any of the bulbs were in flower presented a massive display of colour. The bulbs were all newly imported, and were planted so that they might grow and increase, which they could not do without having their proper time to form and ripen the bulbs, and as I did not intend to take them up every season the ground was trenched and manured before planting. The

bed was 7 feet wide, and about four times that length. The arrangement of the bulbs was as follows:—They were placed in rows 10 inches apart across the bed; the depth of planting varying according to the size of the bulbs—that is, about 4 inches deep for Snowdrops, a little deeper for Crocuses, about 6 inches for Hyacinths, and the others in proportion. The first row consisted of early Tulips intermixed with Snowdrops; the second, of Hyacinths; the third row, of late Tulips and Crocuses; fourth, of Winter Aconites and early Narcissus; the fifth row, of early Tulips and late Narcissus; sixth row, of Hyacinths and Winter Aconites; seventh row, of Snowdrops, Scillas, and late Tulips; and so on throughout, varying and mixing the colours and sorts as far as was convenient. Not the most scientific arrangement perhaps, but when in bloom the bed had a most pleasing effect.

From the time the earliest began to bloom till late in May when the double Poet's Narcissus was in flower it presented quite a gay appearance. By midsummer the leaves of all but the late Narcissus had died down and were removed, and the surface of the bed was pricked up with a fork and sowed with the seed of Ploex Drummondii. By the beginning of August this began to flower and continued doing so till the following winter, after which the bulbs again came up and flowered, and the bed underwent the same course of treatment. After flowering the third time, the bulbs were taken up, the ground trenched and planted with Verbenas, and the bulbs again planted the following autumn. They had increased very much, and they flowered equally well the following spring.

This method of treating bulbs, I think is preferable to the usual mode of managing them in villa gardens. They are generally put in borders already too crowded with shrubs and miscellaneous plants, are forced-up, just as they begin to grow, in the usual autumn dressing of the borders, and rarely survive the second season. If by any means a piece of ground can be devoted to them, and they are managed in some such way as that described above, it will be not only more satisfactory, but the bulbs will increase instead of diminishing. I certainly would not discourage planting them in mixed flower-borders, but it is necessary for their well-doing that they have every chance of developing the foliage as well as the flowers—that they are not crowded amongst other plants; and although summer and autumn-flowering plants may be grown between them, it should be remembered that they are likely to be injured by the exhaustion of the soil caused by planting too thickly. Another thing to be observed is, the leaves should not be cut off in a green state, as is often practised, because they are said to look untidy; the leaves are necessary to the proper development of the new bulbs—a fact too often lost sight in villa gardens, and this is one great reason why bulbs so soon dwindle away. It is also important to mark them, so that may be known where they are when there is nothing left of them above ground.

Of the adaptability of bulbs for pot-culture much has already been said; and although the necessary materials for the purpose of growing them in pots are very simple, some would seem to imply that materials are necessary which are certainly not within the reach of all. I have grown them very successfully for years, and used different kinds of soil, and covered them with different materials, as coal ashes, sawdust, old tan, and common earth, and all with nearly the same results—in fact, I have come to the conclusion that the material they are covered with after potting is more a matter of convenience to the operator than of consequence to the well-doing of the bulbs, and that the best soil to grow them in is about one-half silky loam, and one-half of dung, rotted to a crumbling state, mixed with an equal portion of leaf mould, from leaves that have been swept up from paths, lanes, &c., and allowed to rot. These are sure to have a large proportion of grit mixed with them, which keeps the soil porous and open. If grit is not thus obtained, a suitable portion of it should be mixed up in the dung. Mix these ingredients well together, and you have a soil in which spring-flowering bulbs will thrive. But if loam is not to be got, the leaf mould as described will do alone, or any common garden soil may be mixed with it; or even if these are not readily obtained there need be no fear of potting the bulbs in any porous soil in which a tuft of grass will grow, for it is a mistake to suppose that Hyacinths, or Tulips, or Crocuses are particularly nice as regards the nature of the soil they are placed in, provided it be sweet, and free from any grubs or other destructive insects. But this much may be observed, that bulbs, in common with any plants that are grown in pots, are limited in the supply of

soil in which they can form roots—that they have not so much room as plants in the open ground: consequently, the soil in the pot should be proportionately richer, or if the soil is not rich, the roots should be fed with liquid manure. But even this is only requisite when it is desired to make use of the bulbs for another year, when they must be sustained during the process of ripening as well as whilst producing the flowers.

My mode of potting bulbs is to use a soil composed of loam, dung, and leaf mould, as before mentioned. This is well mixed, and if there is not quite enough sand in it, add a little more: fine gravel will do as well as anything.

In preparing the pots, which should be perfectly clean and dry, I always place a piece of broken pot over the hole in each pot. This is placed so that it does not stop the exit of water, as it would do if placed the hollow side upwards when the soil had worked down to it. I then place in each pot a handful of crocks broken rather small, and then a layer of rough soil. This method of draining pots I find effectual, and it is important that it should be so. The pots are next filled two-thirds with soil, the bulbs are then placed with a little silver sand under each to encourage the fibres, and the pots filled up with soil. I like to cover the bulb to the crown, but some prefer letting them stand up half out of the soil.

For Hyacinths I like to put one in a four-inch pot, Crocuses about six, Tulips three, and Snowdrops about twelve in the same sized pot; for Narcissus I prefer putting four or five round a larger pot as I think they show so much better in a fine cluster, and Hyacinths the same if they are matched in colour and height; but they sometimes vary so in height as to spoil the effect in a large pot.

When all are potted, they are placed close together on a level piece of ground where there is no chance of the water standing, the labels are then raised on sticks about 8 inches high, and all are then covered with common earth or any loose mould. I prefer this to ashes, sawdust, or any other material, as it leaves no unpleasant appearance on the surface of the soil as ashes and sawdust do if not thoroughly cleaned off. The labels are left just above the soil, so that it is easily seen where each sort is—a matter of importance where they are to be drawn at different times for forcing or otherwise, as one can be taken out without disturbing the others. If they are not wanted for forcing it is not advisable to uncover them till March if they are in a frame. The soil may be scraped away from the crowns a little in February, and the Narcissuses encouraged, and covered up again, as they apt to root over the sides of the pots.

For window decoration these bulbs are invaluable, and in a warm room some may be got on much earlier than others, so that a succession may be kept up for a long time. When grown for window decoration the treatment is the same as if grown for the conservatory, until they are divested of their winter covering, and then the only difference is, that in one case they have a glass roof over them, and in the other they receive the light all on one side, and are apt to get drawn out of the perpendicular. A suitable stick should be provided, or they are apt to break off with their own weight. But in either case, after flowering, they may be planted in the borders, and they will flower there another season, although not so strongly.

All bulbs that have flowered in pots one season can be planted out in the borders, where they are more likely to come up again and flower than if kept in pots. In fact, I have known Hyacinths flower successively for many seasons after being thus turned out of pots in which they have flowered already, and while this can be done there is no need to throw any away, as a few new bulbs may be procured every year for flowering in pots, and afterwards used to replenish the borders, where they will not be lost.

Of the merits of growing, or rather flowering Hyacinths in glasses, I have always had my doubts. It may seem curious to have a plant growing beside one in a room with every part visible; but I do not see any extra beauty in a glass-grown Hyacinth; indeed, I think that the same plant would look better in a suitable-sized flower-pot, and certainly when they begin to topple over it is much easier to support them in a pot than it is in a glass. Nor are they so useful afterwards when grown in glasses, as the bulb has worn itself out in the process of flowering, and has no strength left to prepare for flowering another season. Yet the practice is carried on by a very large class, is honoured by time, and sanctioned by custom, and it may scarcely be proper for one to express an opinion opposed to what is so regularly done as sure as the bulb season comes round.—F. CHITTY, *Stamford Hill*.

## ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 23RD.

**FLORAL COMMITTEE.**—There was a most beautiful *Caladium* from Borneo from the Messrs. Low & Son, of Clapton, named *Lowii*, to which a First-class Certificate was unanimously awarded. The form of the leaf is the same as that of *Alocasia metallica*, or between that and *Caladium Veitchii*. The midrib and strong veins are whitish, and there is a metallic lustre in the bright green of the blade of the leaf. This is much the best of the *Caladiums*. The same firm sent an exquisitely beautiful new *Cypripedium*, also from Borneo, within the last few weeks; this also had a unanimous award—a First-class Certificate. There were two flowers on the scape, the one above the other; the leaves are plain green, 6 inches or 8 inches long, and of great substance. The flowers are remarkably gay, and much more so than any yet known in the genus. The pouch, or slipper, is purplish in front, shading to pure white and some yellow towards the bottom; the two side petals are long, curved, and twisted, with a bright orange ground colour stained with rich purple, and the two back sepals are broad, erect, and with a broad band of white all round within the margin, the centre being deeply stained with purple, but lighter on the inner surface. It is named *Stonii*, after Mr. Stone, gardener to J. Day, Esq., of Tottenham, who first bloomed the plant. They also sent a new Brazilian *Orchid*, in the way of a *Bifrenaria*, with orange flowers; and two plants of an *Ipomæa*, after *limbata*, fine blue flowers, with white edging.

Mr. W. Paul sent three new *Roses* of 1862. *Eugène Bourcier*, a fine dark *Rose*; *Turenne*, a large scarlet, tinged with purple; and *Louise Darzins*, the best white Hybrid Perpetual, and said to make a good bedding *Rose*. Also *Picea nobilis*, and two forms of the silvery *nobilis*, both more handsome than the green species.

Mr. Bull sent some very pretty *Petunias*, and a very handsome new Fern, with the young leaves in the exact shape of a *Caladium* leaf, with a lighter band along the centre just as in some *Caladiums*. It is *Doryopteris nobilis*, and the leaves will yet become palmate-like, and, perhaps, more froun-like than those of *Caladiums*. The Committee were unanimous in their award to it.

Messrs. E. G. Henderson & Son had a unanimous First-class Certificate for the variegated *Solanum capsicastrum*, of which there were two kinds, and both remarkably handsome, for dinner-table decoration or any decorations in-doors.

Mr. Barker, of Godalming, had a First-class Certificate for a handsome weeping *Cupressus macrocarpa*, and he sent a large collection of cut blooms of *Tropæolums*. And the Messrs. Lee had a First-class Certificate for a Golden common *Spruce*, on the supposition that the colour would be permanent as in the Golden *Yew*.

There were many *Dahlias*, *Verbenas*, and *Hollyhocks*, with odds and ends as *camp-followers*; but the most noteworthy of them was Lord Dundreary *Dahlia*, which had been awarded a Second-class Certificate already, and which the judges of it pronounced to be a "constant" flower, having been equally good throughout the season at all the shows. The Committee sent their special thanks to Mr. Turner, of Slough, for sending a large collection of first-class *Dahlias* which were sent out by himself, in order to assist the Committee in comparing the new seedlings with the best of what are now in the market.

A correspondence between the Secretary of the Committee, Mr. Eyles, and the Council of the Society was read, and the gratifying announcement was made out of it that £20 were at the disposal of the Committee to make the best of for a *Chrysanthemum Show* in November!

**FRUIT COMMITTEE.**—Mr. C. Edmonds in the chair. There was a large show of fruit on this occasion, several prizes having been offered; and the Committee had to defer deciding on the merits of several kitchen Apples and other seedlings till a future occasion, their time being fully occupied in awarding the prizes.

In class A, for the best three dishes of dessert Apples, distinct kinds, Mr. D. Cunningham, gardener to the Bishop of London, Fulham Palace, was first with Early Nonpareil, Yellow Ingestrie, and Fulham Pippin, a seedling from the Ribston Pippin, very like the Margil but larger. Mr. Swinerd, Minster Abbey, had good dishes of Cox's Orange Pippin, Ribston Pippin, and Kerry Pippin, with which he gained the second prize.

In class B, for the best three dishes of dessert Pears, distinct kinds, some excellent specimens were shown. The highest award was made to Mr. Spivey, gardener to J. A. Houlton, Esq.,

for Flemish Beauty, Gansel's Bergamot, and Jersey Gratioli. Mr. Turner, of Slough, had also very good fruit of Jersey Gratioli, Belle de Bruxelles, and Fondante d'Automne. To these a second prize was given.

In class C, Plums, three dishes, distinct kinds, Mr. Kaile, gardener to the Earl of Lovelace, exhibited nicely-grown fruit of Coe's Golden Drop, Impératrice, and Reina Claude de Bavay. This collection was considered the best, and, consequently, it received the first prize. Mr. Bousie, gardener to Lord Taunton, Stoke Park, Slough, had Prince of Wales, Magnum Bonum, and an excellent dish of Coe's Golden Drop.

In class D, for the best single dish of Cherries, the only competitor was Mr. Tillery, gardener to the Duke of Portland, Welbeck, who received the first prize for a very good dish of the Morello.

The next class, E, was for the best Melon, and sixteen fruits were brought forward, only two of which were Scarlet-fleshed, the remainder being chiefly Golden Perfection. The specimens exhibited of this fruit were generally handsome and well-grown. Only one prize was offered for Melons in the schedule, and this was awarded to Mr. Bousie, of Stoke Park, for Golden Perfection; but the Committee recommended that extra prizes should be given to Mr. Whiting, gardener to J. Hope, Esq., the Deepdene, Dorking, for the same variety, and to Mr. Curd, gardener to M. G. Thoys, Esq., for Sulhampstead House Seedling, on account of the excellence of their Melons, and their near approach to the one which obtained the prize.

In class F, which was for the best dish of Grapes, there were no entries; and in class G, for the best dish of Figs, the first prize was taken by Mr. Pottle, of Little Bealings, Suffolk, with very good fruit of the White Ischia. Mr. Ross, gardener to C. Eyre, Esq., Newbury, exhibited the Brunswick, for which he received the second prize.

Mr. Rivers, of Sawbridgeworth, had an interesting collection of seedling Peaches, the best of which was one raised from a stone of the Pitmaston Orange Nectarine. He likewise showed the Pitmaston Pine Apple Apple; Belle Agathe Cherry, which is a late kind of Bigarreau; and retarded Moorpark Apricots, which, though shrivelled, were rich and sugary. They were grown in pots, and placed in an orchard-house with hedges for sides.

From Mr. Graham, of Cranford, came a seedling Pear called Graham's Bergamot, a small Pear of good flavour, and a great bearer; also a white Grape resembling the Chasselas Musqué.

## NOTES WHILST RESTING.

*(Concluded from page 490.)*

THE Guernsey Lily was introduced into England between the years 1629 and 1669, for in Parkinson's very full and accurate description of garden flowers in his "Paradise," published during the year first named, this Lily is not mentioned; but Evelyn in his "Kalendarium Hortense," published during the year named secondly, enumerates, without comment, among the flowers blooming during September, "the Garnsey Lilly, or Narcissus of Japan."

It is probable that this flower reached Guernsey between those two years, and would thence soon reach our gardens—such date coinciding with Mr. Bradley's statement, which I accept as much the most probable account of this flower's first introduction.

"There is one thing," says Mr. Bradley writing in 1731, "which I cannot help taking notice of, which relates to this plant's first coming into the island of Guernsey, told me by M. de St. Marets (Saumarez), a very curious gentleman of that place. He says that in his grandfather's time a ship from China came in there, when some of the sailors gave a parcel of these roots to a person who then kept a public house. From thence came the whole stock that is in the island, and that the place is now in being, close by the sea. This story differs, indeed, from that which we have had of a ship's being cast away, and the roots floating to the shore, and there taking root; but I think this traditional account of M. de St. Marets is the more probable of the two."—(*Appendix to New Improvements.*)

About the same time it appears to have reached Paris; for Cornutus, a physician of Paris, in his "Canadensium Plantarum aliarumque nondum editarum Historia," published in 1635, is the earliest writer who mentions it, and does so under the title of "Narcissus Japonicus rutilo flore"—(Japan Narcissus with a red flower). He states that within a few years previously it

had been brought from Japan, and no expense being spared in cultivating it by M. John Morin, at length it was induced to produce flowers on the 7th of October, 1834. Cornutus gives a description and drawing of the plant in flower, both very good.

Pierre Morin, son of the above-mentioned, in his "Remarques Necessaires pour la culture des Fleurs," published at Paris in 1658, mentions the "Narcisæ du Japon" among the flowers particularly susceptible of injury from cold.

Rea, in 1665, mentions it among the flowers known in England as "the Narcisus of Japan, or Garnsey Lily, which there prospers, bearing in October peach-coloured flowers." The first person decidedly mentioned as having cultivated it in England is a General Lambert, of Wimbledon. In a MS. of Dr. Friend's, preserved in the Lambeth Palace library, the General is stated to have sent flowers of this plant to Dr. Friend in 1659.—(*Douglas' Description of the Guernsey Lily.*)

Dr. Douglas, in his monograph just quoted, published in 1737, gives all the traditions about the first introduction of the flower to that island, most of them vague, but those which are more particular, coinciding partly, or entirely, with Mr. Bradley's account. One gentleman evidently had the narrative from Mr. Bradley's informant—namely, Mr. Henry de Saumarez (not St. Marets), author of the "Marine Surveyor." His grandfather had but six roots, but he did not keep a public-house, and he had them about "fourscore years ago," which deducted from the date of Mr. Douglas's book, would assign 1657 as about the date of the introduction of the bulbs to Guernsey.

Kæmpfer, who is the first naturalist who discovered this plant in Japan, was there in 1690, and the two following years, but we have a fuller description of it by Thunberg, in his "Flora Japonica," published in 1784, under the name of *Amaryllis sarniensis* (Guernsey Amaryllis). He says, that in Japanese it is called by the various names of Seki San, Sibito banna, and Doku Symira; that it is native of the hills about Nagasaki; flowers in September, and that the Japanese know the bulb to be poisonous, the name Doku Symira, according to Kæmpfer means "Poisonous Symira."—(*Kæmpfer's Amoenitatum Exoticarum*, published in 1712.)

Japan, however, does not appear to be the sole native country of this bulb, for we have reason to believe that it is also found in China, and it is certain that Loureiro in his "Flora Cochinchinensis," published in 1793, says that the *Amaryllis sarniensis* is cultivated "in Sinis," or China, on account of its beauty, and is there called *Haien tsao* and *Tuyen thao*.

We entirely agree with the treatment of this flower recommended by Mr. Earley, at page 489 of our last Number. So treated, it bloomed year after year in the garden of the Rev. Mr. Butler, at the foot of the Coomb Hills, near Hungerford. In Guernsey it is planted in the light, loamy soil of the gardens, and beneath the shade of tall trees, and with the surface covered with growing grass. In the garden at Le Vallon, and elsewhere, we were assured by Mr. Carey that it blooms from year to year, and its bulbs are never disturbed. As further evidence that Guernsey is not the only place in Europe where it will flourish in the open air, the same gentleman assured me that he had seen it equally excellent in several parts of Spain.

Various have been the genera in which botanists have included this bulb, such as *Narcissus*, *Amaryllis*, and *Lilium*, but in 1821 Dr. Herbert established a new genus *Nerine*, and it included the Guernsey Lily under the name of *Nerine sarniensis*, a happily-applied name, for *Nerine*, or daughter of the sea, aptly alludes to the fondness of the flower to a sandy soil in the vicinage of the ocean.

Dr. Herbert was one of our most successful cultivators of bulbous plants, nor did the Guernsey Lily defy his skill, though residing so far north as Spofforth, in Yorkshire.

He kept the plants under glass whilst their leaves were green, merely taking care to exclude frost from them, and to admit air to them as freely as the season permitted without the reduction of temperature necessary to be avoided. During this period of growth they were also kept moderately moist, and near the glass. The leaves under this treatment decay about midsummer, and no care is needed except to take care, by having the bed of a light soil, and well drained, that the bulbs while dormant do not suffer from excessive moisture. We would have the bulbs unmoved in the same bed from year to year, and merely sheltered by a glass-covered frame, with extra covering during frost, which must be excluded.

It may be objected that it is much less trouble to purchase fresh bulbs annually; and admitting such objection to be valid,

yet there is the countervailing fact that the flowers are never so brilliant, so fine, or so lasting as when preserved unmolested in the bed from year to year.

The flower is paler and weaker from the dried imported bulbs, and I was told by many good authorities in Guernsey that the bulbs become scarcer and weaker from this artificial treatment pursued to supply the demand for exportation.—*QUIS.*

## THE RASPBERRY.

As Mr. Appleby has recently in this Journal so ably set forth all the points in the culture of the Raspberry, I will only make a few remarks in addition, or rather in confirmation of what he has said on the subject, with some practical lessons which the last few years have given on the matter, omitting as far as possible all repetition of what has been previously stated; the culture being so generally well known, that details respecting it are hardly necessary.

Taking, therefore, a cursory history of this fruit, we will see that for many years prior to about 1844 very little attention was paid it in the way of improving the varieties then in use. A red one and a white one were almost all that many gardeners were acquainted with, and these thrust into some obscure abody corner generally succeeded pretty well; but about the above time, a vast improvement was made by the introduction of the Fastolf Raspberry, which for many years was very popular, and in places where it does well I have no doubt remains so yet. A large, well-tasted fruit on a plant of moderate growth, and remarkable for its bearing qualities, the Fastolf Raspberry remained, therefore, for many years at the top of its class, until others envious of its distinction came forward to dispute its position, and at the present time we have a number of aspirants to general fame. In my own case, I felt so satisfied with the Fastolf for several years, that I did not think another was necessary, until the dry seasons of 1857, 1858, and 1859, told seriously against this fruit on the dry ground the stools were planted in; but the failure or partial failure of the crop was set down to the absence of rain, and other causes of a like nature. The following season, though differing widely from those above referred to, did not effect that improvement in the character of the Fastolf Raspberry that was looked for, and the conclusion came to was, that the variety is "worn out," its constitutional debility unfitting it for any longer fulfilling the duties required of it. Every allowance has been made, new plantations formed on ground that has not been so occupied for many years, but all to no purpose, the plant bears profusely, and the fruit is as good as need be wished for; but the plant scarcely makes any wood, and that often only from 2 feet to 3 feet long. Another evil, which to some may appear as a benefit, is that many of the shoots of the current season bear in August and September, and some very useful fruit is thereby obtained, but it impairs the shoot's bearing in the following season. Thus we often have great difficulty in obtaining canes for the next year, and then often very short and weak, with, perhaps, now and then, one of a loose, rampant growth, overtopping everything else; but there are exceedingly few of these, and the plantation has anything but a promising appearance in the autumn.

Now, I believe this is not the case everywhere. On damper or more congenial soil the Raspberry flourishes and bears as well as before; but as the garden here is a dry one, and just the reverse of the one on which this fruit is found in a wild state, its constitutional vigour may be fully expected to give way sooner than when placed in a situation of an opposite character, and I can only account for the lack of success in 1860, 1861, and 1862, from this cause, as there has been no want of moisture for other things. I would, therefore, like to have the experience of other cultivators on this matter. I know there are many who disbelieve in constitutional decay in fruit trees, and certainly there is less reason to expect it in a Raspberry than in an Apple, Peach, or Pear; but I can hardly reconcile myself to any other cause, for the variety which ten years ago was healthy, vigorous, and all that could be wished for, now drags out a wretched existence, bearing itself to death as some compensation for its unkindly appearance; but stools dying that are only three, or, perhaps, four years old, and the shoots for the ensuing year hardly rising above one's knee, give tokens of something amiss, which I am at a loss to attribute to anything else than a wearing-out of the variety in question, not, perhaps, on all soils, but on the one we are obliged to have it grown on.

I would have had some reluctance at coming to the above conclusion had a case not come under my notice, which seems to confirm what I say. On the outskirts of a piece of back garden ground, our kitchen-garden foreman found a wild Raspberry, apparently a seedling, with fruit on of a tolerable size, and flourishing in all the luxuriance which betokened its being at home, and though surrounded by Brambles and other robust herbage, it seemed to be quite able to take care of itself, and bid defiance to all encroaching vegetation. Taking notice where it was, he carefully dug them up the ensuing autumn, and the result is, a row of healthy, vigorous, well-grown plants, which have borne a good crop the past season, and produced canes from 8 feet to 10 feet long. I do not mean to assert that the fruit was better than the Fastolf or other kinds, but it was good, and there was plenty of it, and the plant looks well for another year, the canes presenting a giant-like appearance compared with the other. Now, it is this result which has convinced me that the Fastolf is either "worn out" on our dry soils, or become unfitted for the place, which amounts to the same thing, for the new one above spoken of is planted side by side with the other, so that there are no advantages of situation to account for the difference; and as the seedling was also from dry ground, there is reason to suppose that it may be better adapted to a similar situation than one originating in a position diametrically opposite. Such is my opinion, and how far it meets the approval of others I shall be glad to learn. The above facts certainly help to strengthen my case, and they are not overstrained.

With regard to other varieties of Raspberry I have but little practical experience to report. I have the "Prince of Wales," which is reported to do well in many places, but I have not had it long enough to give a just opinion of its merits. I have, however, but little hopes of any one doing very well for any length of time, on so dry a soil, unless it be a variety raised on such soil, in which case it may be said to be, to a certain extent, acclimated. How far this doctrine will meet the views of those who have previously arrived at a contrary opinion remains to be shown. One thing however must be borne in mind, that reports from a soil more congenial to the Raspberry ought not to be opposed to the above, for with a different soil there is no question but the results above described would have been different. It is more especially, therefore, to those, who, like myself, are obliged to plant the Raspberry on a soil adverse to it, that the above is addressed, and their report if different from mine will be no less agreeably acceptable.—J. ROUSON.

## PUTTERIDGE GARDENS.

(Concluded from page 492.)

WE now come to what we have always considered to be an especially beautiful feature. In the centre of the lawn is an avenue, not of trees, but of flower-beds, formed of circles of 10 feet and 5 feet diameter alternately, there being twenty-four beds on each side of the avenue, the two opposite beds being planted alike. To produce variety, these are all planted in the pyramidal style, and with three or four distinct colours in each bed. To give an idea of the exquisite beauty of these beds, we would mention that the two first you arrive at, going westward, are ten-feet circles, the centre, a dark Fuchsia 4 feet or more in height, fringed with purple and white Pentstemons; then a double ring of dark Victory Calceolaria; a double ring of buff Prince of Orange Calceolaria; and finishing close up to the grass with a double ring of yellow Prince of Orange Calceolaria. The next two, five-feet beds, have an *Acacia pubescens* in the centre, with a plant of crimson Unique Geranium flaunting from its stem; next a broad ring of pink Christine Geranium; then a double ring of *Lobelia speciosa*, and edged close to the grass with *Arabis variegata*. We might go on describing pyramid after pyramid, but will notice only two, about the centre of the avenue. These are centred with *Brugmansia Knightii*, some 8 feet high, with large, double, white flowers hanging down; a Canary Nasturtium clothes the naked stem, and flaunts its yellow flowers through the large leaves. Through the Nasturtium peep fine spikes of a scarlet *Salvia*, followed by a broad ring of *Ageratum*, and that by one of yellow Calceolarias, with a rim of blue *Lobelia* close to the grass. The avenue consists of a wide space of beautiful lawn, and there is plenty of room between each bed in the rows, affording not only an ample area for promenading, but a nice relief to eyes accustomed to streets and

roads, or somewhat overcome by the brilliancy of the beds. Owing to whatever cause, we found this avenue especially patronised by the ladies, probably from the fact that their full-lengthed dresses swept more agreeably over the turf than over the gravelled paths. Many thanks to whomsoever it is owing that no notices are exhibited instructing the visitors to "Keep off the grass." This avenue is terminated by a mound with Roses on pillars and chains enclosing seven beds of low-growing plants, each edged with a contrasting colour. Some of the columns and chains are uncovered, owing to the effects of the frost above mentioned, but the group of beds below prevents this being much noticed. The centre raised bed has white *Feverfew* and *Pentstemons* round the column, edged with large-flowering *Heliotrope*; the upright side of the bed is clothed with *Sedum roseum*. The six surrounding beds are in three pairs, opposite each other: one pair of *Bijou Variegated Geranium*, with a broad baud, densely bloomed, of the old purple *Verbena Charwoodii*; a second pair with crimson *Ivy-leaved Geranium*, with an edging of *Baron Hugel* ditto; and the third pair with yellow *Prince of Orange Calceolaria* in the centre, a broad band round of *Lobelia speciosa*, and a narrow band, next the grass, of *Cerastium tomentosum*. These, as well as the other beds, are quite full.

Nearly opposite to this, and close to some fine Elms, so pleasant for the shade they afford, is another group of beds, in a circular form, consisting of seventeen beds, all planted simply, but differently from last year. The centre is a circle some 9 feet in diameter; this has a yellow *Cassia corymbosa*, 6 feet in height, for a centre, with a thin ring of purple *Pentstemon*; the bulk of the bed is of white *Feverfew*, but the level is broken by white and purple spikes of *Pentstemons*; an edging of grey *Heliotrope* surrounds the *Feverfew*, and one of *Cerastium* close to the grass. The eight beds round this, of rounded squares and triangles, are all centred with tall, dark *Fuchsias*. Four opposite each other are planted with *Scarlet Geraniums*, and edged with the silver plant *Cineraria maritima*, and four with yellow frosted *Calceolaria Aurea floribunda*, edged with *Purple King Verbena*. Of the outside ring, the four smaller beds have each a *Honeysuckle* in the centre, and that is now covered and draped with *Tropaeolum canariense*, the beds being filled with purple *Geraniums*. The four larger beds have each a massive *Scarlet Geranium* in the centre, and a light-flowered *Fuchsia* on each side of it, so as to divide the centre of the bed by these three large plants; the bulk of each bed is then filled with a fine rosy *Horseshoe Geranium Rubens*, and that again edged with a broad baud of variegated *Manglesii Geranium*.

The ribbon-borders on each side of a long walk are a source of great attraction. The longest, backed by a wall of *Roses*, *Myrtles*, *Ceanothus*, &c., is about 340 feet long, and has previously been planted in straight lines of colour—twisted lines, spotted lines, &c. This season, to humour the straight wall and the straight walk, the front and the back rows are straight, and the rest are waved or roughly vandyked. This causes short, arched pieces to be thrown in on back and front. The front line is *Golden Chain*; then a line and arched piece of blue *Lobelia*, backed by white *Variegated Alyssum*, which meets the first waved line of *Brilliant Geranium*; then a similar one of yellow *Calceolaria* very massive; then a line of *Perilla nankinensis*, with its pretty crumpled shaded purple leaves; then, just a little higher, a noble line to suit of the *Trentham Rose Geranium*; and above that, semicircular sweeps of a large white *Chinese Daisy*, the back lines being *Ageratum* and *Prince's Feather*. The opposite side of the shorter border is exactly similar, but the *Prince's Feather*, whose spiral shape, as well as colour, were wanted for the centre, has refused this season, owing to the coldness of the ground, to mount high enough, though few would notice the omission unless pointed out to them. The opposite or lawn side of the shorter border is done in straight lines, beginning at the grass with *Golden Chain Geranium* and orange *Gazania splendens*, in alternate plants, then blue *Lobelia speciosa*, then a fine line of *Scarlet Geranium Brilliant*, followed by yellow *Calceolaria*, then *Perilla*, backed by *Trentham Rose*, and that again by the large *Chinese Daisy*, and what should have been *Prince's Feather*, but the want of which is never noticed. We heard numerous opinions as to the straight and waved styles of planting, and incline to think that the straight is most effective when looked at from either end, and the waved most pleasant as you pass along the walk.

Beyond the Elm trees are other groups of beds, centered and edged in different ways, more rough ribboning of lines of colour in front of shrubberies, masses of *Hollyhocks*, fronted with tall and

dwarf Dahlias, edged with Calceolarias, Geraniums, variegated Arabis, and Cerastiums. In addition to these, alpine gardens and rock and Fern retreats add their sombre attractions to those of their more showy companions, some of these retreats being festooned abovehead with long wreaths of Ivy; but of these, and the enclosed fruit gardens, &c., we must not at present speak.

This somewhat lengthy enumeration will only serve to show how much there is to be seen at Putteridge, giving at the same time but a very faint idea of the splendid reality. We had well nigh said it is "a blending of all beauties." So far as outside gardening is concerned, after making the necessary allowances for area, &c., we have it upon the highest authority that taking "Putteridge as a whole, or the beds individually, it far, very far exceeds either the Kew or the Crystal Palace gardens. Many of the beds cannot be excelled, and the wavy ribbon is almost beyond what could be conceived." Couple with this statement the fact that the cost of Putteridge is as nothing in comparison with that of the others, and the merits of Mr. Fish will at once be seen to be of the very highest order. Were our descriptive powers in any degree commensurate with our sense of admiration, the pleasing task of recording what we have beheld in the grounds at Putteridge would be more adequately performed. Mr. Fish will probably pardon us for questioning even his ability suitably to describe the fair scene which his ideas of the beautiful and his professional skill have called into existence. Of his powers, indeed, we have had many proofs in the numerous articles which he has, during many years, contributed to the leading horticultural journals (especially his description of the salient points in English, Scotch, and Irish gardens, now being brought out in *THE JOURNAL OF HORTICULTURE*), but it would be putting his well-known modesty to too severe a trial to request him to make the attempt.

We may add here that during the three days of admission, nearly 9000 persons availed themselves of the privilege of visiting the gardens, and it may be safely affirmed that not one returned disappointed. Many more, we believe, would visit Putteridge, but from the dread of their horses being placed so thickly in the stables; we can imagine the risk arising from the packing of something like 140 horses in a space properly adapted for the convenience of a few. A place out of doors seems also desirable for carriages. We content ourselves with mentioning this difficulty, not seeing how it is to be remedied very well.

Putteridge Garden was about the first in this country thrown open to the public without any control being exercised over the visitors, or any fee expected or desired, and during the many years they have been so opened, thousands of persons, of all classes, have flocked to behold them; and if "a thing of beauty is a joy for ever," how happy must they be who have thus ministered to the innocent enjoyment of so many human beings! *Apropos* of this, in passing through the grounds during our recent visit, we heard a worthy gentleman say to Mr. Fish, "I envy you and the Colonel to-day." "Why?" "Because of the luxury you must enjoy in being able to contribute to the pleasure of so many." "Yes, it is a luxury and a privilege too," was the reply.

We may, in passing, venture to express the hope that these visits to Putteridge are not without some influence upon the taste of the visitors; and should be glad to know that the neat flower gardens and windows well filled with plants so common in this neighbourhood, are, in some degree, the result of lessons learned from this silent but most eloquent teacher.

We were sorry to perceive that the throwing of paper bags about the grass is threatening to become a nuisance. In spite, however, of these few delinquencies, we have the authority of Mr. Fish for stating that nothing could be more correct and honourable than the general behaviour of the great assemblage of visitors.

And now, once again, thanks, hearty thanks to the gallant gentleman for another series of most delightful treats. We trust that he finds himself in some degree compensated for his pains by the sight of the happy, blooming beauties which on these occasions Luton and other places pour forth to give an additional charm to the scene. We were going to say something about the presiding genius of the place; we know, however, that he needs no praise of ours, after the professional criticism we have before quoted. He must, nevertheless, allow a word of thanks to "the men." We know with what hearty good will and earnest zeal they give themselves to extra toil to prepare for the visitors, while of their courtesy we have had many instances. Let them emulate their chief, not professionally

merely, but in all those sterling qualities which characterise him as a man, eye, as "the highest style of man." "We were instructed at Putteridge," will be to them one of the best passports to honourable positions.—(*Luton News*.)

### THOMAS FAIRCHILD, THE OLD CITY GARDENER.

ON Whit-Tuesday is delivered in St. Leonard's Church, Shore-ditch, a "botanical sermon"—the Fairchild Lecture—for which purpose funds were left by Thomas Fairchild, who had the Ivy-gardens and a vineyard at Hoxton. He wrote the "City Gardener," 1722, and his name appears in the Hoxton rate-books as early as 1703. Dying rich, he left to the parish of St. Leonard's £50 (increased to £100 by the parishioners), the interest to be devoted to a lecture "on the wonderful works of God in the creation; or on the certainty of the resurrection of the dead, proved by the certain changes of the animal and vegetable part of the creation." In 1856, the Fairchild Lecture was delivered at St. Leonard's by the pious and eloquent Bishop of Oxford. It was formerly the custom of the President and several Fellows of the Royal Society to hear this sermon preached. In 1750, the day was Whit-Sunday, when Dr. Stukeley attended, and was afterwards entertained by Mr. Whitman, the vinegar merchant, "at his elegant house by Moorfields, a pleasant place, encompassed with gardens, well stored with all sorts of curious flowers and shrubs."

Fairchild's book is a thin octavo, entitled "The City Gardener," and dedicated to the Governors of Bethlem and Bridewell Hospitals. In the introduction he says, "I have upwards of thirty years been placed near London, on a spot of ground where I have raised several thousand plants, both from foreign countries and of the English growth; and in that time, and from the observations I have made in the London practice of gardening, I find that everything will not prosper in London, either because the smoke of the sea coal does hurt to several plants, or else because those people who have little gardens in London do not know how to manage their plants when they have got them. And yet I find that almost everybody whose business requires them to be commonly in town, will have something of a garden at any rate. I have been, therefore, advised to give my thoughts in this manner, that every one in London, or other cities, where much sea coal is burnt, may delight themselves in gardening, though they have never so little room, and prepare their understanding to enjoy the country when their trade has given them riches enough to retire from business."

For court-yards and close places, he says, "This part of the city-gardening depends upon more skill than all the rest; for here we have little liberty of air." For these places he recommends Lime, Lilac, Jasmine, Fig, Mulberry, Virginian Creeper, Vine, Privet, Angelica, Lilies, Perennial Sunflower, Martagon Lily, Tradescant's Starwort, London Pride, "Currans," Elder, Gelder Rose, to which may be added annuals and biennials of various kinds. To encourage the planting of such places he instances "two large Mulberry trees now growing in a little yard about 16 foot square, at Sam's Coffee-house, in Ludgate Street;" two others at the Hall of the Clothworkers' Company, which "bear plentifully;" Figs in close places about Bridewell; and other Figs in the garden of the Rev. Dr. Bennett, at Cripplegate, which bear well. "At the Rose Tavern, without Temple Bar, there is a Vine that covers an arbour, where the sun very rarely comes, and has had ripe Grapes on it; and at a coffee-house next to Gray's-inn-gate, there is a Vine which grows very well in a small pot, though it is constantly kept in a close room; this year it was full of leaves before Christmas."—(*City Press*.)

PRODUCE OF AN ORCHARD-HOUSE AT HURSTBOURNE PARK.—A lean-to orchard-house 164 feet long, erected by the Earl of Portsmouth in the spring of 1861, at his seat Hurstbourne Park, Hants, has this season been remarkably productive. From six established Peach trees on the back wall 1350 large-sized and fine-flavoured Peaches have been gathered; or, calculating the crop by measurement, the produce of the six trees would amount to 8 bushels and 1½ peck. Besides which the house has produced a full crop of fine Cherries, both from trained and potted trees; a large quantity of Strawberries of fine flavour from pots; also from pots Plums, Peaches, and Figs, of which no record of the number or weight was kept.—*J. L.*

## CULTIVATION OF CLERODENDRONS.

NOT less remarkable for brilliant-coloured flowers, than, when well cultivated, for rich tropical character and appearance, the genus *Clerodendron* certainly stands pre-eminent as "the Glory Tree" of our plant-stoves and exhibition-tables. Being natives of tropical India, delighting in the moist atmosphere of tropical forests, and being subject in their native habitats to a season of rest, and another of active growth, they require treatment peculiar and systematic in this country, where possibly they are yearly seen in finer perfection than in their native wilds. Agreeably to their native habits, *Clerodendrons* must be allowed to go to rest when they cease flowering in the autumn, and care must be taken to get the wood as thoroughly matured as possible, by exposing it to full sun and gradual heat, cautiously withholding water until the leaves are quite ripe and fall off. After this the plants may be placed in a by-corner of the stove, but do not trust them in the greenhouse, or they will probably perish.

About the first week in March the first batch should be started—say two of each kind, by shaking them clean out of the soil, reducing the roots, cutting them down to the lowest bud upon the young wood, and putting them into pots as small as they can be conveniently got into. The best soil to use for them is well-enriched turfy loam two parts, turfy peat one part, and leaf mould one part, liberally intermixed with potsherds, charcoal, and gritty sand. After potting, plunge the pots in a dung-frame, with a bottom heat of 75° or 80°; water cautiously until the plants begin to start, but sprinkle daily, so as to induce them to break as robustly as possible. Should a number of shoots be produced, and one or two of them seem to take the lead, to the detriment of the others, it will be advisable to remove the strongest and weaker ones so as to give those of

equal strength a good chance to grow. This treatment is more especially necessary with *C. Kämpferi*, upon which it is always desirable to get several shoots. As the plants progress in growth, maintain a temperature of from 65° to 75°, and ventilate freely every day, and through the night also, if possible, so as to promote a robust and sturdy habit. It will be necessary to keep the plants growing in the dung-frame as long as possible, and, indeed, if a deep frame or dung-pit, or a pit heated conjointly by hot water and dung heat, can be spared for their growth until the plants show bloom, no fear need be entertained but that they will be produced in a very superior manner.

As the plants progress in growth, they will require to be removed into larger pots, using the same compost, but substituting good rotten dung for the leaf mould after the first potting. Shift liberally, as a thoroughly good specimen cannot be grown in less

than a 13-inch or 15-inch pot, and a plant so grown will well repay the attention devoted to it. *C. paniculatum* is frequently seen with a panicle of a cockscomb form, which increases the size of the flower-head very materially. To induce this habit of growth, it is necessary to give the plant a slight check, by depriving it of bottom heat until it shows flower, and afterwards growing it very vigorously until the cockscomb character is fully developed. By this treatment, we have had the panicle of *C. paniculatum* upwards of 3 feet long; and though less brilliant in colour than some of its congeners, it is, when so grown, a noble-looking plant. Our woodcut represents *C. fallax*, sometimes called *affine* and *squamatum*; but *C. fallax superbum* is a much finer thing, producing, instead of one, several lateral panicles; from the base of each leaf, indeed, we have had this variety with seventeen

panicles of its brilliant scarlet flowers upon one plant at the same time. This variety is very scarce, but those who go to the trouble of hunting it out, will not regret their outlay in procuring it.

*C. splendens*, a climbing species, is a beautiful thing, either as a pot plant or a stove climber, and where, planted at a corner of the tan or tan-bed, it will grow and produce flowers in great abundance. As a pot plant, it requires to be well pruned-in after blooming, but it must not be so closely pruned as some of the kinds, neither is it advisable to reduce the roots quite so much. Give the plant a season of rest; but after it is started, keep it vigorously growing with a brisk bottom heat. This species and *C. macrophyllum* bloom naturally late in the autumn and partly through the winter; and, indeed, by starting some plants about the end of May, most of the kinds may be had in bloom until Christmas, and at that season no flower can be



*Clerodendron fallax.*

more desirable for making bouquets. *Clerodendrons* delight in rich soil, and also, in the growing season, in rich manure water. This should be prepared by placing one bushel of fresh cowdung and the same quantity of sheep's dung, in a hoghead of soft water, taking care to mix them thoroughly, and adding one peck of soot, one peck of guano, and three or four large lumps of lime. This composition must be frequently stirred for a week before using, and then it will be necessary to use it diluted with an equal portion of clean water. Sprinkle the frame or pit with the manure water occasionally, and if it is perfectly clear and sweet, a little from a fine rose or syringe will be beneficial over the foliage of the plants.

*Clerodendrons* are propagated by cuttings, both of the old and young wood; *C. splendens* by grafting and budding upon the roots of the stronger-growing species, and several kinds by seed,

which is plentifully produced. In making cuttings of the old wood, it is sometimes customary, if the wood is very strong, to split each cutting longitudinally, retaining a growing bud or point upon each, and thus two plants are procured in the place of one. Put the cuttings in very sandy loam, and plunge the pots in a brisk bottom dung heat of 80°. Cuttings of the young wood must be inserted in silver sand; and it will also be necessary to cover them with a bell or hand-glass, and to keep them in a moist growing temperature. When they are rooted, pot them off singly, and treat them as before directed. In raising plants from seed, sow in the usual manner early in March, and pot-off singly when large enough. A strong bottom heat is necessary to induce the seed to germinate. Seedlings make excellent plants, and many of them may be bloomed in small pots, which make them very handy for common decorative purposes.

This tribe of plants is very subject to the attacks of insects, especially of the red spider, thrips, and mealy bug. It is, therefore, necessary, to keep a sharp look-out, and by copious syringing and a moist atmosphere, to keep the enemy at bay. The following are the most desirable kinds:—*Clerodendron splendens*, *fallax*, *fallax superbum*, *paniculatum*, *Kämpferi*, *squamatum*, *infortunatum*, *macrophyllum*, *fragrans flore pleno*, *Bethunianum*.—(*Gardeners' Magazine of Botany*.)

ORNAMENTAL PLANTS.

*NUTTALLIA CERASIFORMIS* (Bird-Cherry-like Nuttalia).—*Nat. ord.*, Rosaceæ. *Linn.*, Monadelphia Polyandria. A dwarf, deciduous, hardy shrub, growing 2 feet high, and bearing thin,



half-transparent, oblong, or oblong-ovate leaves, pale green above, and rather glaucous beneath. The flowers—which are small, five-petalled, greenish-white—grow in nodding racemes, which spring from the base of the young shoots, opposite one of the earliest leaves; they are produced before the leaves are developed, and soon fall. From California: woods near Monterey; introduced, in 1818, by Mr. Hartweg. Flowers in February and March.

*CALOCHORTUS PALLIDUS* (Pale-flowered Calochortus).—*Nat. ord.*, Liliacæ. *Linn.*, Hexandria Polygynia. A pretty, bulbous-rooted, half-hardy perennial, producing a tuft of grass-like channelled leaves, and from among them a flowering stem 6 inches or 8 inches high, supporting three or four blossoms, each on a

slender peduncle; these peduncles grow in an umbellate manner from the base of two or three small leaves, which are produced at the top of the common stem. The flowers are hexapetaloid, the three outer divisions small, ovate oblong, obtuse; the three inner much larger, obovate, rounded at the apex, and attenuated



at the base; they are pale yellowish-buff colour, with a broad angular blotch of dark reddish-brown in the centre. From Mexico; introduced to Belgium about 1844. Flowers in the latter part of summer.

WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 452.)

We may pass over unnoticed a very large number of the Headless Lamellibranchiate Molluscs, as, although presenting many features of great interest which would amply repay an investigation, still they are such as would by no means be likely to come under the notice of those for whom these pages are intended. Passing over then in silence a number of tribes, we proceed to notice the *Mytilidæ* or *Mussels*.

Although a few species of Mussels are found in fresh water, they may be considered as a tribe to dwell in the sea, and may be generally described as oblong creatures having the mantle, so often mentioned previously, open in the front, at that end where the mouth is situated, and close behind, an opening being left for the egress of the fluid. They are provided with a foot, which is of sufficient strength to enable them to crawl about, and they usually affix themselves by a byssus, or filament projecting from the shell. Some species of *Mytilidæ* are littoral, and others inhabitants of the deep water. They are sought for in all localities as articles of food, and by many persons are considered far superior to Oysters. There is one drawback, however, connected with them, they certainly cannot be eaten with the same impunity as Oysters are, for we are perpetually hearing of people being half poisoned after partaking of this favourite fish. All attempts to detect the cause of this have hitherto proved fruitless. It appears to have nothing to do either with the freshness or staleness of the Mussel, the mode of cooking, or the season of the year in which it is eaten, but that very serious, and sometimes fatal consequences have resulted is a well-attested fact, and warns us to be on our guard in making so dangerous a meal. Numbness, debility, convulsions, and a species of nettlerash, are among some of the mildest effects of the Mussel poison, whilst paralysis, epilepsy, delirium, and death, have not unfrequently followed in its train.

*MYTILUS EDULIS* (the Common or Eatable Mussel).—The size of the ordinary English Mussel is from two inches and

half to three inches in length, and about the half of that in breadth. It is found indiscriminately, and in profusion, upon all our coasts near the edge of low water. The shell is so familiar as to need no description here. The animal is of a shape similar to the shell, thick, the mantle open in front, its margins furnished in the middle with cirrhi, or fingers, of a yellowish-white colour, occasionally tinged with brown. The foot is narrow and grooved. Pearls are not unfrequently found in the common Mussel, but they are usually small, ill-coloured, and of little or no value. This is by no means, however, universally the case, for in some parts of Great Britain, a trade more or less flourishing is carried on solely with such pearls as are found in these Molluscs. What use the pearls so found are put to remains a mystery, they appear to be bought up by some monopolist, who, we may readily believe, knows how to turn them to very good account. In a letter quoted by Messrs. Forbes and Hauley, it is said "some suppose that the pearls are sent abroad to be manufactured into seed pearls; others more gravely, that they are exported to India to be dissolved in the sherbet of the nabobs."

**MYTILUS MODIOLUS.**—This is a much larger species than the foregoing, and is from its size vulgarly called the *Horse Mussel*. It averages about five inches in length, and about two in breadth. It may be found on all parts of our coast, in various depths of water, and it is extremely common just below low-water mark, so near that women and children wade out and secure it for the table.

The animal itself is oblong, of a dirty red and orange colour, more or less speckled with a yellowish-white. The byssus or projecting filament is very strong, and of a yellowish colour. It is often found completely enveloped with this filament intermixed with gravel.

**CRENELLA.**—This little *Mytilus* is also very common on our shores, and may be found in abundance, mostly among the roots of seaweed, or among the corallines, both in deep water, and near the low-water mark. It measures little more than half an inch in length, and about five lines in breadth. The animal itself is white, and although it generally prefers a stationary life, still it has the power by means of its foot, to move about with some celerity. It is usually found attached to seaweed by its filament, where it remains patiently awaiting such food as may come within its reach.

**CRENELLA MARMORATA.**—This is another little species of the Mussel tribe, measuring about three-quarters of an inch in length, and five lines in breadth. It is common on our coasts, more particularly where *Ascidia* are found; for the *Crenella marmorata*, if not fixed to stones, is generally to be met with buried in the tough skin of an *Ascidian*. The creature is long, thick, and of a pale yellow colour; the foot is white, and of more use as an organ of feeling than of locomotion. The animal has, however, the means of changing its situation—that is, when attached to the rock, but not when it has burrowed into the skin of an *Ascidian*. The method it employs of detaching itself from stone is by throwing off its old filament (byssus), and by throwing out a fresh one.

These specimens include all that are likely to be met with on the coast by ordinary tourists, and, therefore, are the only ones of the *Mussel* tribe we conceive it necessary to specify. We proceed now to the *Ostrea* or *Oyster Tribe*, which may be generally described as *Headless Lamellibranchiate Molluscs*, in which the two halves of the mantle are separated the entire way round, and where the foot is either altogether absent or very small. They are generally attached to solid bodies by the shell.

The first genus of the *Ostrea* we shall mention is the *Pecten* or *Scallop*. *Pecten Jacobæus* was the badge of the Pilgrim in the days of the Crusaders.

**PECTEN VARIUS** is one of the most common and, at the same time, most elegant shells found on our coast, and on nearly every part of it in considerable numbers. It is generally of a chocolate colour, brown, or orange yellow, and red; the young ones being uniformly red. It is equivalve, and of a shortened ovate shape, both the valves being slightly convex. The animal itself is of a similar shape, and of a pale cream colour. The mantle is open, and its margins fringed with short white tentacles, which are most commonly of a pinkish tint. The foot is short, narrow, and white. In size the *Pecten* measures, in ordinary cases, about an inch and a half in length, and an inch and three-quarters in breadth.—W.

(To be continued.)

## SALE OF ORCHIDS.

A HIGHLY important sale of Orchids took place at Mr. Stevens' rooms, King St., Covent Garden, on Thursday and Friday, the 18th and 19th inst., when the first portion of the extensive and valuable collection belonging to G. Reed, Esq., of Burnham, Somersetshire, who, it seems, is giving up the culture of this class of plants, was brought to the hammer. Among the plants sold were some remarkably fine specimens, which brought high prices, and the total proceeds of the two days' sale amounted to upwards of £1030. The following are a few of the prices which were obtained:—*Cypripedium villosum*, a very fine plant, stated to be the largest in the country, was knocked down after a spirited competition to Mr. Veitch, of Chelsea, for £75. *Odontoglossum nævium* was bought for £32 by Mr. Williams, of Holloway, who also obtained a fine specimen of *Epidendrum prismatocarpum* for £15; *Erides quinquevulnerum*, the white variety, £12; *Erides Schrederi*, £15; *Vanda gigantea*, £15 10s.; *V. cristata*, £10 10s.; *Uropedium Lindenii*, £13 10s.; and some others of less value. Mr. Veitch, in addition to the plant first named, was also the buyer of a large *Lælia purpurata*, which brought £19, *Vanda Cathcarti*, £21, a new *Cypripedium*, £10 10s., &c.

The other principal buyers were Messrs. Bewlay, Basset, Day (of Tottenham), Rucker, Turner, Warner, and Wright, among whose purchases were *Lælia Lawrenceana*, £11 10s.; *L. purpurata*, £14; *Cypripedium Fairrieanum*, £12 10s. and £11; *C. barbatum*, £10; *Oncidium sessile*, £13; *Anguloa Clowesii*, £10; *Odontoglossum citrosium*, £11; *Cattleya Mossia Lawrenceana*, £12 10s.; *Vanda Batenanni*, £23; *Erides Reedii*, £15 10s.; *Cypripedium hirsutissimum*, £15; and *Cattleya elegans*, £22.

The remainder of this extensive collection, comprising a large and fine plant of the beautiful *Cymbidium eburneum*, several fine *Phalenopsis*, *Cattleyas*, *Vandas*, and many other valuable Orchids, is to be sold on Thursday next, the 2nd of October.

## THE CUCKOO AND THE FERN OWL.

THE two birds of which I am about to write are of great value, in an economical point of view, and should be strictly preserved, but, unfortunately, ignorance too often dooms them to destruction, for no other reason that I can discover, than that they have a slight resemblance to Hawks when flying.

The Cuckoo is a summer visitant to this island, arriving about the middle of April, when the trees are putting forth the young green leaf, and the fields their gay attire. The food of the Cuckoo consists of—what? Listen, ye gardeners and fruit-growers!

—Of caterpillars—yes, and almost entirely of caterpillars. If you will allow him, he will come at early dawn, and creeping among the Cabbages and fruit bushes make a hearty breakfast every day of these destructive pests; but if disturbed he retires to the woods and copse to hunt up what he can there find, feeding on the caterpillars which destroy the foliage of trees.

His stay with us is short, so short that he has no time to rear a family, or to settle down to an abode, for when caterpillars are transforming he will be off elsewhere, and early in autumn takes his departure for a warmer clime. His mate troubles not herself over household affairs, the few eggs she lays during her sojourn in this country she deposits in the nests of other insect-feeding birds to whose care the rearing of the infant Cuckoo is confided. The young bird when hatched, shoulders all other occupants from the nest, that he may obtain the undivided attention of his nurses. His cry is that common to young birds when very hungry, and thus he attracts any other birds that may chance to be of a philanthropic disposition. Then he makes all haste he can to get on the wing as soon as possible, and follow his erratic parents to a more genial clime.

The Cuckoo, that harbinger of summer, has been accused of sucking little birds' eggs. No doubt the old nursery rhyme is in the recollection of all, yet I believe the same is a gross libel on both male and female Cuckoo, though the young being spoilt children, are not desirable bedfellows for their nurses' progeny. Mrs. Cuckoo sometimes deposits her egg in such nests that it would be impossible for her to do so in the ordinary way, by sitting on it; and it has been observed that in such cases she conveys the egg in her beak. A Cuckoo being shot, and the remains of her egg found in her mouth, may, perhaps, have given rise to the libel above referred to. Some young birds that were late-hatched, or for want of proper nourishment have tarried too long, got benumbed by the chilly

nights, and creeping beneath some bush or logs have occasionally been found in an almost torpid state, which has given rise to the idea of their hibernating, but such fancies are now corrected by better investigation. The food of the Cuckoo being caterpillars is proof of their usefulness, and explains their early departure.

**The Fern Owl.** The bird is known by a variety of sobriquets, as Goat Sucker, Night Hawk, Eve Jar, Night Reel, &c. It, however, more resembles a nocturnal Swallow than either Owl or Hawk. Its food consists of insects, as moths, beetles, and flies, which it catches on the wing during the evening and night. In the daytime the Fern Owl hides in trees or under Ferns or bushes, and only comes forth as the light declines.

It is a strange-looking bird with its large head; the dark, round, and prominent eye; the small beak and wide capacious gape, the edges of the mouth being fringed with bristles. The body is small and rounded; the wings and tail long; the plumage is dull black, the feathers banded with brown, and shaded with grey, having also some spots of a lighter colour; the feet are short; and the nail of the centre toe is peculiar, it is formed like half a pipe bent rather outwards, the inner edge being serrated like a comb. Their manner of perching differs from other birds, as they sit along the bough, and not across as most birds do. Early in the evening they commence making a long-prolonged croak, or rattling noise, and as they glide from their perch, while skimming along they beat their wings together over their backs, causing a clapping sound. As the evening becomes darker they flit past, occasionally uttering a short pipe or whistle, and pass by on noiseless pinions like some shadowy phantom, anon settling on the road in advance of the evening stroller, or wheeling over head like some spirit of the night. It is now they may be seen hovering among a flight of insects, or chasing some unfortunate moth, or droning beetle. They come rather later than the Cuckoo, and stop longer, so that they breed in this country. They lay two eggs on the ground in a wheel rut, or under some Ferns, or a bush, and rear their own young. The eggs are very pretty, about the size of those of the Turtle Dove, and white spotted with dark blotches.

As the Cuckoo feeds on caterpillars, so the Fern Owl feeds on the perfect insect, and both confer much benefit by ridding us of an immense amount of insect pests, that would otherwise increase to such an extent as to defoliate the trees. Possibly the entomologists might like them to be less numerous, for what a valuable collection must pass down their capacious throats! All other men must, I should think, regard them as useful friends.—  
B. P. BRENT.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

FRESH plantations of Cabbages, Lettuces, &c., to be frequently examined, any that droop without an apparent cause to be examined at the roots, where, probably, a grub will be found, which, if not destroyed, will continue its ravages. *Broccoli*, earth-up the plantations, as they will now be growing rapidly. *Cauliflowers*, a warm, sheltered situation should be selected for the plants to be kept under hand-glasses. Fork-in some fresh loam and well-rotted dung, and arrange the glasses 3 feet or 4 feet apart, forming a shallow basin under each, in which, when the plants are sufficiently strong, three or five plants should be placed according to the size of the glasses. *Mushrooms*, keep the out-door beds protected from heavy rains by a good covering of litter. Maintain a regular degree of heat in houses containing beds and guard against aridity. *Potatoes*, continue to take up the crops as they reach maturity. Sort them before they are housed or pitted, as it will save much future trouble and waste. *Radish*, slightly thin the late sowings of the Spanish sorts. If a succession of the common sorts is required, a sowing should be made in a frame.

### FLOWER GARDEN.

The removal and transplanting of evergreens from the present time to the end of November is attended with more chances of success than at any other period of the year. Whether the planting is done in masses or singly, the ground should be well trenched and drained before attempting to put a plant in; for plants put in singly, if they are meant to thrive, a mere round hole just large enough to hold the roots is not sufficient, but the ground for some space round should be well worked-up to facilitate the progress of the future roots, as well as the escape of water. Mulch the surface to prevent evaporation from the soil,

and, besides occasional waterings at the roots when the weather is dry and windy, sprinkle the tops of an evening, wetting the bark and foliage completely. Carnations and Picotees may now be potted in a compost of loam, leaf mould, and river sand, in about equal portions. Plant offset Tulips, and give the soil of the best bed a turn every week. Plant out young plants of Sweetwilliams, Wallflowers, Canterbury Bells, Foxgloves, Hollyhocks, Heartsease, Pinks, Carnations, Picotees, &c., that they may get established before winter. Prick out young plants of Berberis and Rhododendrons. One-year-old Pinuses and Cedars are better kept in small pots in a protected situation than planted out.

### STOVE.

Very little water should now be given to Gloxinias, Gesneras, Achimenes, &c., but, with the exception of the latter, they should not be allowed to get quite dry. The mealy bug generally increases rapidly at this season and proves a troublesome pest, and if not destroyed gives the plant a most disagreeable and dirty appearance. The best system of extirpation is by brushing it off with a painter's small brush.

### GREENHOUSE AND CONSERVATORY.

The climbing plants in these houses to have a careful regulation, shortening-back the shoots going out of bloom and training the remainder in a regular manner. Climbing plants in pots, as Kennedias, Hardenbergias, &c., to be tied neatly to their trellises, giving all the light possible, and a fair share of air to ripen their wood. A portion of the stock of Chrysanthemums to be placed under glass to forward them; thin-out the flower-buds, and water with liquid manure. The Pelargoniums that were cut back late to be shaken from the old soil and repotted, placing them in a slight bottom heat to facilitate their rooting. In arranging Pelargoniums for the winter, allow them the lightest and warmest part of the house, unless there is a separate house for them, when the Fancies should have the best end; keep them close to the glass, and do not allow them to touch each other. The Lilies of the Valley intended for forcing should be potted and plunged overhead.

### PITS AND FRAMES.

The winter stock of bedding-out plants that are well-established should now be arranged and placed in their winter quarters. As his Majesty has paid us many visits in times past before we were prepared for his coming, and as we have no assurance this season that he will not pop in upon us before he is welcome: therefore, it is advisable to have the stock all housed, and everything in readiness to afford protection when required. The young stock to receive careful attention, and endeavour to get it well rooted and strong without keeping it so close or warm as to render it sappy and liable to damp-off on the first approach of wintery weather, as is often the case with stock got-up in haste late in autumn, and then stored away in cold pits for the winter. Cuttings of Scarlet Geraniums, &c., may still be put in where the stock of such things is likely to be deficient. See to securing as many cuttings as possible of any scarce plants which it may be desirable to increase where there is a fair chance of rooting them, and also be prepared to protect Scarlet Geraniums and other plants which it may be intended to take up and winter.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

PLANTED-OUT Cabbages; removed Onions into a dry place, to wait for a wet day for bunching them; tied Garlic and Shallots in bundles; pulled-up Peas where about done, and thrashed them for what little seed they had; sowed Lettuces for the last time at the base of a wall, to give them a chance of standing the winter; planted-out more Endive, Lettuces, and Winter Greens, that had previously been pricked-out; planted-out the last Celery for spring use, earthed-up the most forward for use, using a little coal ashes round the stems after tying them moderately tight, so as to keep them from slugs and worms, either of which spoils the look of this useful vegetable; watered other beds and rows of Celery with manure water, sprinkling the ground first with a little lime, keeping the black water from the farmyard as much from the stems as possible, and then watering with clear water overhead, to remove any of the black which might adhere to the stems or leaves. At such times, when we can get it, we often see the water too strong for going over the foliage, though not too strong for the roots, especially after it has percolated

through some inches of soil. Partly from necessity and partly from choice, I am getting less partial to strong, rank Celery, and prefer it rather smaller and sweeter; and where nothing but a little leaf mould can be got for manure, we must assist it two or three times with manure watering. I am also thus particular as to the mode of applying the water, because last year some Celery was spoiled by using strong black water, from a farmyard, right overhead, and that without any washing with clean water afterwards. As a rule, such waterings with black manure water should never touch a leaf. Somewhat to our sorrow, our small Mushroom-beds in the shed yielded so profusely as to come in for catsup-making; because, when they come so much at a time, these shallow beds do not often last so long, and, unless on occasions now and then, we would rather have a good supply of large ones for broiling, and buttons for many every-day purposes. The hot weather helped to make the beds white from end to end. Here I would answer a correspondent, who inquires as to the best and quickest way of making

#### MUSHROOM SPAWN

by saying that it is not often that the best and the quickest modes are identical, as there may be much speed, and yet not the same amount of success. The quickest mode I ever tried, was to get a bushel of rather dry sheep-droppings, the same of cow-droppings, dried on a pasture, and the same of horse-droppings, to mix them together, and leave them in a heap that they scarcely heated, and in a month they were a mass of spawn, ready to be planted anywhere. This, however, would require a practised hand, and no beginner to look after it. Other and various modes were described last year. One of the easiest would be to get two parts of horse-droppings, one part of cowdung, and half a part of road drift. Mix these as if making the finest mortar, using little or no water if you can do without. When well mixed spread it out regularly  $1\frac{1}{2}$  inch to 2 inches thick on a hard, dry bottom, and beat it smooth on the surface with a clean spade. In a couple of days cut it out into squares—say of 9 inches, with a sharp edging-iron. Make two, or three, or four holes in each piece with a pin, or one of your fingers, not going through the cake; turn these cakes as the one side gets dry, and when about as dry as soil should be for potting, insert a piece of spawn in each hole, covering it over with a little cowdung. Then pack in heaps, and apply heat to cause the spawn to permeate the cakes.

The plan which we generally adopt, is the following: Make a heap of the above ingredients. If the cowdung and horsedung should be rather moist, we add a little straw chopped very fine. We wish the heap to be as dry as it can be made into a tough dough-like substance. We then provide ourselves with a frame of wood, such as brickmakers use, so as to enclose an open space 9 inches long, 2 inches deep, and 4 inches wide. With this we turn our prepared manure into bricks. Thus: a lump of it is placed beside us on a level table or board. The frame is dipped into a pail of water, placed on the board, filled with the mixture, beat down, and made level on the upper side, while it is sure to be so on the lower. Holding the frame up by one end a slight stroke on the other causes the brick to drop out as clean as can be, generally on a board, so that a number can be easily moved where they will dry. One brick thus succeeds another as quick as I could write the word "brick," and though a little more time is used at first, we think, on the whole, all things considered, this is as good and quick a way as any. These dung bricks are generally placed on their broad side. In a few days they will need turning on the other side, then on one narrow side, and then the other, until all are dry enough through. Two holes are made as soon as they are placed on the board or other hard bottom. These when dry enough have a piece of good spawn thrust into them firmly, which is covered with a little cowdung. The holes and the covering are all done with the fingers, we holding that there is no mechanical contrivance like them, and believing that those who are too refined to touch such things had better never think of troubling themselves, or distracting others, by their attempted gentilities in gardening.

The spawn being thus inserted, when the bricks can neither be said to be wet nor dry, but just in the happy medium a Mushroom-bed should be, the next thing is to get the spawn to permeate the whole brick. This it will do of itself in a shady, dry place in summer. In spring and autumn it will need to be helped. We generally make a slight hotbed in a sheltered place of rather dryish litter—say from 15 inches to 18 inches thick, and in width in proportion to the quantity of spawn. On this we place a layer of the bricks with openings between them,

then a layer above that, with pigeon-holed openings, and so on, lessening the layer until we come to a cene at the top. Then the heap is covered with a little long litter, and the warmer litter placed all round and over it, until a temperature of from  $80^{\circ}$  to a few degrees more—say  $83^{\circ}$ , is secured inside. The bricks being laid open the heat permeates among them more easily. This heat must not be exceeded. In a short time the bricks must be examined, and, perhaps, the top placed at the bottom, and *vice versa*, the running of the spawn being seen by the diminutive white threads getting all through the brick. As soon as a brick is thus done it must be removed, and if kept dry and cool it will retain its goodness for a long period.

All this though simple is attended with such nicety, that where only a moderate quantity is wanted, it is best to purchase from a regular tradesman. Where much is made, it pays well for the attention, but where a vast number of other matters are every day demanding attention, the spawn-heap is apt to be forgotten, and a few hours' over-heating will spoil all the labour. We stated last week how good spawn was to be known, and, in conclusion, to those who are far from a maker, we would say that a little spawn must be got from where the Mushroom grows naturally, or in the mill-track of a threshing machine driven by horse power. Even a few horse-droppings placed in a dry corner will often yield a plentiful supply; but when spawn is needed all the year round, it must be made in some regular way, and though the flat-cake mode is most used by dealers, we prefer the above brick mode ourselves, as the best in our circumstances. We will allow others now to describe their system for another twelvemonth at least. Of course, though we have described the dung-bed above for causing the spawn to spread, it was merely as the most likely to be generally comeatable at this season. Any other contrivance where the heat would not be drying too much, nor too high, would suit equally well; but the heat should, if possible, never be higher than from  $75^{\circ}$  to  $83^{\circ}$ .

#### FRUIT GARDEN.

Besides gathering fruit, finishing summer pruning, watering Figs out-doors and in-doors, the chief work has been watering trees in pots after twisting them round, to stop the progress of roots gone beyond the pot. Of course this was done after the fruit was all gathered, and so as to give the now weaker sun more power to ripen the wood. Removed most of the summer shoots from wall and dwarf trees, that were not well stopped back in summer, to give the latter more light and air.

#### ORNAMENTAL GARDENING.

Swept and rolled lawn, the late fine weather having given a fresh polish to the beauties of the flower garden; and keeping lawn and walks and edgings of beds neat and close adds much to their attractiveness. The leaves are now falling, however, as foreshadows of what is coming, and the finest beds of flowers look tame and melancholy when the leaves keep blowing against their stems. In a few days we will finish the bulk of our cuttings—Verbenas, Geraniums, Fuchsias, Salvias, Pentstemons, Ageratums, Lobelias, &c., and we will make preparations in the course of a fortnight to commence with Calceolarias, which will be quite early enough for them. Our first batch of Verbenas in a cold frame had got such a thicket that they have been moved to a cold earth pit, where six times the space is given them to harden them off. Is seed of *Centaurea candidissima* to be got true? It will make a nice neighbour to *Cineraria maritima*. Has any one got that first-rate from seed—I mean with the real frosted silver of the old plants that were first propagated from cuttings? I have seen none quite so good. I had more than five hundred seedlings last season, but though the leaves in other respects were exactly alike, the colour was far inferior. I thought another year might improve them, but cuttings from these seedlings are no better this year, and bear no comparison to the fine frosted appearance of the old plants. Some of these seed-raised plants are, however, of a smaller type; but for edgings there is nothing like cuttings raised every year. These scarcely ever show bloom, and are always compact, or may be kept so, as already detailed. Though we strike them now, spring is the time to get them to strike quickly and easily.

I have mentioned Prince's Feather doing so badly owing to the coldness of the ground. I might also instance another great favourite—Zinnias. These even now do not fill the space allotted to them, and being fine plants when turned out in June, they stood still, if they did not go back, for ever so long. Though flowering moderately they are now not much above a foot or 15 inches in height. Last year they were double the height and

a dense mass of bloom, without which a row or a bed of them is nothing. In some parts even north of this they have, I believe, done well. The best I have are facing the south, with a shrubby behind them. I like the single or semidouble better than the double. In the double we lose the noble coronet in the centre.—R. F.

## TRADE CATALOGUES RECEIVED.

*Descriptive Catalogue of Roses Cultivated by William Paul, Waltham Cross, N.*

*Catalogue of Bulbous Flower Roots, Fruit Trees, &c., by Sulton & Sons, Reading.*

*Autumn Catalogue of Dutch and Other Flower Roots by Edmondson Brothers, 10, Dame Street, Dublin.*

*Catalogue of Dutch Hyacinths, Gladioli, and Other Bulbs, &c., by John Bell, 10 and 11, Exchange Street, Norwich.*

## TO CORRESPONDENTS.

\*\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**PYROLA MEDIA** plants may be had by *A Galloway Lady*, if she will send her directions to Mr. Robert Smith, Dewsbury Moor, Dewsbury, Yorkshire, he having most obligingly offered to supply her.

**PEAS WITH DARK CENTRES** (*A Reader*).—Your mossy soil evidently contains something that is injurious to the seed of the Pea, and does not supply the plants with sufficient nourishment. We should manure with lime the soil where you intend to grow Peas. Write to Messrs. Barsham & Co., Kingston-on-Thames, for information about cocoa-nut fibre refuse.

**FUCHSIA BERRIES AS A FRUIT** (*Idem*).—We believe them to be wholesome, and they are, as you say, "very sweet, and would look well in a dessert." Dr. Hogg in his "Vegetable Kingdom," says, "The berries of *Fuchsia denticulata* and other American species are eaten when preserved with sugar. *Fuchsia excorticata*, a native of New Zealand, yields fruit which is pleasant, very sweet, and eaten with great avidity by birds."

**COCOA-NUT FIBRE REFUSE** (*A. B. C.*).—Write to Messrs. Barsham & Co., Kingston-on-Thames, W.C.

**YOUNG TRITOMA UVARIA PLANTS** (*A Suffolk Subscriber*).—Keep them watered as long as they hold green, even if that were to Christmas; and while they are at rest do not allow them to get quite as dry as *Dahlia* bulbs usually do. Plant them out in the open ground next April, and they will grow twice as fast as they would in a pot.

**SEMI-DOUBLE FUCHSIA** (*Kentish*).—Not a novelty. It is only the first departure from a single towards becoming a double flower.

**INSECTS** (*A Subscriber*).—We found a good many specimens of a small pale yellow species of thrips in an immature state upon the leaves of different kinds you sent us, and presume (as you say they skip when disturbed), that they are the cause of the mischief. They must be treated in the ordinary way to destroy the thrips.—W.

**TRAINING A PILLAR FUCHSIA** (*R. M. A.*).—The only way by which you can have pillar *Fuchsias* 8 feet or 9 feet high out of doors in York-shire, is to grow some plants to nearly that height in pots, which you may do in one season in a warm greenhouse. Then winter these plants in a cool place free from frost; prune pretty well to the required shape, either in the autumn or early in the spring, leaving the twigs longer at the base, and narrow at the top in the shape of a cone. As soon as the buds break give light and air, but little or no heat, merely protecting from frost. In fact, the shorter and stabbier you keep the shoots the better until you plant out in the garden, say in the beginning of June. Break the outsides of the ball a little, then surround with rich soil, and mulch with rotten dung, and water at the least sign of distress. These will do well where the wind is not too powerful—a gale with us has often marred the symmetry of their outline. Before much frost comes raise the plants, pot them, and keep them cool in winter as before, and the plants may thus be ornaments for years. Success greatly depends on plants having but little growth before they are planted out. The best darks for this purpose are *Voltegro* and *Banks' Glory*, and the best white *Pearl of England*; but numbers do well.—R. F.

**MANGOLD WURZEL** (*H. S.*).—We can state positively that in most places in England and the Channel Islands it has not bolted, or run to seed excessively. Your seed either must have been from bolted plants, or some violent check in the early growth of the seedlings produced the mischief. We do not think that stripping off the leaves under any circumstances is beneficial to the roots, but the leaves may be taken off without injury late in autumn when the growth of the roots is concluding. When the season for sowing returns, we will give you all our information on the subject if you will remind us.

**PLANTING-OUT BURNED STOCKS** (*An Amateur*).—We do not know what stocks you mean; but there can be no harm in planting-out as soon in the end of autumn as you think your buds are ripe.

**CUTTINGS OF CENTAUREA CANDIDISSIMA** (*Mas*).—This plant from its woolly nature is a little difficult to strike at this season, especially if the plants are out in the open ground. Small side shoots strike easiest—that is, slipped off when about 3 inches long, and inserted round the sides of a small pot, and all the leaves removed except two or three of the smallest at the point. If the plants are in pots it will be best to keep them as they are, prune well back say in the end of February, place the plants in a heat of 60°, and strike the young shoots made, when from 2 inches to 3 inches long, in a little mild bottom heat. Seeds might also be tried, though we should be a little doubtful of their coming quite so white in the foliage as those from cuttings. The best edging of this we have seen is at Cremorne Gardens, and there it looks beautiful.

**ZINC BOXES FOR VERANDAH PLANTS** (*Madeline*).—We think zinc preferable to wood for such a purpose, only we would have the zinc painted outside of a light stone colour in such a situation, to prevent the roots getting too warm. We can hardly say how long such zinc troughs or boxes would be likely to last, but we know that all plants we have tried thrive in them. We make cutting-boxes of every old piece of zinc troughing or spouting we can lay hands on, and even tin and other metals, but zinc answers by far the best. We merely cut such old spouting into handy lengths—say 2½ feet or 3 feet, and put a semicircular piece of wood in each end. Though painting the outside of such boxes, we would not touch the inside. We have never yet met with a root that did not like to cling to a piece of zinc. We believe that in time the roots and the water together will exert a wearing-out influence on the zinc; but so long as it holds together, our limited experience would tend to the conclusion that everything likes it.

**LIME WATER FOR FLOWERS** (*Idem*).—Lime water, as clear to all appearance as the most limpid spring water, will injure some plants with hairy-fibry roots, as many heaths and *Rhododendrons*; but it in general will do no harm to soft-wooded or succulent plants if not too often repeated. The chief use in their case is to dislodge worms, and act as a solvent to an extra stock of organic manure in the soil.

**PEACH TREE BRANCHES DYING** (*An Old Correspondent*).—Are you sure that your Peach-house trees are not yet suffering from the effects of the frost of 1860 and 1861? Many trees that stood over 1861 in a rather sickly state have gone this season. If this is not the case, may you not have over-cropped and given too little assistance to the trees? Without further information we can hardly say more.

**LYCOPIDIUM CLAVATUM** (—).—"This, the Stag's-horn Moss, so beautiful on the mountains of Wales and Scotland, is spoken of by Mr. Moore as making a beautiful object when cultivated in a greenhouse and suspended from the roof or side walls. 'I have seen it,' continues Mr. Moore, 'in such situations with branches from three to four feet long, flowering most abundantly, and having a peculiarly imposing appearance.' Can any of your readers tell me whether they have seen it so grown and describe its cultivation? I have found some gardeners who have tried and failed, but none who have succeeded."

[We have not had the opportunity of trying, but you can place entire confidence in Mr. Moore's statement. We shall be obliged by some of our readers stating their successful mode of cultivating this *Lycopodium*.]

**VARIOUS** (*C. M. Major*).—Would you be so kind as repeat your queries as to Fig-culture and large standard *Laurustinus*, as we have no recollection of them? We would report the *Laurustinus* in September, that the roots may run freely in the new soil before winter. The culture of the Fig must depend on circumstances and position; south or north of London; forced, or out of doors; planted-out, or in pots. The large bulb of the *Lilium giganteum* generally decays after blooming, we cannot say always. We never like to go ahead so much with new things. A little cocoa-nut fibre will do no harm to your Ferns; but with peat and loam at command, we would make them the chief constituents of the soil.

**FRUIT-STORING** (*A. S. T.*).—For general purposes, there is nothing better than open shelves. To keep long and fresh, we have found nothing better than large earthenware pots or little wood barrels; the sound fruit put carefully in, and carefully covered down at top, with something almost impermeable to air. We know where Apples, Pears, Walnuts, Filberts, are kept as fresh, or fresher by this mode than any other, merely placing a thick turf, grass side downwards, over the top of the vessel, with a sheet of paper or a piece of calico between the fruit and the turf, and no packing is used. All our experiments with packing injured flavour; bran and sawdust were perhaps the worst. In an underground dry cellar, nothing is better than open benches. But we shall be glad to learn the experience of others.

**GOLDEN HAMBURGH GRAPE** (*C. N. B.*).—We do not find that this variety is more liable to shanking than others, and those who say it is rejected on that account are certainly misinformed. If your Vines are planted outside your vinery, that is the probable cause of the shanking. Keep the roots warmer, and that disease will be likely to disappear.

**FERNEY** (*Felix*).—If for hardy Ferns it need not have a top, though even they grow the more luxuriantly with such a shelter. If roofed, let the roof be a pitched roof and glazed with Hartley's plate glass. As for the planting, that must be dictated by your own taste. It is usual to have heaps of bricks and clinkers arranged artistically, which act also as the drainage so essential to the Ferns' welfare; and these heaps are covered with the soil, formed of equal parts peat, sand, and light loam. If you refer to some of the back Numbers of our Journal you will find plans, directions, and lists of Ferns. We shall publish at the close of the year a volume on the culture, &c., of Ferns in a fernery, with very numerous illustrations.

**WELLINGTONIA SEEDS** (*A Subscriber*).—We do not think that there is any tree of this species old enough in this country to yield perfect seed. The cones fall when the seed is ripe. Write to Mr. Murray, Secretary Royal Horticultural Society, Kensington Gore, W., for the dimensions you need. We do not know them.

**NAMES OF FRUITS** (*H. D. Paine*).—We cannot say to what variety your Pears belong, and the Fruit Committee, on Tuesday last, were likewise unable to recognise them. They are not any of the sorts you mention. (*G. J. Neal*).—Apple, No. 1, Wormsley Pippin; No. 2, Tower of Glammis; No. 3, Golden Noble. The Pear is Flemish Beauty. The seedling Peach resembles in appearance the Royal George.

NAMES OF SCARLET GERANIUMS (*J. Cox*).—No. 1, Tientham Rose; 2, Kingsbury Pet; 3, Lucia Rosa, or one very near it; 4, Miller's Nosegay, or Old Cimson; 5 and 6, flowers fallen to pieces; 7, like Punch, but flowers fallen to pieces; 8, Rubens; 9, Brilliant; 10, Amazon.

NAMES OF PLANTS (*W. G. B.*).—No. 1 is a young outside leaf of the lighter variety of *Hippeastrum reticulatum*—the *Amyllis striatifolium* of the "Botanical Magazine," vol. xlvii., fig. 213. The same bulb was exhibited a few meetings back, before the Floral Committee by Mr. Eyles, from the Chiswick Garden, and out of some thousand kinds of bulbs in the same order of plants, that is the only one which has a white band down the centre of an ovate leaf. The secret in growing the wild kinds of *Hippeastris* is to give them abundance of water while the leaf is growing, or say from March to June, and no more water than will keep the leaves from flagging for the rest of the summer, and when they are at rest the place can hardly be too hot or too dry for them—that is, for the store kinds like this variety of *reticulatum*. 2, apparently some *Pomaderris*; 3, *Spiraea Douglasii*; 4, *Lonicera Ledebourii*. (*R. M. A.*).—*Pteris hastata*, var. *macrophylla*. (*J. M.*).—A close-tufted form of *Saxifraga hypnoides*. (*A Five-years Subscriber*).—1, *Nasturtium*, apparently an unusual growth of *sylvestre*; 2, *Cedronella cana*; 3, *Cnicus arvensis*; 4, *Cnicus lanceolatus*. (*An Old Subscriber*).—*Asplenium bulbiferum*, and *Phlebodium aureum*. No. 1 is *Platycerium alcicorne*. They are all exotics. (*J. L. S.*).—1, *Selaginella pubescens*; 2, *S. uncinata* (cesia). Neither of them is a Fern. (*Joseph Varty*).—1, *Anomatheca cruceata*; 2, *Nepeta micrantha*; 3, *Chelone glabra*; 4, *Epilobium angustifolium*; 5, *Tradescantia virginica*; 6, insufficient.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

OCTOBER 28th and 29th. CALNE. Secs., A. Meath and F. Bailly. Entries close October 15th.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.

### PRESERVATION OF EGGS.

(Translations from *M. Jacque's work on Poultry continued*.)

EGGS laid towards the end of autumn not being as much exposed to a beginning of alteration as those of the summer, are, very justly, considered easier to keep. It seems certain besides, that barren eggs keep better than those that have germs of life in them. Conditions favourable to the preservation of eggs may be obtained in different ways. It has been proposed to cover eggs with different varnishes, with grease, or any plastic substance capable of preventing evaporation or the introduction of air from without; but these means are inconvenient from causing much loss of time, from being expensive, and from frequent failure.

When eggs are only required to be kept for a short time, it is enough to put them in boxes or vessels filled with bran, grain, sawdust, dry sand, coal ashes, &c. These pulverised matters insure keeping, as they prevent evaporation, especially if they are placed in a fresh and dry place where the temperature does not vary.

But the most certain and most durable method of keeping consists in putting the eggs in a vessel filled with newly-made chalk water, and in keeping them in a cool place. Chalk water is prepared by taking quicklime, which is mixed in cold water, in quantity more than enough to cover all the eggs. The chalk-milk which results from the mixture should be allowed to stand some hours. The clear liquid which separates itself from the excess of chalk or lime employed, is the chalk water which should be drawn off for the purpose for which it is required. Not only does this chalk water prevent evaporation, as the eggs are completely covered with it, but the alkaline earth which it holds in solution stops the pores of the shells, and prevents every fermentation whether of the egg or the organic matters that the water may contain.

The following is what M. Mariot-Didieux says on the subject:

"MODE OF ASCERTAINING IF EGGS ARE FRESH.

"A new-laid egg has a white, clear complexion, its varnish shines. Held before the light of a candle its contents appear clear, transparent, and fluid. When this transparency is only partial, the alteration proves they are not fresh. Striking gently on that part of the egg, the sound given will indicate the size of the air-cell, and that will prove its freshness or otherwise. If the egg is turned quickly to one side by a rotatory motion, the movement is regular, if it is fresh and full; but if more or less empty it is hard and irregular.

"OF CLEAR EGGS AND FRUITFUL EGGS.

"Hens alone, left to themselves, can, without any communication with the cock, lay the eggs which are incessantly formed on the ovarian stalk or bunch; they grow there in size, they detach themselves from their stem, enter in a soft state into the egg-duct, form their shell in that organ, and remain there till the moment when the fibres of this reservoir-conduit, incommo-

by the presence of these bodies, contract themselves and push them out large end first, according to Aristotle. The intervention of the male is only necessary to impregnate a small germ or vesicula, which is firmly fixed to the surface of the membrane which envelops the white of all eggs, whether they are fruitful or not.

"The presence of this germ cannot then, in any case, be a sign of fecundation, as it is vulgarly believed. The hens which have been kept separate lay as many eggs as those that run with the cock; we state this as the result of a series of conclusive experiments, but the fact has been long known. But the suppression of the cock is not the only advantage of clear eggs; they are as good as the fruitful ones, and they have the immense advantage of keeping longer, and of being able to suffer any amount of travelling and moving about without other alteration than that which arises from the evaporation of the fluids. The advantage of clear eggs becomes incontestable for those who deal largely in them, because the producer can defer the sale of them till they are scarce and dear. On this subject, let me be permitted a popular saying. St. Augustine says in one of his sermons, that 'popular sayings often contain salutary lessons.'

"A popular saying is, that the eggs laid between the two 'Notre Dames' of August and September are those that should be kept for the winter: a saying acquires value when it is confirmed by reasoning. It is certain that about the 15th August the cock ceases for a time to notice the hens beyond calling to food, &c.; the hens, equally careless, lay only a few clear eggs, which will keep almost any length of time. Towards this period the moult commences—it is an annual sickness, and may contribute to the lack of fecundation.

"In 1849 we placed twelve eggs under a broody hen; six were fertile, or considered such; the six others, laid by two hens that had been by themselves for more than three months, were considered clear: both underwent all the phases of natural incubation. After twenty-two days, the six clear eggs only showed the white become rather more liquid; but the yolk, which was in its natural state, and without any alteration to the eye, the smell, or the taste, became coagulated in cooking, and was eatable, though not good. Four of the fertile eggs produced chickens; but the two others, from causes unknown to us, contained only undeveloped germs, and decomposed humours, having that aspect and smell of rotten eggs which may be well called 'sui generis.'

(To be continued.)

### PENS AT THE BIRMINGHAM POULTRY SHOW.

As the time is approaching for the Birmingham Poultry Show, I am reminded that when I was there last year there was a grave error in the arrangement of the poultry pens. As you are aware, previous to 1860 it was requisite that there should be a cock and three hens in each pen in the generality of the classes, and the pens were of a size to accommodate that number; but the Committee having decided to reduce the number of birds to a cock and two hens, last year the pens were reduced in size. It appears that a certain width was decided upon, but there were a number of main posts in the way which prevented this arrangement being literally carried out, and the consequence was that next to each post there was a pen only about 16 inches wide!

As may be imagined, the unfortunate birds that were the occupants of these narrow lodgings for a whole week had anything but a comfortable time of it; and for any chance they had of being seen, either by the Judges or visitors, they might as well have been at home. You may be sure there was not a little grumbling on the part of the owners of the birds, and not without good reason.

As the Birmingham Show is the largest in point of numbers, so ought it to be the most perfect in its arrangements, and I feel sure that it is only necessary to point out such a defect as I have named to insure its being at once corrected, either by re-arranging the pens or removing the wires from the narrow ones, so as to render them useless for exhibition purposes.—ALPHA.

MANCHESTER EXHIBITION.—We are much pleased to hear that, notwithstanding the much-lamented depression of trade in the surrounding district, the spirited proprietor of the Belle Vue



COCHIN-CHINA.—First, J. Dixon, Bradford. Second, Messrs. H. & G. Newton, Leeds. *Chickens*.—First, Messrs. H. & G. Newton. Second, G. R. Tate, Driffield.

ANY OTHER BREED.—Prize, J. Dixon, Bradford. *Chickens*.—First, C. Lister, Mirfield (Brahma Pootra). Second, J. Dixon, Bradford.

AQUATIC BIRDS (For the best pen in the section).—Prize, J. Dixon, Bradford.

GESE (Light-coloured).—First, Messrs. H. & J. Mason, Drighlington. Second, J. Sheard, Morley.

GESE (Dark-coloured).—Prize, J. Dixon, Bradford.

DUCKS (Rouen).—First, J. Dixon, Bradford. Second, J. Ward, Adwalton.

DUCKS (Aylesbury).—First, J. Dixon, Bradford. Second, G. R. Tate, Driffield.

DUCKS (Any other variety).—First and Second, J. Dixon, Bradford (Grey Calls and Black East Indian).

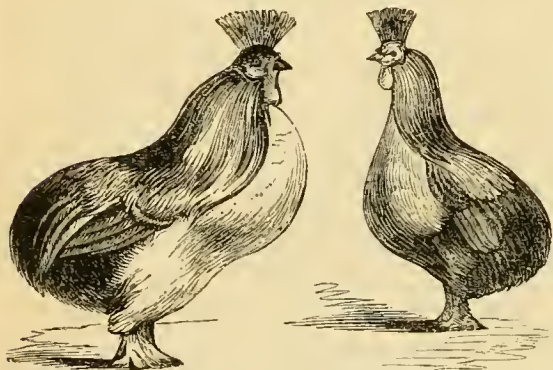
PIGEONS.—*Carriers*.—First, Miss Hughes, Leeds. Second, J. Firth, Dewsbury. *Antceps*.—First, Miss Hughes. Second, S. Exley, Heckmondwike.

*Owls*.—First, E. Holdsworth, Leeds. Second, C. Lister, Mirfield.

*Turbits*.—First, H. Cautley. Second, E. Holdsworth. *Barls*.—First, H. Cautley. Second, J. Fir h. *Tumblers*.—First, Miss Hughes. Second, E. Holdsworth. *Fantails*.—First, Miss Hughes. Second, S. Exley. *Pouters*.—First, H. Cautley. Second, F. Butterworth, Huddersfield. *Nuns*.—First, E. Holdsworth. Second, S. Exley. *Jacobins*.—First, Miss Hughes. Second, C. S. Tinker, Huddersfield. *Common Pigeons*.—First, F. Butterworth. Second, R. Barron, Morley.

The Judges were Mr. T. Dodds, Ovenden, near Halifax; and Mr. T. B. Stead, Leeds.

### THE VALLIKILI FOWL.



OUR contemporary *La Maison de Campagne*, says, "That this new tailless breed is now at the Zoological Garden of Paris." Some say that it is of Persian extraction, but others assert that it is from Ceylon. To us it seems not unlike a cross between the Sultan and Rumpless varieties, and we more incline to this opinion because this breed is said to be met with in some of the French provinces, where the hens are considered early and abundant layers.

### KEIGHLEY POULTRY SHOW.

I HAVE read your report of the Poultry Show held at Keighley with interest, and quite agree with you that greater expedition on the part of the Judges in arriving at their decisions would have added most materially to the satisfaction of all parties concerned in that meeting. From the fact that the prize cards were only placed upon the pens just before the birds were removed, it prevented many who were willing to be purchasers from attaining their object, as the judgment of buyers is always materially influenced by the success in prizetaking. Besides this, even the casual visitors had, in numbers of instances, to leave Keighley before knowing anything of the decisions. As we exhibitors, when successful, naturally feel a pride in the public knowing of our success, I join with you in the hope that such unnecessary delays may not occur in future.—H.

### NEWCASTLE (STAFFORD) POULTRY SHOW.

The following is the list of awards:—

GAME.—First, G. Cargey, Sandon Farm, Stone. Second, J. Stubbs, Wee on Hall. Highly Commended, G. Cargey; T. Hill, Chateau, Eccleshall.

SPANISH.—First, J. R. Rodbard, Aldwick Court, Wington, Bristol. Second, Duke of Sutherland, Trentham. Highly Commended, J. Clews, Walsall. Commended, G. Cargey, Sandon Farm; G. Fleming, Trentham.

DORKING.—First, Dr. Hewson, Coton Hill Stafford (Coloured). Second, G. Cargey, Sandon Farm (Silver Grey). Highly Commended, G. Cargey (Silver Grey); E. Shaw, Plus Wilmot, Oswestry; Dr. Hewson (Coloured).

COCHIN-CHINA (Any Variety).—First, R. Adams, Harborne Heath, Birmingham (Partridge). Second, T. Stretch, Ormskirk. Highly Commended, G. Lamb, Compton, Wolverhampton (White); H. Bates, Harborne Heath Cottage, Edgbaston, Birmingham (Buff). Commended, C. Baobery, Standon (White).

HAMBURGH (Golden or Silver-spangled).—First, J. Leech, Newcastle (Golden-spangled). Second, G. Cargey, Sandon Farm (Silver-spangled). Highly Commended, G. Cargey (Silver-spangled); J. B. Bruce, Keele Hall Farm (Silver-spangled); W. Cannon, Bradford. Commended, W. Hyatt, Highfields, Wolstanton (Golden-spangled).

HAMBURGH (Golden or Silver-pencilled).—First, T. Lawrence, Cauldon Place, Shelton (Golden-pencilled). Second, W. Cannon, Bradford. Highly Commended, T. Lawrence (Golden-pencilled); J. Martir, Claines, Worcester. Commended, Mrs. E. Tavenor, Aston Hill Farm, Stone (Golden-pencilled).

TURKEYS.—First, J. Coxon, Freeford, (Cambridge). Second, J. Brassington, Barlaston (Bronze).

GESE.—First, Mrs. M. Seamons, Hartwell, Aylesbury. Second, J. Brassington, Barlaston. Highly Commended, Mrs. A. Baker, Grendon, Atherstone. Commended, G. R. Tate, Driffield.

DUCKS.—First, Mrs. M. Seamons, Hartwell, Aylesbury (White Aylesbury). Second, G. Cargey, Sandon Farm. Highly Commended, Mrs. A. Baker, Grendon, Atherstone (Rouen); W. T. Locker, Tillington (Black East Indian); E. Shaw, Plus Wilmot, Oswestry (Aylesbury); G. R. Tate, Driffield (Aylesbury). Commended, G. Cargey, Sandon Farm.

EXTRA STOCK.—Highly Commended, Mrs. Blay, the Poplars, Gregory Bank, Worcester (Silver Poland and Black and White-Crested). Commended, Mrs. Blay (Andalusians).

The Judge was Edward Hewitt, Esq., Eden Cottage, Sparkbrook, Birmingham.

### MELTON-MOWBRAY POULTRY EXHIBITION.

The following is the prize list:—

SPANISH.—First and Second, M. Brown, Ab-Kettleby. Commended, A. Guy, Eaton; N. Whitechurch, Melton. CHICKENS.—First, Duke of Rutland. Second, N. Whitechurch.

DORKINGS (Coloured).—First, A. Guy, Eaton. Second, J. Smith, Sedgbrook. Commended, N. Whitechurch, Melton. CHICKENS.—First, B. Everard, Bardon Hill House. Second, J. Smith. Highly Commended, N. Whitechurch. Commended, A. Guy.

DORKINGS (White).—First and Second, R. D. Miles, Keyham. CHICKENS.—First, W. Chamberlain, Desford. Second, Captain Buckley, Desford.

DORKINGS (Silver Grey).—First, N. Whitechurch, Melton. Second, J. Smith, Breeder Hills. CHICKENS.—First and Second, N. Whitechurch.

COCHIN-CHINA (Coloured).—Second, H. C. Woodcock, Rearsby. (First prize withheld.) CHICKENS.—First, H. C. Woodcock. Second, Captain Buckley, Desford.

COCHIN-CHINA (White).—First, H. E. Emberlin, Humberstone. Second, Captain Buckley. CHICKENS.—First and Second, N. Whitechurch, Melton. Commended, H. E. Emberlin.

GAME (White, Piles, and light colours).—First and Second, J. Wilders, Croxton Kerrial. CHICKENS.—First, T. Whitaker, Melton. Second, J. Wilders.

GAME (Red, and other dark colours).—First, B. Everard, Bardon Hill House. Second, J. Wilders, Croxton Kerrial. CHICKENS.—First, T. Whitaker. Second, B. Everard. Commended, B. Everard.

HAMBURGH (Gold, Spangled, and Pencilled).—First, J. Smith, Breeder Hills. Second, A. Houghton, Asfordby. CHICKENS.—First, Captain Buckley, Desford. Second, H. E. Emberlin, Humberstone.

HAMBURGH (Silver, Spangled, and Pencilled).—First, A. Houghton, Asfordby. CHICKENS.—First, Capt. Buckley, Desford. Second, H. Marshall, Cotgrave. Commended, Capt. Buckley.

BANTAMS (Game).—First, B. Everard, Bardon Hill House. Second, T. Whitaker, Melton.

BANTAMS (Black).—First, J. Goodyear, Cawthorpe. Second prize withheld.

DORKING COCK (Any colour).—Equal prize, N. Whitechurch, Melton; Capt. Buckland, Desford.

DUCKS (White Aylesbury).—First, N. Whitechurch, Melton. Second, H. C. Woodcock, Rearsby. Highly Commended, J. Smith, Breeder Hills.

DUCKS (Any other variety).—First, H. Marshall, Cotgrave (Rouen). Second, S. Pool, Brentingby (Albridge). Highly Commended, W. Chamberlain, Desford (Buenos Ayres).

GESE.—First, J. Smith, Breeder Hills. Second, W. Kirk, Wymondham. Highly Commended, G. Cooper, Scargave. Commended, Duke of Rutland.

TURKEYS.—First, Duke of Rutland. Second, J. Smith, Breeder Hills. Highly Commended, N. Whitechurch, Melton.

PHEASANTS (Golden).—First, J. Buck, Leicester. Second, no competition.

PHEASANTS (Silver).—First, J. Buck, Leicester. Second, N. Whitechurch.

PIGEONS.—*Pouters* or *Croppers*.—Prize, H. E. Emberlin, Humberstone.

*Carriers*.—Prize, H. E. Emberlin, Humberstone. Highly Commended, H. E. Emberlin. *Tumblers*.—Prize, W. Chamberlain, Desford. Highly Commended, H. E. Emberlin. *Any other distinct variety*.—Prize, F. W. Montgomery, Gadsby (White Trumpeters).

RABBITS.—*Heaviest Weight*.—Prize, W. Chamberlain, Desford. *Length of Ear*.—Prize, N. Whitechurch, Melton. Highly Commended, Mrs. Hubbersty, Eastwell. Commended, W. Chamberlain. *Any other kind*.—Prize, W. Chamberlain. Highly Commended, Mrs. Hubbersty. Commended, N. Whitechurch; C. C. Woodcock, Rearsby.

The Judge was Edward Hewitt, Esq., Eden Cottage, Sparkbrook, Birmingham.

### THE HONEY SEASON IN DEVONSHIRE.

EARLY CESSATION OF BREEDING AMONG BLACK BEES.

DURING the past few weeks I have been collecting all the condemned bees I could meet with within a radius of three or four miles, and having expelled them from their hives by driving,

have applied them to strengthening weak artificial swarms, and such of my stocks as had been too much weakened by repeated divisions. This has afforded me an excellent opportunity of ascertaining the character of the past honey-season in this locality, and has confirmed my impression that it has been most wretched. I find that a great many swarms died of starvation during the wet weather in June, whilst of those which survived few indeed have half filled their hives with comb, and still fewer are heavy enough to stand the winter.

Another circumstance has also forced itself on my attention, and that is the complete and remarkably early cessation in breeding which appears universal among the black bees. In an old, strong, and well-provisioned colony, on which I operated on the 5th inst. (September), I discovered a small quantity of sealed brood just ready to issue from the cells, but not a single egg or young larva; whilst from that time I have not found brood in any stage in one of the numerous stocks and swarms that I have expelled from their domiciles.

In this respect my Ligurians assert their wonted superiority. Although even with them breeding manifests an unusually early decline, I can still show patches of sealed brood as large as my hand, many thousands of young bees just out of their cells, and eggs and larvæ in all stages, and this in stocks which have not been stimulated by recent feeding. This superiority becomes the more striking when it is considered that my stocks are not nearly so well provisioned as many of the black colonies which I have examined, whilst my locality, in the immediate vicinity of a large town, is decidedly inferior to theirs.—A DEVONSHIRE BEE-KEEPER.

### LIGURIAN BEES FOR AUSTRALIA.

THE following paragraph is copied from *The Exeter Gazette* of the 26th inst. We understand that the four hives were sent out by Mr. Edward Wilson, a gentleman who has spared neither trouble nor expense in the cause of introducing new animals of the most improved breeds to the colony of Australia. The same ship which takes out these Italian emigrants conveys also a quantity of the finest breeds of poultry and others of the feathered race resigned, we believe, to the Melbourne Acclimatisation Society. We doubt not the "DEVONSHIRE BEE-KEEPER" has exhausted his ingenuity in the attempt to insure the safety and comfort of his little favourites during their long confinement, and we hope in due time to be enabled to announce that he has been perfectly successful.

"On Tuesday last we saw four hives of bees of the Ligurian breed, which had been selected and packed for exportation to Australia by T. Woodbury, Esq., of Mount Radford. Mr. Woodbury has long enjoyed a high reputation for his knowledge of bees. He was the first to introduce the Ligurian species of honey bee (*Apis Ligustica*), into England; and he has now brought their culture to a high state of perfection. Through the pages of THE JOURNAL OF HORTICULTURE, "The Bath and West of England Society's Journal," and other channels, he has made known his views on these interesting insects. The first honey taken in England from Ligurian bees, being also the two finest suppers in the building, are from his apiary, and are now in the International Exhibition, where they are exhibited by Messrs. Neighbour & Sons, 149, Regent Street, whose stall is in the Eastern Annex. The order for the four hives from Australia was received through that firm, and from the admirable manner in which Mr. Woodbury has packed the hives there is little doubt that they will reach their destination safely. It required no little ingenuity to devise a hive which should at once afford air to the bees, and yet be perfectly secure against accident. This, however, has been accomplished. The hive proper consists of a wooden box filled with frames, in which are inserted the combs after the German fashion. The whole is then mounted on a "nadir" with perforated zinc, bottom and sides, a space being left at the bottom to receive the droppings from the hive, and thus prevent it from becoming choked. The top is also covered with perforated zinc, over which is a covered receptacle, in which is placed a wet sponge (to be redamped every two or three days), so as to afford moisture for the bees. In the hive is a stock of honey sufficient to last until March next, *The Alhambra* by which they will be conveyed left Southampton yesterday, and will, it is hoped, reach Australia in sixty days. The bees have been selected with the utmost care; all of them being less than three months old. We hope that Mr. Woodbury's care and trouble will be rewarded with success."

### HONEY AND WAX AT THE INTERNATIONAL EXHIBITION.

(Continued from page 504.)

PRUSSIA.—F. V. Burchardi, *Hermsdorf*.—Specimen combs, most of them black and dirty-looking, worked on frames in unicomb compartments on artificial wax foundations, which I shall say more about when I arrive at the Swiss court. The complicated unicomb affair here is built up in the shape of a cross, which, to people who could afford the whole of their time to attend to it, might prove interesting. It has got a "prize medal," and that is all I have thought worth while to say about it. A quantity of dirty-looking honeycomb, in dirty bell-glasses, is also exhibited here.

Berlin.—C. Blumer exhibits honey wine, which for colour and fineness looks exactly like my own; though from the thinness of the bottles it is not so effervescing, or it would certainly burst them. It is to be found near the entrance on the ground floor of the south-west tower, and is awarded a "prize medal;" and from the circumstance of there being one bottle less the half-dozen, it is possible the Jurors did taste it. Upon a further inspection, I observed written, "Agent, 20, St. Dunstan's Street, City." I shall procure a bottle on the first opportunity, to try.

WURTEMBERG.—E. Weitzel (Society for Breeding Bees), *Sonnenberg*, exhibits a model storifying, or bee-hive-house in miniature. The wooden hives are packed in tiers, in the shape of a cross, one limb forming a portico, having for its entablature one tier of hives supported by two pillars. A roof is made to clip the whole. The square space, or room, which forms the inside, is entered by a regular doorway. The hives are square, on the bar-and-frame principle, and are made to open for the bee-master's inspection of the inside. They are all numbered, and have their corresponding numbers on the skirting below for the purpose of writing observations against, referring to the state of the hive. The bee-entrances to the hives from the outside are made to close with horizontal slides at pleasure. It is, architecturally, a spirited contrivance for an enthusiastic lover of the craft; and I ought to mention that the lowermost tier of hives is raised from the ground—let us suppose 3 feet, on a frame skirting, but the entrance-door opens down to the ground.

GREECE.—Demos of Salamis, and A. Theodosios, both get "prize medals" for muddy, inferior honey in bottles. There is a bottle of honey with its head off by Demos of Monembasia, which is the whitest and best-flavoured sample; and if any of these honeys deserved a medal the latter is the sample that should have got it. Other honey should be here, according to book, but I could not find it, and no matter, if no better. The wax is good. Demos of Gytheon receives a medal for white; and Demos of Phellias, ditto. For other specimens, which were much the same, the numbers and names were in a confused state, and my time was too limited to allow me to rectify them.

IONIAN ISLANDS.—Cephalonian Committee.—A middling-looking sample of honey from Spartilla, "honourable mention." B. Cerigo, G. Varipati, a muddy sample, "prize medal." A. Caligero, muddy, "prize medal;" and also some honeycomb (*Calamos*) in a large glass jar—a complete mess and dark-coloured, which also gains a "prize medal." The attendant made objections to my request to taste these specimens, and if I may judge from their bad looks he had good reasons. The jars, however, look as if they never have been opened. There are two poor specimens of wax, which took me three-quarters of an hour to find; they gain a "medal and mention."

ITALY.—There are many specimens numbered to this court in the catalogue not to be found, and some numbers to be found which are not specified in the catalogue. "No. 447, honey," for instance, is not down in the catalogue, but it is on an "honourable mention" card with this specification—"for goodness of quality." I found this mention slung around the neck of a bottle in a case numbered 747. At last, thought I, there is a sample of fineness and colour. I sought an attendant to allow me to taste, when, on lifting up the "card," it proved to be natural oil (*olio naturale metazze*). I tired out his patience to find out, if we could, the number of the natural owner of the "honourable mention," and he (the attendant) gave me quite up to my own devices; and any one who has seen that Italian stand of bottles in the gallery may pity me if he can.

At last I did find a bottle numbered 747 (the number of the oil), which proved to be honey. I suspended the card around its neck, and marked, with the attendant's leave, 447, the number on the card, with my pencil over 747, which number he wanted

to erase from the bottle entirely, but I persuaded him not to do that. I have been thus particular in mentioning this circumstance, in order to point out to "unsuccessful" exhibitors the negligent way in which medals and mentions have been tossed to persons, which must tend to bring these honours into contempt and to be valued accordingly, which is a pity; for "Nec quæere nec sperare honorem" was the rare old Bolingbroke motto which I took for my text on becoming an exhibitor, and which ought to be emblazoned on every Jurors' committee table to constantly impress upon their minds the manner in which the importance and value of their decisions are to be taken by the public. There is a bottle of "Hyblean honey" by G. Lavaggi, and others with honeycomb and honey by Majorana Brothers, Catania, both of which have got medals "for excellence of quality." I must say, then, there is no accounting for taste or for looks either, as nastier-tasting or worse-looking honey I never saw—it fairly stinks. The best specimen of the whole was a finite quantity I probed from the bottom of a little bottle which had got emptied somehow or other, and purporting to be "Mont Hebla honey." That single drop was worth the medals and mention given to the rest.

In wax some specimens notified are minus. G. Carobbi, Florence, exhibits samples in a case tastefully got up, for which he gains a "medal;" and Astengo, Brothers, Savona, show some very good manufactured wax. Cav. N. Maffei, Volterra, is named as having models of bee-hives, but these I could not find here. I then descended the grand staircase from the gallery, and struck through the Roman Court by the "Reading Girl." I had read of this sculptural work of art, and now coming upon it suddenly and without design, it rivetted me intensely to the spot. It is very fine. One almost longed for the power to infuse breath and life into the sculptor's work, and to possess it for one's household god.

NETHERLANDS.—Amersfoort, E. E. Visser, sends the largest quantity and most uniform sample of yellow wax to be found in the building; bright and good. M. Wolff, Amersfoort, sends two large round cakes, though not quite so bright in appearance as the above. A glass bee-hive is also catalogued, but "not come."

PORTUGAL.—There are also forty-two entries of honey in the catalogue, thirty-one of which I found. There are some of good quality, some middling, many very nasty, and most are shockingly shown; some samples even are sent in common black wine-bottles, so I shall resort to the art of calligraphy here, for the notes I have, if given *in extenso* would unworthily occupy a whole column of this paper. One specimen, before I attempted to taste it, I booked thus:—"Very fine golden straw colour," but which, upon closer friendship, turned out to be "oil of almonds." I cautioned the attendant that a good sip mistaken for honey might poison a person, and that it would be as well to get it removed from amongst the honeys—a caution he seemed to deem quite unnecessary. The tone of my notes rings thus:—brown, muddy; olive green, pretty good, tolerable, very bad, good. The best specimen, to my fancy, is "wild honey" by F. M. Loureiro, *Serpa*; no medal or mention is given—albeit, there is better-flavoured honey than the Italian, and better-looking than the Ionian. There are several entries for wax. I could find but three only, mixed up with resins and copals, for which they might easily be mistaken. A. J. de Seixás, from *Loanda* and *Benqualla*, and B. J. Brochado, *Mossamedes*, show coarse, dirty-looking, yellow wax. A bee-hive also is mentioned; I could not find it.

SPAIN.—Being next to Portugal, I will mention her now in case any one should feel enterprising enough to go over my notes. There are twenty entries of honey for this court, most of which may be here in bottles, and in barrels, in bladders, jars, and cakes, but they are placed so as to be difficult to inspect. Don Juan Rodríguez, *Lorenzo*, gains a medal for a good-looking sample of white honey; and B. Oliver, *Baleares*, also got a medal for a sample not so good-looking. I regret I could not get to taste them. V. Delgado has a "medal" for white and yellow wax; Carrona, for white wax and candles, an "honourable mention;" and another exhibitor, who I can suppose feels chagrin, has hidden his name and number behind some of his, certainly the best, white manufactured wax in the collection.

VENEZUELA sends white, brown, and yellow wax, very good; and a large cake of vegetable wax—at least, I concluded it to be such from its appearance, for I could see no specification. They are strong in artificial wax flowers and fruit here, over which I dwelt as long as I could—they do look so refreshingly tempting. Passed over, though, without medal or mention.

RUSSIA (Gallery).—Kazan, Prof. Klikevsky, sends crystallised (my term for this description has been "congealed") honey; and the Countess Olga Rochefort, *Ossa Cive*, gains a "prize medal" for some peculiarly flavoured "lime-tree-blossom honey, obtained by cold pressure." No wax; but F. Krause, *Warsaw*, sends its representative in the shape of "compact bees-wax paint for polishing the floors yellow," or any other colour. "Directions for use:—To every pound of this paint take one quart of soft water, into which, after being well boiled, put the paint out into small pieces, and mix it well together till the paint is thoroughly dissolved, and, while still in a hot state, dip a brush in it and paint the floor; then let it get perfectly dry, after which well rub the floors with dry brushes, and a beautiful polish will be produced." This looks feasible, and the composition is cousin German to Ferm's furniture cream. "Models of bee-hives" again I could not find, nor any one to refer to.

SWITZERLAND (Gallery).—F. Beck-Leu sends two little bottles of congealed honey, which I shall call the "cherub," from their being perched aloft in such an excellent position to be seen. The Jurors, furthermore, watched their welfare by giving them a "medal." This honey stands in these notes as being the third best for quality of the run honey in the building. Thus: my virgin honey, to my English palate, first; the "Miel de Table Cstanais," second; and M. Beck-Leu's, third. There is, also, *dos-a-dos* with the cherubs, a small tin canister of "alpine honey," by F. Wassali, Coire, which gains a "prize medal." The top of the tin resisted my endeavours to twist its head off, but having the fear of the flavour of tin before me, I do not think I cared to exert my strength to the utmost. This court possesses some "stereotyped" zinc-lead plates for the forming of worker-comb foundations. Each plate is about 1 foot by 10 inches in diameter, and two-eighths of an inch thick. Melted wax is run upon the face of one of the plates, which is slightly indented with fac-simile basements to honeycomb; then another plate to correspond is pressed flat upon it; these mould the thin foundation-wax, and it is thereto fixed centrally in the frames, to guide the bees, and save them great labour and loss of time and honey; at least, this was my explanation, as I read the *prima facie* idea of the contrivance before me. In a small box there is a specimen of honeycomb completed by the bees from these foundations. There is, also, what I will call for illustration, a kind of grooved impress roller, worked by two handles as you would a horizontal rolling print on the top of a pound of butter, which, when passed over wax on the sides of the bars or frames, forms sections of foundation cells longitudinally. Capital ideas both of them. I send you two specimens of the foundation wax, which I hope will escape the postmaster's impress. No. 1, is that of Professor Menzel and Graburg, Zurich; and No. 2, is a specimen of M. Burchardi's. The Swiss sample gives the bases of the cells most perfect, though I could perceive no difference in the after-workings of the combs of either, in so far as regards regularity, and the size of the cells. There is no medal or mention for these in the Swiss court, which they deserve, so I hope they meant it for the artificial foundation-combs in the Prussian department.

TURKEY.—The honey is decent, though dark-coloured, and there are some specimens of yellow wax, which are placed in a dark corner partly surrounded with skins of animals, which smell none of the sweetest, and may have proved too strong for the nasal propinquities of the Jurors, as I observe no medals or mentions hereabouts.

Thus ends my survey, and insufficient though it may be, I trust it will be sufficient to prove to us English apiarists that we stand in the front ranks, and that we mean to maintain ourselves there.—UPWARDS AND ONWARDS.

## OUR LETTER BOX.

DUCKWING GAME COCK (H. L.).—There are two Duckwings—the Old Duckwing and the Silver Duckwing. We thought this question was set at rest long since. The copper saddle among Duckwings can be found in print or writing a century and a half ago, and is essentially part of the bird. Our notion of a Duckwinged Game Cock is as follows:—Light straw hackle and saddle, black tail, breast and thigh, copper saddle, and duckwing. We believe you are quite right, and that a dark copper saddle is a good point. Spangles, tassels, and Lark-crests are among the eccentricities of Game fowls. They belonged to a past age, and may rank with four-inside post coaches.

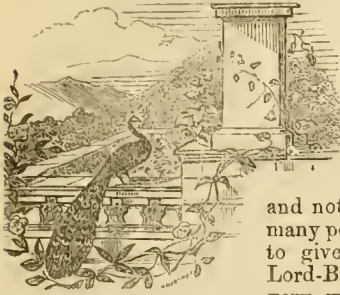
PLAGUE OF FLIES (E).—Autumn is the season when flies seek shelter in houses from the chilly night and morning temperatures. The only way to exclude them is to have lace netting before the part of any window that is open; and to destroy them, pour half a pint of boiling water on a quarter of an ounce of quassia chips, sweeten the liquor with sugar, and offer it on plates to the epicurean flies. It is really a "bitter cup" for them.

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 7-13, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.	Sun Sets.	Moon Rises and Sets	Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.							
7	Tu	Dyckia altissima.	30.631-29.930	degrees.			m. h.	m. h.	m. h.		m. s.	289	
8	W	Echeveria coccinea, &c.	29.836-29.738	72-50	S.	.01	12 a 6	24 a 5	11 a 5	15	12 23	281	
9	Tu	Erica aurea, &c.	29.888-29.839	76-50	S.	.01	14 6	22 5	11 a 5	15	12 40	282	
10	F	Fuchsias.	29.952-29.578	77-41	S.W.	.02	15 6	20 5	3 5	16	12 56	283	
11	S	Phloxis nepetifolia.	29.592-29.391	72-55	E.	.18	17 6	17 5	5 6	17	13 11	284	
12	SUN	17 SUNDAY AFTER TRINITY.	29.945-29.876	71-45	S.W.	.11	19 6	15 5	42 6	18	13 26	285	
13	M	Statice mucronata.	29.975-29.876	70-50	S.W.	—	20 6	13 5	25 7	19	13 41	286	
				73-52	S.	—	22 6	11 5	16 8	20			

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 60.7° and 42.7° respectively. The greatest heat, 74°, occurred on the 7th, in 1834, and 8th, 1859; and the lowest cold, 25°, on the 11th, in 1860. During the period 115 days were fine, and on 130 rain fell.

A FEW WORDS ON HYACINTHS.



BEGIN to think that that expression "you know," which we are so prone to use in conversation, is a very troublesome and deceitful word — that it implies ignorance and not knowledge—and that many people are foolish enough to give their head a sort of Lord-Burleigh shake and look very wise, when, if they are

really interested in the matter, they would give anything for some information; only it looks so much wiser to be supposed to know all instead of saying, "Pardon me. I do not know." Alas! how much of sham there is even when we least intend that it shall be so. And does not the speaker too do wrong, often unconsciously doubtless, in supposing that people know (because the subject is so familiar to himself), all the little details which after all give their hue to the story or account? The account of a battle may be so skilfully worded by the ingenuity of a Secretary of War, that what was really a disgraceful defeat is only a strategic movement, and what was a doubtful onslaught becomes a glorious victory.

Well, now, what has all this to do with Hyacinths? Why, just this—that I fear in writing on such matters, we (for I desire to include myself amongst the culprits), while giving directions on many points omit the trifling matters of detail, which tend to either spoil or make the matter. How many a careful housewife has brought down on herself ill-deserved reproach, because in preparing the *ragout* she has been told to add a *little* onion or a *small quantity* of pepper; and has thereby (a little being an unknown quantity), been told by one that it was abominably strong of onion, and by another that their throats must needs be made of copper to stand such fire. And so I, the other day, having received through the kindness of some friends a nice lot of Hyacinth bulbs, and distrusting my own knowledge on the subject of their growth, thought I would consult some of the authorities. I had a number of catalogues, the "Proceedings of the Horticultural Society," gardening books, &c., before me; and yet, strange to say, I did not find exactly what I wanted. One mentioned the kind of compost, but said nothing about proportions; another, the material to be plunged in, but nothing of the position or the length of time in which they were to remain there. So, having read all, I bethought myself, Now I will set to work. My task was finished; and then it occurred to me, having freely confessed my ignorance, I may now, perhaps, without presumption, sit down and tell others what I wanted to know myself, and what my own experience in such matters has suggested to me. Leaving, then, out of sight the cultivation of the Hyacinth in moss or water, both of

which we know are practicable, I shall treat of it as to be grown in pots or in the open air.

I. CHOICE OF BULBS.

It cannot be too strongly impressed on those who desire to grow very successfully or to compete, that as soon as the bulbs arrive from Holland they should go to the importer with whom they are in the habit of dealing and select at once their supply. The first and best consignment arrives generally in the latter end of August. Second and third importations are always to be mistrusted; as the market is so sure and the English importers such good customers, that those which are left behind are generally inferior bulbs, and are either disposed of in this way or else sent over to auctions, where they may be purchased at a very low rate. The bulb should be hard and solid and the base sound. Size is no criterion; some sorts, such as Mammoth, being always large, and others, as Prince Albert, always small. Nor can any rule be given as to shape, some being quite conical at all times, and others spherical or flat. Weight is something; but after all much must depend on the character of the person with whom you deal—and honest and trustworthy men are to be found in abundance. It is, however, better to avoid those bulbs which have the appearance of throwing out many offsets, as they will be sure to weaken the parents. Never choose from bulbs in windows "weighed from sample," does not hold good here.

II. COMPOST.

Although it is perfectly true that the Hyacinth will flourish in any strong rich soil, in which its roots can have fair play, yet to grow it well attention must be paid to this point above all others. That which I prefer is about one-third of good rotten cowdung, one-third of old hotbed manure, one-third of good yellow loam, and about one-eighth of silver sand to be added to this mixture. I prefer the hotbed manure to leaf mould, inasmuch as there is more strength in it, and the decomposed straw gives, I think, sufficient of vegetable fibre to it. The materials should be well rotted, although this is not so necessary as in the case of some florists' flowers, a twelve-month being sufficiently long for the manure to have lain. If there is no loam in the neighbourhood, and one lives within a hundred miles of London, I should not hesitate to advise getting some from Mr. Kennard of the Old Kent Road. It will not cost more for a good batch of Hyacinths than the price of a couple of good bulbs, and I would not "spoil the ship for a ha'porth of tar."

III. SIZE OF POTS.

For general purposes—that is, where you wish to simply grow them for decorative purposes, you can have very fine blooms in 32's—that is, about 6 inches across inside measure. To obtain, however, fuller spikes and such as may successfully compete at exhibitions, a larger size, 9 inches across, will be preferable. Where they can be obtained, pots made on purpose of considerably greater depth than usual are to be preferred; but if plenty of room be given, this will not be of so much importance.

## IV. POTTING.

The time for this will depend much on the period when you wish the bulbs to be in bloom. As a general rule the end of September is the best; and the sooner the bulbs get to work, I fancy, after their close confinement, the better they will like it. Should circumstances, however, prevent this being done, they should be kept in a cool place not exposed to the light. Pass the compost above recommended through a coarse sieve, keeping the coarser pieces for the bottom of the pot. Put in two or three pieces of broken pots, then a handful of the coarse compost, and fill the pot up to the top with the sifted compost. Place the bulb firmly in, leaving about one-third of it exposed. Then place a small pot over the bulb; and if the compost is not sufficiently damp, give the pots a gentle watering with a fine rose or syringe. They are then ready for

## V. PLUNGING.

The object of this is to encourage root-growth before the flower-spike begins to grow. Select, therefore, a well-sheltered spot with a good hard bottom. On this lay a good depth of coal ashes to prevent the intrusion of worms into the pots. Rake it smooth, and then place the pots on it close together. The covering material may be coal ashes, old tan, or anything of a similar character; and the object of placing the small pots over the bulbs is to prevent the material touching them, for it is apt to create canker. I use coal ashes. The bulbs are now safe for two or three months. Of course, if you are desirous of bringing them on, you can easily bring them out and introduce them into the greenhouse; but as a general rule they will be better left until the pots are well filled with roots. This can be easily ascertained by taking out one of the pots nearest the edge.

## VI. AFTER-CULTURE.

When they are removed from the bed they should be carefully cleared of all the ashes, &c., that may cling to them, the surface of the soil stirred a little, and to make it neat a little compost may be added, as the ashes are pretty sure to make it untidy. The shoots will be about 2 inches long and quite white (blanched by want of light). They should not be at once exposed to the full glare of day, but placed where a shade can be put over them. They should be gradually inured to the light, and then placed near the glass, where they will not be drawn. Give them abundance of water; and as the time for exhibition draws nigh, if you intend to compete, liquid manure may be added. I have known some exhibitors to stand their pots in saucers in which liquid manure was placed, and let the grass-feeding fellow fatten himself thus. They will do very well in a cold greenhouse, pit, or frame, so that care is taken to exclude all frost, which injures the beauty of the spike. As the spike lengthens a thin piece of galvanised wire may be passed up through it and tied. The great object should be to obtain a good spike, and clean but not drawn foliage, leaves lapping over the sides of the pots being a great drawback. The same care will be amply rewarded where exhibition is never thought of, but where the best growth is desired.

So far for culture in pots as far as the open air is concerned. I had intended to have said something, but have been anticipated in last week's JOURNAL OF HORTICULTURE by Mr. Chitty, of Stamford Hill; only adding that one of the prettiest sights in spring bulbs I ever saw was a large bed of Hyacinths treated precisely as florists' Tulips are, with canvass awning itself. It was grown by Capt. King, of Dane John Terrace, Canterbury, and was a sight well worth seeing. And now as to

## VII. CHOICE OF SORTS.

For ordinary purposes, and, indeed, for exhibition, many of the lower-priced Hyacinths will give most satisfactory bloom. I shall mention a few of these, and then add a few of the scarce ones. Such kinds as Duc de Malakoff (two guineas), and others are too expensive and rare for any one but growers for sale. I merely mention single ones; for although Groot Vorst, Waterloo, Laurens Koster, and others are very fine, single ones are by far the most satisfactory.

## SELECTION NO. 1.

<i>Single Red.</i>	Charles Dickens
Amy	Grand Lilas
La Dame du Lac	Grande Vedette
Madame Hodgson	Nimrod
Norma	Orondates
Sultau's Favourite	Porcelaine Sceptre

*Single White.*

Elfrida  
Grandeur à Merveille  
Mammoth  
Tubæflora  
Victoria Regina

*Single Blue.*

Baron Von Tuyll

*Single Black.*

La Nuit  
Mimosa  
Prince Albert

*Single Yellow.*

Alida Jacoba  
Heroïne

None of these exceeds 1s. each, and can be obtained, I have no doubt, at 9s. per dozen.

## SELECTION NO. 2.

*Single Red.*

Cavaignac  
Cosmos  
Howard  
Lina  
Macaulay  
Reine des Jacinthes  
Von Schiller

Misa Burdett Coutts  
Paix de l'Europe  
Queen of the Netherlands

*Single Blue.*

Argus  
Couronne de Celle  
General Havelock  
Von Humboldt

*Single White.*

Gigantea  
Madame Van der Hoop

*Single Yellow.*

Aurora  
Victor Hugo

These vary from 1s. 6d. to 7s. 6d. each, but by the dozen could be had, I have no doubt, much cheaper. Most of the flowers in both selections have taken prizes at the various exhibitions held last spring, a pretty sure test of their merits.

I cannot close this paper on the Hyacinth without stating that Mr. James Cutbush has materials, I believe, for an interesting paper on "Gardening round Haarlem," gained during a visit paid this last spring. By their annual Exhibition of spring flowers, the Messrs. Cutbush have done much to make the cultivation of the Hyacinth popular, more, perhaps, than any one else; and they will increase the obligations we are under to them, if we gain a little insight into the manner in which our Dutch friends manage the flower.—D., Deal.

## CROCUS SPECIOSUS—RARE BULBS AND CYCLAMENS.

EARLY last week, or say on the 29th of September, I had on my window-sill the first flowers I have ever seen of the very handsomest of all the wild Crocuses which have yet been described, *Crocus speciosus*, and you never yet saw another *Crocus* like it. Indeed, were I to cut the styles and stamens out of one of the flowers and show it to a botanist, perhaps there are not three of them in the three kingdoms who could tell even the generic name, so little is known of this most lovely *Crocus*, and most un-*Crocus*-like flower, to make an expressive term for it: therefore, perhaps the best way to represent it to the mind's eye of a gardener, would be to say what I would guess it to be if a botanist had tried me with it in the same fashion. I should say at a venture it was a new *Leucocoryne*, and judging from the long tube and the peculiar colours that it must be very nearly related to *Leucocoryne ixioides*, or, perhaps, what would be better understood by some of the older gardeners, as *Brodiaea ixioides*, a half-hardy bulb from the extreme southern limits of the Peruvian Andes, and further on. But thousands of our younger gardeners have never seen one of these "white-club" roots, the *Ixia*-like flowers with six stamens instead of three, but with three out of the six barren, and in the shape of a club, a white club, which is the meaning of *Leucocoryne*. But to what else to liken *Crocus speciosus* I know not; but this I do know, that it is as hardy as the Scotch *Crocus*, that it occurs first in the north-east corner of Hungary, and the countries near it to the eastward too, and through the table-lands of the Crimea to the Caucasian range; that it has bloomed abundantly in Yorkshire, with Dr. Herbert, from the end of September and through October, and seeded freely enough; that pulchellus, medius, pyrenæus, and byzantinus are equally free-bloomers at the same time, and that longiflorus and Cartwrightianus follow them and keep on till Christmas. The whole set, as pot plants, are quite as gay as the Dutch seedlings are in the spring.

Now, I will just show you how it could be that we British could completely beat the Dutch in the matter of autumn and winter Crocuses. The Dutch are so pestered with frost over there, with their low lands and cold climate, that they cannot

show a green bough out of doors the whole winter, so that if they were to put those autumnal beauties out of doors, there they would stick the whole winter without making an inch of leaf till their own Crocuses got free in the spring, and then it would be too late to compete with our growth going on the whole time, more or less. But suppose they had a rapid growth in the autumn before the heat was out of the ground, that would only add to their troubles the more, for they have more slugs and snails than we have, and every blade would be gone much faster than it came, till the frost decided which would pitch the most for the rest of the growing season. The people in this country, also, do not mind so much about pretty little flowers out of doors after the bedding plants are in; but some of them are absolutely bent upon having all manner of flowers for them under cover the whole time, and anything new puts them up in the scale, so that you could get any amount of money out of them for keeping up a fashion and the rage for flowers: therefore, we should grow all the breed of autumn and winter Crocuses in pots till the bloom was over, and by that time it would be all up with our snails and slugs, and we might turn out the balls entire close under the walls in the kitchen garden, and behind the rows of Brown Cos Lettuces—a ribbon-border in fact, by Christmas-eve, when the Dutch would be fast as Wexham Lake in ice and snow and no sign of growth about them. There the roots of the Crocuses would ripen and remain till the middle of August again, when the best would be potted and the rest might be sent over to Holland to give the Dutch the chance of a competition which they must soon give up, for we could beat them there at all events, judging from all that I have been thinking, and trusting to what I mean to do to set the ball going.

But I want more wild winter kinds of Crocuses. And I want, over and above all that, four kinds of very pretty bulbs about which Mr. W. Earley, *Digswell*, made my teeth water at pages 488 and 489—I mean *Streptanthera elegans*, which I feared was out of cultivation over thirty years; *Bessera elegans*, which I have not seen since eighteen and something, and quite forgot; *Milla biflora*, the whitest flower among all bulbs; and *Gladiolus cuspidatus*, which I was well pleased to hear was still on the stocks. Now, I would tell a secret to anybody for these four bulbs, or exchange something handsome with Mr. W. Earley if he could send me a flowering root of each.

But, did I ever tell of the last luck I had in rare bulbs? It was last spring I received a noble root of *Cummingia trimaculata* one of the first foreign bulbs I ever knew, and managed it on the old system of very cool treatment, to see how it could best be adapted to the present style of gardening. You are always safe to begin with any kind of bulb, stove, greenhouse, or open air, as if it required only to be allowed to grow naturally. Then, if it does not move to your liking, give it a little more heat, and so on till you come just to the required degree, but if you begin with one or two degrees of more heat than is natural to a bulb, the chances are that you derange it at once. Then it is said to sulk or to resent such treatment, while the fact is, the system is deranged, and bulbs are not like other pot plants in that condition, you cannot bring them round by merely changing the system of heat, soil, or watering, for a very long time; but by beginning a bulb requiring stove heat in a cool frame, you merely fail in exciting it, you cannot derange it, and it is ready for a change of culture or another experiment.

Well, I knew that my *Cummingia* did not require much heat, but how much I could not exactly say, so much depended on how the last growth of the bulb was ripened; besides, there are no bulbs in any part of the world, as far as we know, which are one-half so touchy as those from Chili, and the southern parts of Peru. The least turn seems to affect them either way, for good or for no good, but a great deal of harm. Knowing all that, I began *Cummingia trimaculata* in a cold frame that was left open day and night in April last. It would not move; the frame, or rather the pot, was put into another division, which was kept close for newly-potted-off plants to recover the shift, but no artificial heat. Last May was a fine season for cold-pit work, the days were fine, and the sun would give stove heat, yet the nights were cold, and by the next morning the plants were as cool as could be to be safe. Never did I notice so much the value of having plants so much more cool at night than in the daytime, as last May, with a mere handful of rare bulbs.

Well, stove heat in the day by the sun, and cold pit shelter at night, had the usual effect—a free, vigorous, and natural growth. That once induced, I planted out all the bulbs, including some

young *Cyclamens*, in one end of that range, and kept up the same system through June, with only more air on both day and night, and the *Cummingia* was the first and foremost of all my experimental plants, and by the end of the month I had to tilt the glass to give it head room, and then I thought I had spoiled it with too much heat, for it got higher than all my ideas of *Cummingias*, and I was perplexed. By-and-by, however, the flower-scape appeared, and after another by-and-by, the flowers also, and I was done, for my bulb was *Bravoa geminiflora* instead of *Cummingia trimaculata*. Now, this *Bravoa* is now in the catalogues as a fine thing, but all I can say is, that it is not worth more than about 1s. 6d. or 2s. the bushel, and that only for a botanical collection, and mine being not so, I rooted-up *Bravoa* and destroyed it, and now I want *Cummingia trimaculata* for another start.

The story of that experiment led to many stories in my walk of life. I had a private story about *Cyclamens* over thirty years standing; but I never thought the world would believe it, so I kept it to myself till now. There was a botanical rumpus at the time, between Dr. Lindley and Don, about *Cyclamen repandum*. The one said it was so and so, the other that it was no such thing, and if ever you want to know the real truth about anything which is in dispute between clever men, you ought not to believe, or disbelieve, either of them; but believe a screw wants tightening somewhere, and you must do it for yourself, and then you will be as sure of the truth as I made myself, that both of them were wrong about *repandum*.

The idea at that time was, that all plants which would come true from seeds, were genuine botanical species. The dispute was about *repandum* being or not being a species, and being at work on *Cyclamens* at the time, I undertook to prove to my employer who was right and who was wrong about *repandum*. I had the bulb from Mr. Wheeler, of Warminster, it was in seed at the time by its own pollen, and, of course, if the seedlings came true, the question was decided, and they did come true, every one of them, all white or nearly so. The fact was proved in sixteen months.

In these days, however, if I were to assert that I gathered *Cyclamen* seeds, sowed them, and had the plants or seedlings in bloom in sixteen months, no one would believe a word of it. Well, a reverend gentleman sent me last spring, a batch of seedlings of the red and the white *Cyclamen neapolitanum*, from below Bristol—the gentleman who discovered the virtue of the cocoa-nut refuse for Ferns and bulbs—the seedlings were only a few weeks old, and I put them with the experimental bulbs in natural heat by the sun, but cold at night, and they did the best of the lot.

In the story about *Cummingia*, I began to tell about *repandum*, and how I got it into bloom in sixteen months from seeds, alleging that any of the hardy *Cyclamens*, like these seedlings, might be hurried on after the same manner, if not by a much better system of stove heat, night and day, from first to last. At this some doubted, and some said that it was madness to think of it, for no *Cyclamen* could stand 5° more than a Heath, and all the rest of it.

The Messrs. Henderson, of the Wellington Road, and of the Pine Apple Place Nurseries, treat the *Cyclamens* now as *repandum* was done and flower them in about eleven months, and the Messrs. Carter & Co., of High Holborn, do them in nine or ten months from the seed-sowing to the flowering of the seedlings, yet those gentlemen once called me a slow coach for taking sixteen months to do a thing which I believed no one would believe even if I added six more to the sixteen! It is even so, and there is no question at all about it.

You may if you choose, and have the means to do it, keep the seed-pan with *Cyclamen* seeds at from 70° to 80°, and up to 90° and to 100° from the sowing in the autumn or in the spring; and by that stimulus the seedling bulbs will be as big in ten months as they could be in full four years after the old slow-coach fashion of treating them as if they were Heaths, which is the usual way, and generally they are in bloom and in the market by the end of the twelve months from the time of sowing the seeds. Meantime the seedlings are potted into larger pots from time to time—or say some twice and some few three times in nine months. There is luck, then, for people who did not expect to live to see their last batch of *Cyclamen* seedlings come of age.

Another turn over the stile would bring us into a wide field of *Cyclamens* which I dread to enter from that in which the autumnal Crocuses prevail. But a gentleman I never had seen

before called on me since I began this paper, and the first thing he made an observation on was my *Crocus speciosus* outside the window. "But how did you come to know it so readily?" said I; "for I had only been just writing that I could puzzle a botanist with it if I took out his index from the flower." "Man alive," said he, "did I not see a whole row of it down the centre of the Botanic Garden at Liverpool, in the time of the late Mr. Shepperd?" But what I thanked him most for, was for telling me of a gentleman, near Manchester, who could help me in this field. "And," said he, "of course you know Mr. Niven, of the Hull Botanic Garden," and of course I did, and his father before him; and the hint is enough for

D. BEATON.

### LOBELIA SPECIOSA, AND WHAT MORE IS WANTED OF IT.

LIKE the appetite of a certain heathen deity, the wants of a flower-gardener are never satisfied. No sooner has he been furnished with something he longed for than some other want is announced. That which in years gone by formed a useful standing dish is no longer palatable, and the purveyors are told that something better is wanted. Fortunately it does not always happen that such wants take an extravagant turn, some plain homely article may, perhaps, be quite as fashionable, or an article previously well known is improved, and served up in a different form; but such is the diversity of wants as respects the different members of the flower garden, that it not unfrequently happens there is some dispute as to which article claims the pre-eminence in its particular way. A year or two ago *Geranium Tom Thumb*, which had reigned with undisputed sway for many years amongst the Scarlet family, was threatened with deposition, and some assert his reign is over. Be this as it may, the name will still figure in the flower garden for many years to come, and I shall be satisfied with the flower until I have good proof that a successor has proved superior. But as my purpose is to ask for something fresh in the flower-gardening line, and as it will be imposing too much on good nature to ask for too much at one time, I will pass by the *Geraniums*, both plain-leaved and variegated, on both of which classes I shall have something to say hereafter, and proceed at once to another plant, which I expect to see playing a more prominent part in the flower garden than it has hitherto done, although even now it is one of the most popular accompaniments there.

**LOBELIA SPECIOSA.**—This popular and highly-deserving plant is certainly gaining ground in public estimation, and the *Verbena*, *Salvia*, and *Anagallis* of the same colour are giving way before it in a wholesale manner; and next to variegated *Geraniums* I should think it is the most popular plant in the parterre. But my purpose is not to dilate in its praise, but to ask what more can be done towards employing it in another colour. Assuredly there is no great impossibility in its attaining the plum-coloured hue of some of the *Verbena* family; tolerably good white with a little blue in it has been attained, and all the paler shades of blue have been common enough for some years; but we want some other good dark colours—as deep purple, maroon, and, shall we say? "a good scarlet." I am in hopes of living to see this accomplished, and when these and other similar colours are attained, the *Verbena* may retire from business; for the *Lobelia* very far outstrips it in general utility and effect, and it only requires the same amount of patience and perseverance in raising new seedling varieties to accomplish this desirable result. And when as good a scarlet *Lobelia* is obtained as the blue one we now have, no *Verbena* will be able to compete with it, unless at the same time some one could also furnish us with a scarlet *Verbena* having all the good qualities and habit of *V. pulchella*. But this is digressing from my subject, my object being to call the attention of hybridisers and others to the means of effecting a change in colour. Perhaps a cross between some of the tall scarlet species and the blue *speciosa* may be effected (although I am far from certain that it can be so), and the vivid hue of the one transferred to a plant of moderate height and of unexceptionable habit. The dark colour will, I think, be accomplished without that, and we may in the end obtain all the colours in the *Lobelia* we now have in the *Verbena*, with the advantage of having them on a plant of more compact habit that shows its flowers all above its foliage, and which flowers both earlier, later, and more abundantly than that popular flower. More than this I need not say; but with a request to call the attention of cross-breeders and others to the subject I must leave

it in their hands. And if the wants here put forth seem in the eyes of some to be utopian, I would ask them to look at what has been done with the *Geranium*, *Dahlia*, and similar flowers. Although the full accomplishment of the colour named is asked for, I will be content to have it by degrees, and shall be glad to hear what progress has been made in that way by any one who either by accident or design has advanced a step in the right direction. Full success cannot be expected all at once, I nevertheless look for it some day; and *Lobelias* may hereafter have all the high-sounding names now conferred on *Verbenas*, *Dahlia*s, &c. But I need say no more, only to again call the attention of those anxious to improve the character of flower gardens to try what can be done with the *Lobelia*, feeling assured it will ultimately repay them for their trouble.—J. ROBSON.

### ARCHERFIELD EARLY MUSCAT GRAPE.

At page 470, Mr. Rivers doubts the truth of the statement that we made in reply to Mr. Thomson's communication at page 451 of our present volume, and wherein we stated that *Muscat du Puy-de-Dôme* was not the same as *Archerfield Early Muscat*. The ground upon which he differs from us is the description of *Muscat de Syrie*, which is extracted from the "Bulletin du Congrès Pomologique du Rhône, 1860," from which we presume that Mr. Rivers has never seen the fruit of *Muscat de Syrie*, either under that name or under any of its synonymes—*Muscat de Smyrne* or *Isaker Daisiko*.

When we made that statement, we had not the slightest doubt but that we were correct, as our information was derived from our own knowledge of the facts. Since we published that reply to Mr. Thomson, we have had further opportunities of confirming what we then stated from an inspection of what are, we believe, the largest collections of Vines in France, or even in Europe, and that, too, in situations which afforded every facility for producing the fruit in the finest possible condition. In three separate collections, hundreds of miles apart from each other, we have seen *Muscat de Syrie*, *Muscat de Smyrne*, *Muscat du Puy-de-Dôme*, *Muscat Eugénien*, and *Isaker Daisiko* growing side by side in all of these collections. *Muscat du Puy-de-Dôme*, and *Muscat Eugénien*, are allowed to be synonymes, and distinct from *Muscat de Syrie*, *Muscat de Smyrne*, and *Isaker Daisiko*, which three are also allowed to be synonymous; but when we state that the whole of these are only forms of *Chasselas Musqué*, if not that variety itself, neither of them can certainly be the same as *Archerfield Early Muscat*.

Our own opinion of these is that they resemble so closely *Chasselas Musqué*, that in England, where we do not attach so much importance as to whether a leaf is a little more sharply serrated in one case than in the other, they would be regarded as the same.

In no part of France is there a Grape known which bears any relation to the *Archerfield Early Muscat*. Recently, we have had opportunities of conversing with the most eminent pomologists of that country, and in every instance when we have asked the question whether or not they knew a Grape in every respect resembling the *Muscat of Alexandria*, with the exception that it was six weeks earlier, we were invariably answered in the negative, and with a feeling of curiosity and wonder expressed on hearing that such a fruit existed.

At the great Pomological Congress, which was held at Montpellier on the 7th of September, we were privileged to be present, and to take part in the proceedings. On that occasion the pomology of every department in France was represented, and there were exhibited between 300 and 400 varieties of Grapes. All the varieties which Mr. Rivers supposes to be the same as *Archerfield Early Muscat* were there; and although examples of them came from many different parts of France, in every case they were merely what we have already stated—forms of *Chasselas Musqué*.

We had an opportunity, also, of seeing at Condom a very large exhibition of all the Grapes that could be collected in the southern departments, and neither there nor at Montpellier, nor at the Exhibition at Lyons, nor yet in the great collection of the Luxembourg at Paris, did we see, or could we hear, anything of a Grape at all answering to the *Archerfield Early Muscat*.

We hope that the statement we have now made will be satisfactory to Mr. Rivers as confirming what we stated previously.

Like Mr. Rivers, we are very curious to know something about the origin of the *Archerfield Early Muscat*; the variety itself is

one of so much excellence and value that any information about it would be particularly interesting; and we know that to none will that information be more acceptable than to the pomologists of France, and more particularly to the Muscat wine-growers of the south.—H.

### PROPAGATING AND MANAGING GLOXINIAS.

THERE is quite as much beauty in a well-grown Gloxinia as in a Cineraria, and they are as worthy of a prize at our exhibitions as either Gourds or Pumpkins. When a plant becomes common it loses its hold of exhibition schedules, just at a time when amateurs are beginning to dispute honours with the professionals; but that is the time when a prize should be offered for amateurs, and in no case might the owner of two dozen of plants to be set aside because he refused to compete with those who have a thousand plants to select from. A fair field and no favour, is said to be characteristic of the Saxon; but as far as regards exhibitions, all is too often framed to suit the interest of large growers, whilst a more enthusiastic but humbler aspirant has his claims practically ignored, or a petty prize offered unworthy of the subject and the skill.

Most varieties must have three months' rest to bloom satisfactorily, but by giving a plant a check immediately after blooming, by exposing it to a colder atmosphere and considerably less moisture, it would appear that the juices of the plant concentrate rapidly in the tuber, and the repose or inaction of the roots is hastened, thereby promoting a premature rest. Such plants generally push again in about six weeks, whilst the prior foliage is in a withered condition, and if that be cut off, and the plant repotted, placed in a moist, growing heat of 65°, and watered moderately a second bloom may be obtained, but not equal to the first, and plants so treated give small foliage, few flowers, and little gratification the following season.

*Propagation from Seed.*—Having obtained a packet from any respectable nurseryman, we may expect about half a dozen varieties from it; but that depends, in a great measure, on the mixing of the seed, and if there is a great quantity of it put in the fire, for it is too plentiful to be good, and, as a rule, sow only those packets of seeds that are small in quantity, and high proportionately in price, for choice seed from good varieties is not half so plentiful as seed from inferior varieties. No seedsman can afford to hybridise or cross flowers and sell the seed at the same price as they that collect the seed as nature produces it. For why should he use his brains, and give extra attention if it confers no benefit? There is scarcely a flower in cultivation in this country, that cannot be made to produce seed by skilled judgment, that will amply reward the painstakinger for his trouble and render recourse to a foreign supply unnecessary. Balsam seeds of foreign growth are worthless in comparison to ours (Why cannot Stocks, Asters, &c., be grown for seed in like manner?), and when Roses are added to the list, we think there is proof enough to convince the sceptical that by a little extra pains bestowed, he may rival his coupees on the other side of the water.

Sow the seed moderately thin in a seed-pan three-parts filled, with one large crock on each hole of the pan; an inch of small crocks sifted follows next, then half an inch of siftings (what remains in the riddle) of half leaf soil, one-quarter light loam, and one-quarter silver sand, which compost is put in on riddings 2 inches thick and levelled. The seed is then sown, and the whole covered lightly with silver sand. Give a light sprinkling of water from a fine-rosed syringe or watering-pot, and set the pan in a Cucumber-frame, or anywhere in a heat of not less than 65° by night, the first week in February. If placed in a frame heated by fermenting materials no water will be required until the plants appear; but if placed in a stove evaporation is greater, and it would be advantageous to cover the pan with a bell-glass tilted on one side about half an inch. No more water to be given than just to keep the surface moist until the plants have made two leaves besides the seed-leaves, when they should be potted singly into 60-sized pots, in the same compost as before. When another pair of leaves appear, or the plant gives signs of growth, water should be given more freely, but not over the foliage, and always a few degrees warmer than the temperature by which they are surrounded. The seedlings had better be rather dry at the root than in a soil full of stagnant and superfluous moisture. The latter is fatal to them, and the former retards growth: therefore, enough moisture to insure growth, combined with fresh air on every favourable opportunity, and rapid transitions of heat or

cold, or currents of air to be equally avoided, are all conducive to healthy development.

*MANAGEMENT OF SEEDLINGS.*—If all has gone on right, the plants will need a shift into 48-pots by the end of May or beginning of June, when we employ the following compost—Two-thirds cocoa-nut fibre refuse, one-third light loam, and a sprinkling of silver sand for potting. In case cocoa-nut fibre refuse is not at hand the compost may be formed of one-half leaf mould, one-quarter sandy peat, one-quarter turfy loam, and about one-sixth of cording two years old; and a like quantity of silver sand may be added with advantage. In all pottings of Gloxinias the drainage should be perfect. A large crock on the hole in the pot, an inch of smaller crocks on that, and half an inch of rough refuse or soil-riddings will secure that in ordinary cases, but the plant is not invulnerable by worms: therefore, whenever a plant looks sickly see that the drainage is all right, and, if the soil is sodden, repot in fresh compost. Never put a plant in a dirty pot, not if it is a common one; for if it is worth growing it ought to be grown well. In potting seedlings the operator must discriminate between strong plants and weaker; for all seedlings, though sown at one time and treated alike, do not all thrive alike. Some will require shifting earlier than others; but as a rule the following is applicable to all seedling Gloxinias. Whenever the pot is full of roots repot from a 60 into a 48, and let weaker plants continue in the pots they are in until roots begin to mat round the pot. After potting into 48's the plants should be well watered, placed on a shelf in the stove or any house with a temperature not less than 60° by night. They should be placed about a foot from the glass, slightly shaded from strong sun, watered when the soil is dry, and gently syringed morning and evening in bright weather, but once a-day will be often enough in dull periods.

When the pots are full of roots, which may be expected the first week in July, repot into 32's, and treat in precisely the same manner as before; and occasionally look out for thrips, never heeding that the leaves are healthy, for it is best to discover the insects before the leaves give unmistakable signs of their presence and a considerable amount of the plant's juices are gone to feed the black-coated or white gentlemen, leaving ill-shaped and small flowers, the results of dingy thrips-eaten foliage. Whenever a thrips, black or white, is seen, shut up the house and fill it with tobacco-smoke. Better spend a shilling in killing one than having to smoke every other day for a month before they are thoroughly eradicated. Tobacco is the only cure for thrips, but it sometimes fails: therefore it is well to be on the look-out and smoke on two consecutive nights, for some will escape the first night, but it is few that escape a second dose. Green fly is easily killed by tobacco-smoke.

About the beginning of August the flower-buds will appear, when the plant should not be allowed to suffer for want of moisture in the atmosphere or water at the root; but we would not repot such plants, for they will flower beautifully in September; but should any be growing vigorously and show no flower-buds, we pot them into 24's and grow on, for which trouble they will amply repay by a splendid bloom in October.

The seedlings will flower earlier by stinting them to small pots; but we cannot arrive at any merit or demerit of the flowers the first season, for the foliage will be poor, the flowers small and ill-shaped, and the colours bad.

When flowering is over, gradually lessen the supply of water, expose to the full solar rays, and give a higher temperature by day and colder by night, and we shall find bulbs will lift the soil; and by the time that the foliage is gone the bulbs will measure an inch and more in diameter—just the sort of bulb to make a plant 18 inches across, 9 inches high, with fifty blooms expanded at one time the season following. If such plants are not desired, give seedlings a thumb during summer, let them flag for want of water, keep them 3 feet from the glass, let thrips sap their reservoir, and we have plants with six leaves 6 inches and 8 inches high, a bulb like a marble, and none or very few flowers into the bargain, and it takes another season's growth before we have a plant that appears in character.

In the ripening of seedlings, after the first fortnight no water should be given unless the plants flag, and only a little even in that case, and none at all if the leaves are yellow. The plant may then be placed on a moist floor under the stage of the greenhouse, but not where the soil in the pot will absorb moisture to cause growth or rot—seldom the last; but often the tubers are kept too dry, which causes them to shrivel, and roots so treated generally rot when moisture is absorbed when growth is wanted.

in spring. During rest a temperature of from 40° to 45° suits them best, and the last-named is perhaps the most suitable; but we have kept them in a cold house more than once at 36° and lost very few, and have had them in a temperature of 50°, and found shoots or buds were formed and starting into growth, and did not rot the bulbs in the least—in fact, they seem to thrive better when buds appear during rest than otherwise.

*Propagation from Leaves.*—Many plants besides Gloxinias are readily propagated by leaves, and I have to add another to the list that accidentally attracted my attention. It was in this wise. A Green's mowing machine had thrown a leaf of Yarrow (*Achillea millefolium*) on a border; a worm had pulled that half-way into its hole, in which I found it well rooted and precisely like leaf-propagation, having formed a knot at the lower end of the leaf, and a raised, minute eye at top, evidently the basis of future growth. Of course I made a note of it, and so you have it.

Select early in June leaves that have attained their full size; take them off with a clean cut half an inch below the blade or with half an inch of the leaf-stalk attached. Well drain a cutting-pot, and fill it with compost, one half sandy peat, one quarter turfy loam, and the remainder silver sand, riddled, and in that insert the leaves three-quarters of an inch deep; three round the side of a 48, or six in a 32, will leave each leaf clear of its neighbour, and unless they are clear water will lodge between the leaves, which causes decomposition or damp, and the leaves decay. Place the leaves so potted in a Cucumber-frame, or in the stove, at a temperature of 65°; if in the former plunge them in the bed, which should not be warmer than 85°, and there will be enough moisture to keep the leaves from flagging without using a bell-glass; but if placed in a stove a bell-glass tilted half an inch on one side is advantageous, for few stoves afford moisture so regularly as fermenting materials, though a tank may do so more than anything else; yet evaporating-gutters generating steam at 180°, are not the sort of thing to meet the requirements of vegetation. We grant evaporating-gutters are very good to keep away red spider, and even mildew, but we beg to state, that a great amount of heating surface at a lower radiating temperature, is more suited to vegetable development, than a less amount of heated surface at a higher degree of radiation. All gardeners are aware of that, and I think whilst they are aware of that fact they might naturally expect that evaporation ought to take place at something like the same temperature as that by which the plants are surrounded. Nature gives a beautiful exemplification of this. The mean temperature of the air between 0 and 20 feet from the earth's surface, is equal to the mean temperature of evaporation from the earth's surface. The mean of the air at 4 feet is also equal to the mean of the earth at 1 foot deep, and it never rains (but it hails) unless the temperature of the rain is the same as that of evaporation. A hygrometer shows, in some measure, the extent of evaporation in houses, but in hothouses condensation is continually taking place, except when the solar rays are passing through the glass, whilst in Nature condensation takes place during the night, as a generality; but on dull days in our hothouses a hygrometer shows little or no difference between the wet and dry bulb, whilst outside there is a difference of several degrees. Bear in mind that Nature carries evaporated moisture onwards to the higher regions of the atmosphere, far out of the reach of vegetation, there to be condensed partially when it falls in the shape of dew, or completely when it falls in the shape of rain; but in our hothouses the moisture evaporated is condensed by almost instantaneous contact with the glass, cold by the external air, and it frequently falls in drops like rain, called drip, which is baneful to vegetation; but a certain amount is also condensed in the shape of dew, which falls at the colder end of the house chiefly, though all over to a sensible degree, which materially affects the reading of the dry bulb. However, if evaporation takes place during the early part of the day with a high temperature, and the thermometer attains its highest point about 2 P.M., and from that gradually falls, so that the minimum temperature is attained by 6 A.M., we shall find our plants covered with dew exactly as in Nature, subject to a considerable amount of drip from the roof. Double-roofed houses obviate drip to a great extent, but in a high-roofed house there is little to complain of in this respect, for the moisture is more diffused in its passage upwards, and the condensation induced is more natural than when heated moisture is more immediately exposed to a condensing surface.

The cutting-leaves may be watered so as to prevent flagging;

but in no case should they be saturated above or below, or the leaves will damp, and the footstalks rot instead of forming roots, and they will require shade from strong light and sun. In six weeks they will be well rooted, when they may be placed in a vinery and kept growing for six weeks longer. They may then be gradually ripened-off as for seedlings, and be kept through the winter in like manner, and afterwards treated like established plants. The Gloxinia can be propagated at any time, but we find June best. It can also be increased by cuttings, but they take so much more of the old plant than leaves, form no better bulbs, and give less certainty in striking, that the plan is good for nothing—in fact, it is now abandoned, for horticulture, like agriculture, is bent on obtaining the largest amount of matter from the least consumption of materials.

Occasionally, Gloxinias are increased by *offsets* from the tuber; but, except in the case of old bulbs, it can seldom be done, and never, that we know of, has propagation taken place by division of the tuber, for wounded tubers do not heal readily, and the eyes are mostly centred so closely together that attempted division is rendered impracticable.

*Established Plants.*—It is presumed there is a stock in hand, and that there is the convenience of a stove, in which a little extra bottom heat can be given, if it be for no other purpose than to secure root-action before top-development commences. Select from those that have had the longest period of rest a dozen of erect and a like number of drooping varieties, giving preference to a bulb 3 inches in diameter rather than to one that is 6 inches. The bulbs should be firm to the touch, and, if eyes are visible, we prefer them, for they are certain to start into growth early; but those in which the eyes are not visible, generally shoot the strongest, though considerably later. The middle of December is quite early enough to commence with the first lot to flower in May.

Shake off all the old soil until live roots appear, and then poke it away from between the live roots with a small stick. Use pots twice the diameter of the bulb, securing good drainage, and taking measures to prevent its choking by placing a layer of rough cocoa-nut fibre refuse, or riddlings from compost, half an inch thick, and let the compost be formed of one-half cocoa-nut fibre refuse riddled, one-half light loam, and a little silver sand. In that compost place the tubers half an inch below the surface, water round the sides of the pot, and place in a bottom heat of 85° for a month, giving no more than just enough to keep the soil moist; then place on a shelf near the glass, watering more freely when growth commences, and giving a gentle syringing morning and evening. The temperature should range from 60° to 75° at this stage of growth, and, indeed, this degree of heat is enough at all stages. If the plants do well re-pot into a nine-inch pot early in March in the same compost as before. Though it is not absolutely necessary to use the compost named, yet it is the best; and one-half sandy peat, one-quarter fibry loam, one-eighth cowdung, and a little sand to be intermixed, is a good substitute, but not equal to the first. Early in April the flower-buds will appear, and care should be taken to prevent drought at the root. Ravages of thrips—monstrous idea so early in the season—and green fly, should be guarded against, and steps taken on the first appearance of either, to remove them. We may thus have nice plants at May-day fit for vases in drawing-rooms or to enliven the conservatory, none of the inmates of which will shame a well-bloomed plant of the common Gloxinia. A temperature of 50° will prolong the blooming to six or eight weeks; but the plants must be taken to the conservatory before the blooms are expanded fully, and hardened a little, if possible, in an intermediate-house before exposing them to a lower temperature and drier atmosphere. As a rule, all plants grown for decoration should be removed from a hotter to a colder place when the blooms are half expanded; for if removed when fully blown the sap receives a check, whereas it naturally requires a higher temperature to insure fructification, which is the chief aim of nature, and the bloom is thrown off.

The main stock should be started in February, and may be treated as the first lot, but the shelf of a vinery at work is a good place; whilst the man of humbler means may start them in a Cucumber-frame, where they may remain until growth has fairly commenced, when the shelf of a warm greenhouse or coolish vinery will give nice plants. We have had them in a greenhouse along with Fuchsias, &c., and Achimenes also, by placing them at the warmest end, and giving less air near them, a little shade as that of Vines or climbers, and more moisture

than greenhouse plants generally. However, an intermediate-house is best suited to their general weal, and by attention to watering and placing near the glass, strong healthy plants may be obtained.

The Gloxinia is not a plant that requires constant shiftings like a Fuchsia, but a pot at first twice the diameter of the bulb, a shift into a size larger when the pot is full of roots, and that is generally enough for most plants, for no good attends potting a plant when the flower-buds are swelling. However, if large plants are desired the strongest may be potted into 11-inch, and in the case of large plants into 13-inch pots, and increased heat and moisture given. The result will be plants 2 feet, 2½ feet, and 3 feet in diameter by 15 inches high, having leaves 9 inches long by 6 inches wide, and a bloom that no Allamanda, Pelargonium, or any plant for which a high-figured prize is offered can eclipse. Those started in February will bloom in the end of June or beginning of July, and will continue to give blooms in succession for three months, provided all that are decayed are picked off as they appear, copious supplies of water given, the air not saturated with it or syringed overhead, and shade afforded from scorching sun.

The last lot should be started in April, and if they are treated liberally they will enliven the conservatory in the somewhat scanty months of August and September. The plants of this lot are more liable to the ravages of insects than the others: therefore they should be looked carefully over. Besides thrips, black and white, mealy bug has no objection to harbour on the plant, for which there is no cure like the fingers. Another insect, very much like a black thrips, but quite as easily destroyed as green fly by tobacco-smoke, has lately infested Gloxinia flowers—the flowers only, harbouring in the inside of the flower, discolouring the corolla, and evidently relishing the juices of the organs of fertilisation. I find the same insect this year on Foxglove, Dahlias, and several other flowers in the open ground; it appears to jump with alacrity, and to be as baneful in its effects as black thrips on the leaves.—GEORGE ABBEY.

#### TREATMENT OF UNFRUITFUL TREES.

I SAW, some fortnight since, in your Journal of July 15th, a reply to "G. K., *Seenoaks*," on the treatment of "an unfruitful Pear tree." I would with all deference to you, beg to suggest what I have found a very successful treatment, having practised it for about seven years. I am indebted to Mr. Rivers for it, although it differs from his mode, and I do not begin so early as you advise either; and as to the "trouble" you refer to, I can only say it will well repay for it. I practise it rather largely on 800 or 900 trees of Pears, Plums, Cherries, and Apples, besides Mulberries and Figs, and the average cost is about 6*d.* each.

The method is this. The trees are dug out except a root or two on one side; and then the following year or second year, if they do not make wood the first, they are turned the other way, so that the roots which were before left are cut off and some left on the other side, and so on alternately. The roots are thus brought near the surface, and the check is never so great that you lose your crop. All the roots except those left undisturbed are cut back and laid round as direct from the stem as possible. The lengths at which the roots are left must depend on the size or height of the trees. A well-furnished pyramid 3 feet to 10 feet I generally shorten to 2 feet or 2 feet 6 inches. Those from 12 feet to 15 feet, 2½ feet to 3 feet.

I should have written before, but I get the Journal in monthly parts, and as I was from home the beginning of the month, I did not see it till my return, and since then I have spoken to an artist to photograph some ten or twelve trees, so as to send you some illustrations of growth and fruitfulness. If you would like it, when they are taken I will send you some and a more minute description of the lifting. I find that any tree will do well so treated. One of my Pears was a standard more than 20 feet high, and after being so treated was removed and transplanted, and it has this, the fourth, year borne two sacks of fruit. This will show you the size.—GEORGE LEE, *Clevedon*.

**THE ALANTHUS SILKWORM.**—It is only a few months ago that Lady Dorothy Nevill first called public attention to this hardy breed of Silkworm, and the possibility of the silk proving a remunerative article of production in this country. We are now happy to be able to state that, after the severe test of a cold

and variable summer like the past, the capabilities of the worm's withstanding our climate are now fully established, and that success in its extensive cultivation is no longer problematical. Her ladyship writes:—"My worms have done admirably, but I was obliged to net the trees over, though I think this would not be a necessity were they not in a garden. I placed five hundred worms on the trees in the beginning of August, and I have just picked off 480 or more cocoons, which is a good percentage. A fly came and killed a very few by piercing them through the body, and once a bird got in. I am selling my cocoons at 3*d.* a-piece with the live chrysalis inside. It is much the best way, if you want to obtain good eggs, to buy them in this form. I have got some worms about three weeks old in the open air, and they seem doing excellently, notwithstanding these cold nights."

#### ORCHARD-HOUSE FRUIT LATE AND DEFICIENT IN FLAVOUR.

I HAVE an orchard-house 40 feet by 16 feet, span-roof, with ventilation at top and shutters round the sides, so that I can give plenty of air. The trees are young, and, according to their age, have had a good crop this year; but I find the fruit do not come in ripe sooner than those out of doors, and have not been a good flavour. The trees for the roof are riders trained on wire 18 inches from the glass, and the sides are planted with dwarf-trained trees. I have thought of having the wire put nearer the glass, but I would like your opinion whether it would be a good plan, and how near you would have it put; or if you could throw any other light on it, why the fruit had not a good flavour and was not earlier, I should be greatly obliged. The borders are all inside, as I have no outside border, so that they require a great deal of water. I was afraid the trees had too much, but they had but very little while the fruit was ripening.—ROSE.

[We do not think your trees are too far from the glass; but if you cover the roof, you must not expect much flavour in the fruit you get from plants below. Flavour has been generally deficient this season, and we fear, like us, you have had too many fruit. Much depends on the care in watering. As to time of ripening, we believe we could, if we desired, keep them later in an orchard-house than out of doors; but to have them earlier we must just regulate the air accordingly, and shut up the houses with sun heat in an afternoon. One house with divisions may thus give several successions by merely regulating the amount of air given to each.]

#### GREEN FROGS.

CAN you tell me how to keep green tree frogs? I have them at present under a ventilated glass shade, with *Todesa pellucida*. I fear it will be too much shaded, and too warm in winter. As I shall not be able to procure them flies at that season, will they take any other kind of food? If not, I can give them a place in a cold frame, or if they need more light and warmth, a conservatory. Are they better under a glass shade, or in a wire cage? Should the soil be wet or dry? Do they need water to swim in?—H. B.

[Not having any experience in the management of these reptiles, we applied to Mr. Veitch, of the Exotic Nursery, Chelsea, who obliged us with the following reply:—"We keep our frogs in a large Fern-case where there is good ventilation, and where there are both moist and dry parts, having thrown up artificial rockwork to obtain the latter. We find that they do not require any flies to be given to them, as on several occasions we have put insects into the case, but they have never been eaten. I have no doubt but that they live on small insects, which they find in the moss and soil. I should advise the frogs being kept in a ventilated case in a conservatory, and a saucer of water placed in the case, and as much variety of soil, moss, rockwork, &c., as is convenient."]

**SALE OF MR. REED'S ORCHIDS.**—The remaining portion of this large collection was disposed of by Mr. Stevens on Thursday last, realising between £200 and £300. The large *Cymbidium eburneum* was sold to Mr. Williams, of Holloway, for £12 10*s.*; a *Sobralia Ruckeri* brought £9 10*s.*; good plants of *Phalænopsis*

amabilis £2 6s. and £2 12s. 6d.; and a *Cattleya Mossiæ* £4. Another important horticultural sale is to take place at Leamington on Monday next and following days, when an extensive collection of Conifers and other ornamental trees, amounting, it is stated, to 300,000, will be offered for sale.

### USES OF SEAWEEDS.

THE quantity of *Vraic* collected at Jersey is probably quite equal to that obtained in Guernsey; but it seemed to me, during a recent visit, that the *Vraic* used was not generally so rich, and that more is burnt and less ploughed-in than at Guernsey. In one cottage I found the mother and all her family employed in drying and burning weed composed entirely of the marine plant known as the Grass Wrack, *Zostera marina* (*Nat. Ord.*, Naiadaceæ), one of the poorest and most common of our seaweeds; the best front parlour was given up to its ignition; this was accompanied by an insufferable odour, which the lady informed me was esteemed very healthy. This is a prevalent opinion amongst the peasants wherever seaweeds are burnt, and in this I must confess that her statement was fully borne out by appearances, if I might judge by the rosy cheeks of her little assistants. She was getting the ash ready in a hurry to sow with corn on the following day. The best seaweeds are stacked in Jersey; a dozen stacks of "*Vraic venant*," thatched over, are common objects in a farmyard, and small barns are given up to its storage when dry. The value set on *Vraic* may be judged of by the fact that the inhabitants of Sark, having none on their island, import it in fishing boats from Herm, five miles distant; fifty Guernsey and Sark boats may be seen at once at Herm engaged in this traffic, and those who are acquainted with the precipitous nature of the rocks of Sark and its dangerous currents will appreciate the value of *Vraic* in that island. "*Driftweed*" is also largely used in Ireland as the only manure for the Potato crop; this is interesting, because the Potato requires a considerable supply of potash. This alkali can hardly, however, be required in the Channel Islands, as the granitic subsoil would, in disintegration, furnish it in abundance; it is probably the earthy phosphates that render the weed so fertilising there. This is borne out by the fact that the lixiviated seaweed ash, from which the alkalis have been removed, meets with a ready sale in Guernsey, and is esteemed, indeed, richer, no doubt on account of the increased per-centage of phosphates. The residual seaweed ash from the iodine factories in France is highly valued as a manure, and constantly carried a distance of thirty miles from the factory. The agriculture in the western islands is also enriched by this manure, and some of the tangle is brought into Oban by fishermen in boats, and sold at 1s. per load. On the S.E. coast of Fife it is laid on the stubble at the rate of twenty cartloads an acre, and ploughed-in; the Clover crop never fails, and this is a crop requiring much phosphate of magnesia, an important constituent of seaweed-ash. In the Isle of Lewis, twenty tons of seaweed are considered ample manure for a Scotch acre. The agricultural produce of the Isle of Thanet, in Kent, is said to have been tripled by the use of this manure, and the farms on the Lothian coasts let for 20s. or 30s. more rent per acre where the tenants have a right of way to the seacoast, where the weed is thrown ashore. In England, generally, however, seaweed is little valued by agriculturists as an actual manure, and appears to be regarded rather as an economical and useful covering to protect Turnips and other roots from winter frosts. Farmers object to its bulk and expensive carriage, particularly now so many portable artificial manures are offered for sale, and recommended so strongly by their manufacturers as possessing great fertilising value in a small compass. There can be no question that many of these are worthless rubbish, and perfectly useless, except to line the pockets of the vendor; and the farmer would do well to turn his attention to the composition of seaweed-ash, which really does, as I hope to prove, contain all the constituents of a good manure in a small bulk.

A process has been recommended by Dr. Stenhouse, "*Philosophical Magazine*," for the manufacture of acetic acid from wet weeds by fermentation. His experiments were conducted with some of the *Fuci*; these were mixed with lime, and kept moist at a temperature of 90° Fahr.; he obtained by distillation with sulphuric acid an average of 1.5 per cent. of anhydrous acetic acid! it is contaminated with butyric acid. This might, however, be separated and turned to account in the manufacture of

butyric ether or essence of Pine Apple. I have not heard of this suggestion being carried out, but it might be tried on those weeds intended for manure. In this case the best method would be to ferment them in pits with lime or chalk at the ordinary temperature in the summer, leaving each portion in for two or three months, and supplying its place by a fresh load until the lime was saturated; the liquid would then be pumped out, evaporated to dryness, the residue sold as crude acetate of lime, and the weed carried to the manure-heap. The whole process could be crudely and economically carried on by an agriculturist near the sea.

The ashes of several *Fuci* have been found by M. Malafati to contain silver, as well as lead and copper, in minute proportion. The silver in the ash of *Fucus serratus* is estimated at 1-10,000th of its weight, or about 3½ ozs. to a ton. Other *Algae* probably contain this metal, as it has been found universally present in sea water; but, desirable as it may be to increase our stores of it, this would not be an economical source, and it is probable that the 2,000,000 tons, calculated by M. Tuld to be dissolved in sea water, might be better extracted by the copper sheathing of our ships, in which the copper is gradually replaced by the silver; the sheathing thus becomes, after a time, rich in silver. It has been found in the sheathing to the extent of 17 ozs. in the ton.

The manufacture of paper is so important to a civilised nation—so many sources of the raw materials have been suggested—that we are not surprised to find seaweeds amongst the number. Two patents were obtained in 1855—the first dated June 20th, by Martenoli de Martinoi and others, of San Francisco, for the employment of seaweed in the manufacture of paper; and the second, dated November 29th, by Charles Maybury Archer, for the employment of seaweed in the manufacture of paper, and for the production of textile fabrics. Neither of these was proceeded with; the true *Algae*, in fact, having no fibres in their structure, would appear to be singularly inappropriate for the strength required in paper. Another patent was recently obtained by Ebenezer Hartnall, of Ryder, dated May 31st, 1861, for the application of Grass Wrack, *Zostera marina*, to the manufacture of pulp for paper, to be used alone or in combination with other fibrous materials. This appears more practicable, as this plant is not one of the *Algae*, and it does contain fibre resembling the Grasses. This patent, however, was not proceeded with.

Another patent was obtained in 1858, dated August 5th by Donald M'Crummen, "for the application, use, and treatment of marine plants, beaths, or heather, and other vegetable productions, as well for the manufacture of paper as for the production of alkaline and other salts." According to his specification, the plants are crushed or bruised, and exposed to the action of boiling water or steam until the soluble salts are removed; the insoluble residuum, after treatment with various agents of disintegration, is to be employed in the manufacture of paper, millboard, and papier maché. The solutions obtained to be evaporated to dryness to recover the salts. This is the only patent which has been proceeded with. I have received small specimens of the crude fibre and black salt from Mr. M'Crummen; but in justice to him I am bound to state that they are sent to me as the first crude results, and he has not yet worked the process on a large scale.—E. C. C. STANFORD.—(*Journal of the Society of Arts.*)

### CRYSTAL PALACE.

THE past month has seen no falling-off in the steady progress of the Crystal Palace during the Exhibition season. For September, the number of visitors was more than double within the same month in former years.

It is anticipated that October will form no exception to this successful rule, and that the visitors to London, anxious to get a glimpse of the wonders of science and industry collected within the International Exhibition, will also continue to flock to the Crystal Palace for a day's recreation. This is not to be wondered at, for the two institutions are so dissimilar, and each is so much an object of interest to foreigners and provincial excursionists, that a jaunt to London, taken for the purpose of visiting the International Exhibition, is looked upon as incomplete without a visit to Sydenham. The one therefore aids the other.

The Crystal Palace also possesses the no inconsiderable advantage, at this time of year, of being warmed throughout when

the weather is cold or damp. For this purpose fifty miles of hot water permeate through the pipes laid under the floors, and as all the approaches to the Palace are under cover, it is no more idle vaunt of the managers of the Crystal Palace when they advertise, "wet or dry, equally available at all times."

The late rains have had a wonderfully revivifying effect upon the flower-beds on the terraces, which for the season of the year were never surpassed.

As the hours are now shortening considerably, and as a long day at the Crystal Palace is a desideratum to most persons, provision has been made for illuminating the promenades of the Palace in a brilliant and novel manner.

### SPIRANTHES AUTUMNALIS, NEOTTIA SPIRALIS, OR LADIES' TRESSES.

BY L. LANE CLARKE.

SCARCELY perceptible to the careless eye is the modest beauty of this little Orchid, the last of its family that will unfold for us this year the "Manuscript of God" concerning the Orchis tribe.

Deeply interested as all intelligent readers must be in Darwin's delightful book, for the facts he has recorded, the study of the British Orchids will henceforth be an ever-recurring recreation to the observant eye.

First, in the early spring, the purple Orchis mascula, and last, in the autumn time, this little white Neottia will again and again recall the wonder with which we first learnt the mysterious fertilisation of Orchids.

Of the three thousand species Lindley has numbered, most varied and fantastic in form are the exotics; but scarcely less curious are the Spider, the Bee, the Fly, and the Butterfly Orchids of our own woods and meadows, and a minute examination of those which haunt our path will surely be acceptable to the intelligent observer.

The *Spiranthes autumnalis* is now abundant in dry pastures; it is thickly dotted on the Malvern hills, on the light pastures of the Isle of Wight, and the meadows and cliffs of the Channel Islands.

The spiral cluster of small white flowers is so insignificant in appearance, that more than once I have heard the exclamation of—"That an Orchid?" Even so—gather one, and come and see.

It will require a microscope to discern all its beauty; but a pocket lens will show us much, and we shall learn from this one specimen what it is quite necessary thoroughly to understand before we can appreciate the discoveries of Darwin.

In the flower we observe the plan upon which all Orchids are fashioned, the number three ruling the plant, however modified by the Creator, "for whose pleasure they are and were created." Three sepals, three petals, three pistils, and twice three stamens. These are not discernible at first, because the large lower petal, or labellum, is so prominent, and two upper petals are joined together, and one of the sepals adheres to them so closely as to require particular attention.

Of the three pistils, one is modified into a rostellum or beak; the other two are confluent, and form a cup, the surface of which is the stigma. This stigmatic surface, like all other stigmas, becomes at a particular moment highly viscid, attracting and retaining the pollen grains, which throw their granular tubes down the loosened tissue, to fructify the ovules in the ovary beneath.

Six stamens, according to Lindley and Hooker, are discoverable in the perfect Orchis; only one fertile anther is apparent in *Spiranthes*, which now demands close attention.

In examining a young *Neottia* with a pocket lens, and looking into the flower, we observe two pale yellow spots in the throat; these are the pollen masses or pollinia lying under the anther-cell, and immediately over the stigma attached to the rostellum by a boat-shaped disk in such a position as to render it highly improbable that the pollen grains of that flower can ever touch their own stigma. If a needle is passed into the flower, and this disk touched lightly, it will detach itself, and with it the whole pollinia.

This, on being pressed between thin glass under the microscope, will show the square or oblong pollen grains; or if applied to the stigmatic surface of an older flower, these bright golden grains will adhere to the glistening green cup, and be a beautiful object under a low power.

Some flowers, if stripped of sepals and petals, will show the

anther-cell empty, the stigma untouched, the flower unfructified—where, then, is the pollinia?

This is Darwin's discovery, that *Spiranthes*, like so many of its brethren, is indebted to insect visitors for the perfecting of its seed, depending also on the movement of its labellum, which at one period closes the throat, and protects the young stigma until its hour of maturity has arrived, then drops slowly down, opening its honey-glands to invite the wandering bee, which bears upon its proboscis the pollinia previously extracted from a younger flower.

Resting on the sunny hills above Torquay, Darwin watched the intercourse between insect and flower. The little *Neottia* giving forth a sweet perfume to attract the living "winged things;" he saw the humble bee, as I have seen the hovering Syrphide and Tipule, and small Hymenoptera enter the flower-cup; but these only entered one flower, and then flew away, I know not whither. Whereas he saw the bee always alight at the bottom of the spike, and, climbing up regularly, withdraw the pollinia from the upper and youngest flower, then fly to a next plant, rest for a moment on the labellum, which is moved aside, and whilst the insect sipped the nectar, the pollen mass was received by the expectant stigma. Then again mounting the spike, as the long and flexible proboscis was thrust into the scarcely opened flower, it could not fail to touch the sensitive rostellum, and bear away the disk and its pollinia.

The experiment is easily tried, and you will find that once fertilised the stigma becomes dry, and will receive no more pollen. There is no waste in any of the works of God.—(Extracted from *The Intellectual Observer*, a monthly Magazine of popular science.)

### FRENCH SALADS.

I WILL, for the benefit of all those whom it may concern, enumerate here the kind of salad our jovial Frenchman eats:—

Lettuce, of course, heads the list. Crisper and whiter than our American plants. Longer in season, too, not only by reason of care and extra cultivation, but by the climate, that knows not the abrupt turn into the hot cycle, nor that fierce, steady heat of America. No Frenchman, though, would eat his Lettuce *per se*. Were you to offer it to him pure he would turn his nose up; or, as that is rather impossible in either hemisphere, the nose being the stiffest of our limbs, he would turn up his upper lip, at the same time that he puts a fold in his brow. He would declare it insipid—his palate wants a flavour. That is given our Lettuce in the common way of vinegar, oil, pepper, and salt; and, in the French way, in addition to these, by Parsley, Garlic, young Onion, and Chervil.

Now, how many of the readers of the *Monthly* know the taste and the virtue of Chervil? This Stag-leaf—*cerf feuille*, contracted to the English Chervil, has a pungent, somewhat bitter, and most noble taste, and deserves a row or two in your garden.

The learned ones among you will know the equally illustrious plant called Tarragon—another corruption of the French Estragon, which is old French for the modern French dragon, which means a dragon or a dragoon. I have failed to find a likeness of either in its long leaf, and would not like it any better if I did. What I have found is a most interesting taste of a novel kind, and somewhat like Mint, but greatly superior to it. I bought a couple of sous' worth in the market, and, for the sake of its odour, hung it up in my study. I keep the window open all the time till the room is delightfully scented—not a scent for ladies' noses, but for the nose of a stalwart man.

A half-dead man, in fact, would get alive if he smelt this drying Estragon. When fully dry, your correspondent's best half will put it in vinegar, the vinegar will take the taste of it, possibly also some of its fragrance, and be a delightful relish like catsup, or serve for pickling. This is the law of Estragon on the continent of Europe.

I will mention Endive salad; you have the plant, though not in its perfection. Nor the Dandelion—*dent de lion*, which you have in perfection, but do not understand to make up into salad. He who likes bitter taste will welcome it.

I will mention all the more *bourache*—a thing I could not master to eat. I have, in fact, given it up in disgust; but, as a matter of taste, those who read this perchance will try it, and perchance will like it. I do not know if it is not called Borage, and possibly cheap as weeds, and may have given its name to "porridge." [The Archæological Society is requested to pro-

nounce on it.] A woolly, weedy leaf, of an uncommon taste—bitterish. I will, with so much greater pleasure, mention—

But no, on second and better thoughts, enough of salad for the day. If you like more, the advancing season will bring forth more and different kinds.—(*American Gardeners' Monthly*.)

### GNAPHALIUM LANATUM.

LIKE many other plants of great value, *Gnaphalium lanatum* has for the last twenty years been neglected, and is one of those introductions which if brought forward at the present time would find a ready sale all over Great Britain.

To the re-appearance of this good old sterling plant we are indebted to that cannie old Scotch nurseryman (now dead), Mr. Cunningham, of Comely Bank, Edinburgh. To see all those old greenhouses that he erected one would think he had been daft; but to look at some of the plants which have been hidden there for years, and which are now in the possession of his nephew and successor, Mr. Fraser, will prove the contrary.

*Gnaphalium lanatum* was again brought to light five years ago from one of these houses; as also *Castanea chrysophylla*, the beautiful Golden-leaved Chestnut, and several other plants of equal value.

Three or four years since we had a round bed belted with this *Gnaphalium*, with a scarlet *Verbena* for a background, and it was admired by all who saw it. It is so easy of propagation that the most ignorant in gardening may succeed if they had ever seen a cutting made.

It is not quite hardy, but we have kept it in a cold pit for the last two winters with only a mat to cover the glass; the plants were kept dry. It succeeds in any soil, and will in time, I think, be found useful for a certain manufacturing purpose.—J. E. LANE, JUN., *The Nurseries, Great Berkhamstead*.

### SILENE SCHAFTA.

THIS simple, but very gay and pretty, herbaceous plant, inhabits rocks on Mount Keridach, in the Russian province of Talysh, and was introduced, through Dr. Fischer, from the Botanic Garden, Dorpat, in 1844.

The account is from the "*Journal of the Horticultural Society*:"—"This proves to be a beautiful little herbaceous plant, producing a great number of spreading, slender, downy stems, which form compact tufts, and are terminated, near the extremity, by four or five bright purple flowers, more than an inch long. Of these flowers, that at the extremity of the shoot opens first, and those below it one after the other in succession, so that the branches are, by degrees, covered all over with blossom. Its stems do not rise above 6 inches high, and render it well suited for bedding-out or for cultivating among collections of alpine, or for rockwork, over which it will bend gracefully." The accompanying engraving, representing a well-grown specimen,



*Silene Schafta*, a specimen plant.

fully bears out Dr. Lindley's description, and shows the *Silene* to be a very elegant plant, and suitable for decorative purposes. It strikes very freely by cuttings, under a hand-glass, and is also increased by seed, which it produces in great abundance; but

being a perennial, the plants do not bloom until the second year. Presuming, however, that you can procure seed, and that it is your wish to grow some specimen plants, sow the seed immediately, and when large enough, put them into 60-sized pots, in light, porous soil, not too rich, putting three plants in each pot. When the plants are established, stop them regularly, so as to make them produce abundance of shoots, and when they have formed a compact tuft, remove them into 48 or small 32-sized pots, using the same compost as before. Keep them through the winter in a cold frame; but about March pot them into pots of a suitable size, using loam and leaf mould in about equal proportions, and making it tolerably firm in the pots. After this potting, it will be well to give the plants the protection of a frame; to keep a moist atmosphere, and to encourage the plants to grow as fast, but as robustly, as possible; stop the shoots regularly, and support those in the centre with a few neat stakes, but allow the side branches to droop gracefully round the sides of the pot. Towards June they will begin to blossom, and at that time they may be removed to the vases, and be planted out, and afterwards be regularly supplied with weak manure water. Take care that the plants do not suffer for the want of water; and, to prolong the season of blooming as much as possible,



*Silene Schafta*, the natural size.

remove the seed-pods, which are produced in great abundance as fast as they appear. After blooming the plants must be cut in pretty close, and started afresh, or be thrown away to make room for other plants.—(*Gardener's Magazine of Botany*.)

### MULBERRY TREE FRUITLESS AND WISTARIA FLOWERLESS.

I HAVE a Mulberry tree trained against a south wall, and which grows luxuriantly, and is extremely healthy, but bears no fruit. It has never been touched with the knife: should it be pruned?

I have likewise a beautiful plant of *Wistaria sinensis* which covers a large space of my house (aspect due south); but it does not flower. Here, too, the knife has been spared: should this be pruned also?—A GRATEFUL SUBSCRIBER.

[You must lessen the luxuriance of your Mulberry tree. Proceed thus:—We suspect you have a great many strong shoots hanging out from the walls of this season's growth, cut out all the strongest of them at once. Select a good number of middle-sized shoots—say between the size of a crowquill and a geesequill; just nip off their points, and then fasten them to the wall, between the main branches, so that they may get all the sun possible to harden the wood. This will, however, scarcely be enough if the tree is so luxuriant. Begin 5 feet from the bole of the tree, undermine the roots, and cut those that go down straight; lay the horizontal ones in fresh soil, and mulch with rotten dung to keep the frost out. Very likely in the first summer, and doubtless in the second, you will have the trees bristling all over with little shoots a few inches long coming from those laid in now, and these will produce fruit, and a short stubby growth will continue to do so.

We would thin-out the shoots of the *Wistaria*, and in every well-ripened bud, whether that be on a short spur or a long

shoot, you may expect a bunch of flowers. If the tree is luxuriant and crowded, the buds will not be matured enough to produce flowers.]

PLANTS FOR DINNER-TABLE DECORATION.

In my communication on plants for dinner-table decoration, page 485, I find a mistake is made in describing the conditions laid down for the guidance of exhibitors. The height from the bottom of the pot to the first branch on the stem should have been stated at 20 inches instead of 6 inches; but the following conditions copied from the schedule will explain what was required of exhibitors:—"The plants must be ornamental, either for their foliage, flowers, or fruits, and must be grown in pots not exceeding 6 inches in diameter; the foliage, flowers, and fruit must not be less than 20 inches, nor more than 24 inches clear from the bottom of the pot."

Now, it is not surprising that conditions so stringent should be met by a corresponding disappointment. Standard Reses in miniature are not so easily obtained, and, excepting for special purposes, are less admired than they used to be, and it certainly must be wrong to restore them in a diminished form to the dinner-table.—J. ROBSON.

ORNAMENTAL PLANTS.

CALLISTEMON BRACHYANDRUM (Short-flowered Callistemon).—*Nat. ord.*, Myrtaceæ. *Lim.*, Icosandria Monogynia.—A handsome stiff-growing, evergreen, greenhouse bush, with many round pubescent branches, bearing narrow, linear, pungent, channelled leaves, conspicuously dotted beneath. The flowers grow from the axils of the leaves towards the end of the branches,



forming short, loose spikes; the stamens, little tufts of crimson threads, which form the conspicuous part of the flowers, are short, much shorter than in any other known kind, being not more than twice as long as the small inconspicuous petals; the threads are tipped by golden-yellow anthers. From Australia: north coast; introduced in 1843. Flowers through the summer months.

EPIDENDRUM FUNIFERUM (Thread-petalled Epidendrum).—*Nat. ord.*, Orchidaceæ. *Lim.*, Gynandria Monandria.—A pretty stove epiphyte, having erect, slender, terete stems, 18 inches to 2 feet high, bearing, on the lower part, alternate sheathing, oblong-lanceolate, acuminate leaves; and along the upper part, the numerous, short, drooping racemes of flowers.



These latter are small, rich orange colour, with a white centre, the sepals are ovate, acuminate, spreading; the petals thread-like, as long as the sepals, at first adhering to the sides of the two lateral sepals as far as the middle, but afterwards being separated nearer to the base, and ultimately becoming contorted like a corkcreeper; the lip is three-parted, the side lobes serrated, the central one ligulate, and notched in the middle. From Brazil: St. Catherine; introduced to Belgium about 1847.—(*Gardener's Magazine of Botany.*)

WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 516.)

PECTEN NIVEUS, or *White Pecten*, is a purely English specimen, very similar to *Pecten varius*, with the exception of the shell being rather more circular, and its colour, both externally and internally, being uniformly white. It is also of somewhat smaller size, measuring only about two inches in length, and the same, or the smallest fraction in excess in breadth. The body of the animal itself is also white. It is most frequently taken on the northern coasts.

PECTEN MAXIMUS.—This is a very familiar variety, and is known commonly as the large edible *Scallop*. The shell is large, somewhat circular, and ribbed. The nucleus of the valves is of a pale orange tint, the flat valve of a reddish colour, the convex one very nearly white; internally, both valves are of a palish hue, with a chocolate-coloured border. The shell of the *Pecten maximus* measures in mature specimens about six inches in length, and five in breadth. The body of the animal itself is of a pinkish-white, the mantle being bordered with brown or black.

The *Pecten maximus* is common to all our seas, but is not found in large numbers on any part of the coast. It appears, according to Messrs. Forbes and Hanley, to be most scarce on the eastern coast of England. It is a favourite article of food with many, and considerable numbers find their way to the London markets. It has a peculiar sweet flavour.

PECTEN OPERCULARIS.—This specimen is the *Common Scallop*, and is very similar to the last-mentioned variety, but is of much smaller dimensions, and the ribs on the shell are more numerous, and placed closer together. The colour of the shell varies greatly, being found indifferently white, brown, red, orange, or pink. Sometimes it is clouded by two of these colours running together. The length and breadth of the shell of the *Pecten*

*opercularis* are about equal, and average somewhat more than two inches. The animal is shaped like its shell; the body of a cream colour on its upper surface, and bright red beneath. This variety is found generally on all our coasts, but chiefly at a depth of from fifteen to twenty fathoms, and is particularly abundant on natural Oyster-beds.

*OSTREA EDULIS* (*the Edible Oyster*).—This is the most common and deservedly the most highly-prized of all our bivalves. Its appearance is so familiar as scarcely to need any description. It will be sufficient to state that the shell varies in shape, that the upper valve is in most instances flat, the under one convex; the surface being foliated—that is, consisting of thin flat plates overlapping one another. The animal itself is shaped like the shell, having its mantle freely open, and bordered with short tentacular fringes. There are two varieties of the Oyster—namely, the well-known “Native,” and the “Rock Oyster.” The former has a comparatively smooth exterior, whilst the latter is coarse and rugged; and whereas the “Native Oyster” is of a uniform brown colour, the “Rock Oyster” is very beautifully marked with streaks of a dark crimson or chocolate colour. The breadth of the shell of an ordinary full-sized Oyster is, in general, about four inches. The body of the animal is rather thick and flattened, of a dusky white colour, and has the margins of its mantle bordered with brown. The large adductor muscle, by means of which it closes the two valves of its shell, is white. Oysters, in common with other bivalves, live principally upon animalcules found in the water, and enjoy a pretty considerable lease of existence. Sea Oysters, or those living in natural beds, are not considered fit for the market till they are four years old, whilst the “Natives,” or those reared in artificial beds, have the limit extended, and are not considered in prime condition till they have attained the age of from five to seven years. The age of the Oyster is known by the annual layer of “shoots” on the lower or convex valve. They are said to suffer severely from frost, and great numbers die of a peculiar sickness with which they are visited during the period of spawning. We may add, that though Oysters are very commonly distributed on all the European coasts, they are nowhere found in such quantities, or in such perfection, as in Great Britain. The chief supply of “Native Oysters” is provided from the artificial beds at Whitstable, Burham, Colchester, Milton, Rochester, and Faversham; whilst for our stock of “Sea Oysters,” we are indebted to Falmouth, the Isle of Wight, the coasts of Sussex and Wales, and, to some extent, to Scotland and Ireland.

With the *Ostrea edulis* we close our notice of the *Lamelli-branchiata*, and proceed to the next division, called *Brachiopoda*, so called from two Greek words, one of which signifies “an arm,” the other “a foot.” This class derives its name from having two long spiral arms placed on each side of the mouth, which in many of the species can be protruded to a considerable distance in search of food. This division has also been distinguished by the name of *Palliobranchiata*, from two Latin words, signifying “a mantle” and “gills,” inasmuch as in this class the gills are developed from the mantle. The *Brachiopoda* have small bodies (with the exception of their large tubular arms), are without a foot, and completely deprived of the power of locomotion. Their food is composed of marine animalcules. As these singular creatures are extremely rare in the British seas, our notice of them will be confined to the foregoing meagre and general account; the ordinary tourist being most unlikely ever to meet with any specimens, as they are for the most part resident in very deep water, where they are found adhering to corals and rock. We may, perhaps, add a general and brief summary of the organisation of this group, in order that the type may be recognised. The lobes of the mantle are free anteriorly. From the body, between the lobes, the arms have their origin at the margin of the mouth, and are capable of being folded up spirally. All the species are permanently attached to foreign bodies, and inhabit the sea. Their reproductive and nervous systems have not hitherto received any particular elucidation. The two principal genera of this group are the *Terebratulida*, and the *Craniada*.

This class brings to a close our account of the Headless Molluscs. The next class which comes under our notice, introduces those which are called *Encephala*, or such as have a more or less distinct head. The first division of these is the *Pteropoda*, so called from two Greek words, signifying “a wing” and “a foot.” The Pteropoda, then, consist of small, floating, marine animals, which swim by means of two lateral musculo-cutaneous fins, but are unable to fix themselves, or to creep

about, being destitute of feet. Some of them have shells, others not. All the British species, however, are provided with shells, and are divided by Messrs. Forbes and Hanley into two different families—namely, the *Hyaleada*, from the Greek word signifying “glass,” and so called from the transparency of the shell; and the *Limacinada*, whose bodies are enclosed in regularly spiral shells. Then, *Pteropoda* are very rarely met with in our seas, as they would seem to require a warmer climate; still they are seen on occasions, but these are so rare that it would be mere waste of our space and the reader's time to devote to them any further attention. The next division in order is that of the *Gasteropoda*, which we shall take under consideration in the following chapter.—W.

(To be continued.)

## SMALL BIRDS, THEIR USES AND DESTRUCTIVE PROPENSITIES.

DURING the past spring and early part of the summer most of our newspapers and similar publications complimented the French Legislature for enacting a law for the more effectual protection of small birds, and commented on the desirability of a similar Act of Parliament and its rigid enforcement in this country, at the same time giving some instances where the absence of small birds led to disastrous results. The articles were likewise garnished with a mixture of what I would call a morbid humanity, which affects to shudder at the idea of destroying a small bird's egg, while not a voice is raised against that of the domestic fowl, or the bird itself when cooked and sent to table, being eaten. As it is common for all, or the major portion, of those who advocate a new theory, to call in all the assistance they can, however distantly connected such helps may be with the point in view, I do not find fault with this plea being also taken hold of by the “Small-bird Protection Society,” as they may, perhaps, be eventually inclined to call themselves. On the contrary, I will endeavour to combat their views on the more legitimate grounds they base their claims to attention upon, and will leave the task of reconciling the inhumanity of killing small birds with those who never hesitate to kill a fowl, sheep, or hulloek, or at least to encourage their being killed by others. As enough has been said on this head, it will be better at once to take the relative merits of the small birds as useful servants in one sense and active enemies on another, being convinced that this way of reasoning the matter will be most conducive to the general good.

*Small Birds as Useful Servants, or rather Agents.*—For as we cannot in any way command their services, we must be content to accord them the distinction of a “free agency;” and whichever it is, certainly they do an immense amount of good. Insects that would prey to a frightful extent on our crops and herbage are kept in subjection by them, and the various similar classes of reptiles are also kept within due bounds by the same sagacious balance of power. Worms and many other things are also held in check, and caterpillars, which prey on our fruit trees, no doubt often fall victims to the vigilant eyes of certain members of the feathered creation; and perhaps some will give them credit as cultivators of the soil, for they are often to be seen scratching in heaps of dung, in newly-turned-up ground, or in moist places in dry weather. Unfortunately, I am afraid their operations in this way will receive a verdict the reverse of utility; but they certainly do busy themselves in this operation. I have no doubt but the larvæ of insects deposited on trees and similar places are much diminished by them in winter, and many other good qualities I am prepared to accord them; but will leave these other virtues for others to dilate upon, and will at once proceed to their opposite characteristic, and endeavour to show some of the evils we attribute to them, and consider

*Small Birds as Destructive Enemies.*—In this respect, I expect the great advocates for their entire preservation have neither fruit orchards nor corn fields, in which case it is an easy and agreeable duty to preach about their utility; but let any one go into the fruit-growing districts, and just notice the appearance of the Gooseberry trees, the shoots of which are in most cases stripped entirely of their buds, with the exception of a few small ones at the tip. This evil is far from being a solitary or exceptional one, but has been going on in an increasing manner for some years; and I believe I am speaking within bounds by saying that it has led to the growth of this popular fruit being abandoned in a great measure, many acres having been recently

grubbed-up. It is all very well for those not having any experience in the matter to lecture on the cruelty of destroying small birds; but let them look at the condition of an orchard of Gooseberry trees that have been so ruthlessly disbudded two or three years, and, finding there is no fruit, a change of opinion will come over them. It is no easy matter to suggest a remedy or preventive for such a state of things. Watching with a gun is the best, but is less effectual than could be wished.

The evil is not confined to Gooseberry trees, for Pears suffer in like manner. A few years ago a variety of Gooseberry called the Yellow Rough, a rather small curly sort, the shoots very full of prickles and small buds, was supposed to be exempt from the depredation of the birds in question, and some growers reduced their plantations to this kind. But another evil arose. The birds attacked the embryo of the fruit when a little further advanced; for just at the time the trees are in bloom, and before the fruit makes the least attempt to grow, it is nipped through by the hard and mischievous beaks of some of the members of the feathered creation, and so rendered completely useless. It is difficult to account for this, as the part cut off (as it were with a knife) is always found underneath the tree, the cut being made through the middle of the little swelling lump that forms the future berry. This evil, I am sorry to say, is not one of small extent; and for the last ten or a dozen years has been much on the increase, as likewise has that of picking-out the buds of the trees. Whatever the "Small-bird Protection Society," if there exists such a body, may say to the contrary, I confess I see no effectual remedy but destroying a number of the depredators; for I must say the evil of picking-out buds is threatening to be carried to an alarming height, and will very likely be extended to other trees as well.

In the spring we are sometimes obliged to cover the bloom-bearing spurs of a *Wistaria sinensis* growing against a wall in a very public place, to prevent their being picked-out by the little thieves, as I may so call them, otherwise more than nine-tenths of them would be gone; and many other things suffer in like manner. It is this prematurely attacking the fruit that is to be, that I find so much fault with. Blackbirds and others siezing on Cherries and Strawberries when ripening, or other birds devouring ripe fruit of other kinds, are more excusable and pardonable, except at the precise moment the depredator is caught in the act. But fruit trees disfigured for life is a crime for which the penal code of horticultural law demands some expiation, and I would willingly allow the friends of the little offenders the privilege of transporting them beyond the seas if they would do it effectually; but, in default of that, I see no other mode of dealing with the incorrigibles but sentencing a number of them to death.

*Reasons for Destroying a Number of Small Birds.*—In a state of nature a just and equitable balance is kept up in the animal as well as in vegetable life, by the all-wise decrees of an unerring Providence, which provides the smaller members of the animal world with an almost unlimited means of reproducing themselves, in order to allow for the large number devoured by the next larger class; this class being less prolific in multiplying their species than those below them, but still more so than the next one above them. In a just and equitable ratio, this goes on until the top is reached, the larger and more powerful animals or birds rearing much fewer young ones than any of their subordinates, and by this means the beautiful balance of nature is kept up. Now, some one will be arguing that destroying small birds' nests, or shooting them while they are pilfering, is disturbing this balance. This I am far from being convinced of: on the contrary, I cannot but think that it is tending to restore it, the balance being previously destroyed in another way, as will be shown.

Taking for granted that the proportion of each living bird, insect, and animal, provided by Nature to inhabit a given space of waste ground is a just one, it certainly does not follow that the same number will be the proper one when this space or district is in a high state of cultivation. The disturbance thus created necessitates a change in the character and description of its previous occupants. The largest class of animals are either entirely extirpated or driven to the inaccessible places and very much reduced in numbers by the war waged on them. This matter may be dilated on to a great length, but it is only necessary to consider its bearings in the case of small birds; and its apparent result is easy to account for in the cultivated district, such, for instance, as the central part of the county of Kent and most other counties in the south and middle of Eng-

land, which are well diversified with woods, thickets, and hedges, in addition to corn fields, all of which tend to encourage the multiplication of small birds; while the vigilance of gamekeepers assiduously destroys by wholesale their natural enemies, the birds of prey, whose presence would rectify the evil by limiting the number of our invaders. Now, as the balance is disturbed by the removal of almost all the Hawks, Vultures, and the whole host of birds or animals that prey on eggs, or destroy the smaller ones, the latter have an unrestricted means of propagation, and it is almost beyond the reach of a doubt that they do increase beyond the requirements of the day. I do not, therefore, hesitate to say, that a very considerable number may be sacrificed to the benefit of the community, and whether that be done by the gun, or by the destruction of eggs, is unimportant. The suffering fruit-grower will suit his own purposes that way I have no doubt, and the denizen of the great metropolis or of some manufacturing city, may return to his abode after a sojourn in the country, and write some wrathful epistle against the inhuman practice of immolating the innocents, if he likes to call them such; but he will have much difficulty in convincing the fruit-grower that they are really what he describes. No one thinks of throwing his protecting influence over weasels, rats, stoats, snakes, wasps, and such like, and yet a similar stretching of the humanity garment would include these also. But as the destruction of the natural enemies of the small birds has, unquestionably, tended to their increase, the balance must be restored by the same means as disarranged it, and though extermination would unquestionably be attended with disastrous consequences, a large number may be done away with to restore that balance, and then, perhaps, they would be content to live in a greater measure on the food originally destined for them, and not attack with such vengeance the choicest productions intended for another class. I do not for one moment expect they will ever be prevented from preying on our corn seeds and fruits, but I sincerely hope the growing evil of destroying the buds of our fruit trees, and thereby removing every chance of getting a crop will be checked by the destruction of that superabundant class which are, perhaps, driven to this mode of getting a living by the other sources being exhausted. I do not certainly assume this latter to be the exact case; but as the evil complained of has increased very much of late years, there are many reasons for supposing it to be so to a certain extent. Some may think they have a good plea by pointing out the Gooseberry caterpillar as being likely to increase to a serious extent. To those I may answer that I never knew the caterpillar worse than it has been the past season, and so unchecked did it appear that there are many who believe that birds do not prey on this insect. I certainly do not mean to assert this; but one thing I do know, that a neighbouring fruit-grower, after exhausting all the known remedies, set a number of women and boys to pick them off, and a bushel a-day of caterpillars was the result for some time, the plantation being entirely leafless up to the end of July. So much for the utility of small birds. I am far from denying them the merits of being useful members of the community at large; but let the proper balance of power be maintained, which at the present time certainly gives a preponderating influence to the class here alluded to, that I at once call the attention of the thinking public to the fact of the destruction these little pilferers do in the fruit-growing districts, and I would ask them what they have to advance in their favour. I do not by any means call for an indiscriminate slaughter of all the little warblers, but a pretty heavy thinning is wanted to place them on a proper level with other things.

My observations relate only to small birds: the case of Rooks will, perhaps, be taken up by some one else; but I am not aware of any case for or against them which calls for any especial notice, and will be glad to learn that my views are corroborated by those of others, but if otherwise I shall be equally thankful for being set right. At the same time residents in the fruit-growing districts are the best able to give an opinion, and to them more especially I appeal to certify if I have in the least overstrained the evil.—J. ROESON.

ROYAL HORTICULTURAL SOCIETY'S INTERNATIONAL FRUIT, CEREAL, AND GOURD SHOW.—This commences to-morrow, and, judging from the number of entries and the names of the exhibitors, it promises to be one of the finest and most extensive exhibitions of such productions that has ever been secured.

## EXTRACTS FROM A TOO-MUCH NEGLECTED BOOK.

MIGRATION OF BIRDS.—October 27.—At early dawn this morning, just as the sky was becoming flushed with sun-rise colours, we saw a large flock of wild Geese flying steadily to the southward. They moved in a regular wedge-shaped phalanx, as usual, with their leader a little in advance. Perhaps they had passed the night in our lake; they are frequently seen here, though rarely shot by our "gunners." They seem often to travel by daylight. The Ducks are said to migrate generally at night, especially the Mallard or common wild Duck. It was a beautiful sight to see the flock this morning; it reminded one of Mr. Bryant's noble "Water-fowl," simply, however, because one never sees the wild fowl travelling through the air, spring or autumn, without thinking of those fine verses. In the present case it was morning, and a whole flock were in movement; Mr. Bryant saw his bird in the evening, and it was alone, still the lines would recur to one:

"Whither, 'midst falling dew,  
While glow the heavens with the last steps of day,  
Far through their rosy depths, dost thou pursue  
Thy solitary way."

A flock of migratory birds can never fail, indeed, to be a beautiful and striking sight. The proud ships crossing the vast ocean, with man at the helm, are not a more impressive spectacle than these lesser creature travelling through

"The desert and illimitable air—  
Lone, wandering, but not lost."

Doubtless the flocks which now pass over the valley are as nothing compared with the throngs that went and came when the red man hunted here; still, we never fail to see them spring and fall. Many are the different varieties which come and go, and various are their habits of travelling. Some fly by day, others at night; some are silent, others utter loud and peculiar cries; these move in a regular phalanx, those in a careless crowd; some have leaders, others need none; these move rapidly and directly toward their goal, others linger weeks on the way. Some travel in flocks, others in pairs; with these the males fly first, with those all move together; some follow the coast, others take an inland course.

And how much pleasure the birds give and receive by their migrations! This singular instinct implanted in the breast of the fowls of the air is indeed a very touching instance of the tenderness of Providence, who not only bestows what is necessary on His creatures, but adds to the cup of life so many innocent pleasures. Some birds are stationary, and doubtless it would have been easy to have ordered that all should be so; but now we find that many of the most beautiful and pleasing of the race pass and re-pass annually over a broad expanse of the earth, giving and receiving enjoyment as they move onward. Many of those which are the most cheering and delightful spread themselves over half the earth: among these are the delicate Wrens and Humming-birds, the gay Swallows, those noble singers the Thrushes; while the larger and more dangerous birds of prey are few in numbers, and chiefly confined to particular regions.

No doubt the change of food, of air, of climate, is a source of enjoyment to the birds; nay, the very effort of the journey itself is probably accompanied with that gratification which is usually connected with the healthful natural exercise of the higher powers of every living being. And how much delight do they afford mankind? Their first appearance, with the hopeful hours of spring; their voices, their pleasing forms, their cheerful movements—nay, their very departure in autumn, all bring to our hearts some pleasures, and thoughts, and feelings which we should not know without them. Wanderers though they be, yet the birds of one's native ground are a part of home to us.

Perhaps the birds generally follow the same course, year after year, in their annual journeyings. There are facts which lead one to believe so. It is already proved that the same individuals of various tribes will return to the same groves for many successive seasons. It has also been observed that certain birds are seen to the north and south of a particular region every year; but within certain limits they are never met with; like the house Wren, for instance, which avoids Louisiana, and yet passes farther to the southward every autumn. Other cases of the same kind might be named.

A well-authenticated story is told by Mr. Wilson of a wild

Goose which had been tamed on Long Island, but the following spring flew away to join a passing flock on its way to the northward. The succeeding autumn, as the farmer was standing in his barn-yard, he observed a flock of wild Geese on the wing; one of these left the flock and alighted near him, proving to be his old pet. Now, the party which the Goose joined was probably the same as that with which she returned, and here they were passing directly over the same farm, going and coming.

The flocks that pass over our little lake note it, perhaps, as the last in the long line of inland waters, the thousand lakes of all sizes passed on their way from the arctic seas. There is no sheet of fresh water of any size to the southward and eastward of our own. Possibly, the celebrated Canvas-backs pass us every year on their way to the Chesapeake, for the mouth of our own river is favourite ground with those celebrated birds. Very few of the Canvas-backs remain in this State; only a very small number are seen occasionally in the Hudson.—(*Miss Cooper's Journal of a Naturalist in the United States.*)

## WORK FOR THE WEEK.

## KITCHEN GARDEN.

TAKE every favourable opportunity of clearing the ground from weeds. In the best-kept gardens they are troublesome at this season when the ground is usually too wet for hoeing and raking, but they are more especially so when they have been allowed to seed during the summer, and the late one has been exceedingly favourable for ripening seed. *Asparagus*, when the tops are decayed cut them close to the ground, the beds to be then made clean and afterwards covered 3 inches deep with rotten dung, the alleys to remain as they are, not to be dug out, as many of the roots are thereby injured. *Cabbage*, the main spring crops to be planted out as early as possible. Those which were planted in August for Coleworts to be earthed-up. The plantations of the Brassica tribe to be searched for grubs and slugs, and any blanks that occur to be made good immediately. *Cauliflowers*, it is a practice with some market-gardeners about London to pot their young plants now, and to plunge them in coal ashes, or sand, in a cold pit or frame close to the glass, admitting abundance of air at all times, unless during very severe weather. *Endive*, continue to blanch it as wanted for use. A large quantity should not now be tied up at one time, as it will be more likely to rot. *Lettuce*, continue to plant the Cabbage varieties into frames for winter use. The *Cos* varieties for spring use to be planted in a sheltered border as soon as they are of a sufficient size. *Sea-kale*, as soon as the leaves begin to decay clear them away. It is advisable to do this as early as possible where it is required for early forcing. *Turnips*, thin the late sowing, but it is not necessary to leave them at so great a distance apart as the spring and early summer sowings. Take advantage of favourable mornings for wheeling out old hotbeds and other manures on spare ground, and get the ground well trenched and roughly ridged to receive the beneficial influence of the atmosphere.

## FLOWER GARDEN.

The broom should now be in constant request, and although the varying tints of the autumn are so admirable when contrasted on the trees and shrubs (a subject worthy of more especial attention), yet they are not so much admired on the lawns or gravel walks. A liberal use of the roller is also necessary on all lawns previously to the last mowing, to leave the surface in an even and dressed state for the winter. Crown Imperials, hardy Lilies, bulbous Irises, Narcissi, and other bulbs should now be planted in the borders, and some spare beds got in readiness for the reception of Hyacinths and Tulip bulbs.

## FRUIT GARDEN.

The principal operations in this department are the gathering-in of the fruit as it becomes in proper condition. Continue to keep the runners removed from the Strawberries, and those that have been some time potted for forcing to be placed in a comfortable situation to insure them from being soddened with wet. Strong pricked-out plants may still be potted with good success if placed on a kindly bottom heat.

## GREENHOUSE AND CONSERVATORY.

This should be a busy time in placing those plants which have been out of doors, and of course have had a thorough examina-

tion as respects draining, surfacing, staking, tying, and the encroachments of worms, insects, mildew, &c. As previously advised, see that Epacris and other winter-blooming plants are placed in a light part of the house, where they will be fully exposed to the sun, so as to get the wood well ripened to insure their blooming freely. *Examinus* Heaths and other plants subject to mildew, and apply sulphur immediately the pest can be perceived. On fine mornings such plants as *Ericas*, *Epacris*, *Pimeleas*, &c., should be well syringed; and all possible ventilation both night and day to be given while the weather continues favourable. There is a tendency in the small bulbous-rooted *Tropæolums*, as *tricolor*, *Jarratti*, *brachyceras*, &c., to commence growing during the autumn months; and this is especially the case with plants that have been flowered at the beginning of the season, and brought early to a state of rest. When this tendency becomes manifest it is most impolitic to attempt to arrest it in any way, as the whole system of the plants is at work, and a check will spoil their growth for that season at least. The best plan is to encourage them to grow slowly in a greenhouse, where, if they are kept from frosts and damp, they will continue to advance and will be in bloom early in the spring. Those roots that have not commenced growing should, if possible, be kept inactive till the spring, and this will be best effected by keeping the roots in a cool place and the soil about them quite dry. It is very necessary to guard against mice, which are very fond of the roots, and will soon produce great destruction if they can get at them.

#### PITS AND FRAMES.

Regulate the general bedding stock, and get the majority established in small pots. Give air freely, and restrict the supplies of water to mature the growth as much as possible. Glazing and other repairs should be completed by this time. As common mats afford scarcely sufficient protection to the half-hardy plants in store-pits for such purposes, advantage should be taken of wet weather to make a stock of straw or reed mats.

W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

MUCH the same as preceding weeks. Earthed-up young Coleworts for the winter; planted Cabbages; threw lime and ashes over young seedlings to keep the slugs from them; pricked-out Cauliflowers under glasses, by sides of walls, &c.; sowed Radishes where they could get a little protection; turned leaves over Cauliflower-heads swelling, to keep them white and protect from heavy rains and slight frosts; turned over Onions; dug over ground for late vegetables that had been occupied by Peas; removed all Pea haulm exhausted, as few things give a more melancholy appearance to a garden; covered a Dwarf Kidney Beau-bed with temporary lights to prolong the bearing, as cold nights may now be expected; regulated Cucumbers in a little heat; turned over a heap of horse litter, mowings of lawn, and a few tree leaves, in order to have some heating material at hand as necessary for slight hotbeds, &c. Used a portion of the above for the bottom of a *Mushroom-bed*, and to throw a little extra heat into the first shelf-bed above it in the *Mushroom-house*, which was spawned and covered lately; kept the beds in sheds as cool as possible, as they are coming rather faster than we want them in this muggy thorough *Mushroom* weather. We have had our attention directed to a plan of getting *Mushrooms* without manure, by sowing the spores and watering with nitrate of potassa; but even in the grand discovery, it is said at one place the soil is *solely* sulphate of lime, and, again, that it is damp ground composed of vegetable loam in a cellar, to be covered with 9 inches of sand and gravel, and above that 6 inches of plaster from old walls, watered with so many grains of the nitrate to so many three-feet squares after the spawn is sown. Now, notice the ambiguity about spores and spawn, and nothing about the quantity of water for the two grammes of potassa, and I think we will come to the conclusion, that we can be quite as particular at home. Now, to all who wish to try, we would say that in a shady place in summer, or in almost any place in autumn, before the middle of October, you may expect to get *Mushrooms* by merely inserting spawn in the soil, provided that spawn is not allowed to get *too wet*, or too dried-up. But all such gatherings will be meagre, unless the ground is rich in nitrogenous matter, and hitherto we have had a prejudice that the decomposing organic matter should chiefly be of an animal

nature: hence, though we use tree leaves, and almost anything for the bottom of *Mushroom-beds*, we like dung in the shape of droppings from horses, cows, sheep, and deer, for the upper layer in which the spawn feeds. I have, therefore, some faith in the nitrate of potassa, on account of the nitrogen it contains; but lest I or some readers should burn our fingers with this potassa, I should, until further experiments were instituted, use a fair decoction from sheep and deer dung for watering. In fact, such watering has invigorated many a decaying bed, when applied in not too strong doses at a time. After all these chemical discoveries, we must still depend chiefly on the efficacy of the muck heap for *Mushrooms*; just as the farmer's son when getting home from a course of lectures told the inquirers wishing to know what he learnt, that he found out that dung made *Barley* grow, and he knew all about that before.

#### FRUIT GARDEN.

Gathered fruit when fine; regulated trees; nipped the runners from *Strawberry* plants intended for forcing; gathered *Figs* out of doors before they were dead ripe, and put them in a warm place to prevent flies holing them; watered trees in *Fig-pit* for about the last time, and used a little fire heat to bring on the second crop; find wasps are now pretty well gone, after the wet weather, so that late *Peaches* and *Apples* and *Pears* will be left undisturbed by them. If the weather should get dry and sunny, will be obliged to net *Pears* to keep the birds from them, as one peck destroys the best specimen. Ground should now be prepared for planting fruit trees next month, and any trees that are overluxuriant, to be fruitful enough should not only have all unnecessary wood removed, but the roots pruned, or the trees replanted as soon as possible, so that fresh roots may be formed before winter. Gathered *Filberts* to prevent birds and squirrels getting the lion's share, the latter doing little harm here in comparison to the former, as many of the larger birds easily penetrate the shell before it gets thoroughly hardened. When we want young fruit trees to fruit early and continuously, we should give them no manure at all in the soil, but add what extra strength is necessary by top-dressings or mulchings.

#### ORNAIMENTAL GARDENING.

Made arrangements for having all tender things under protection in order to give us more time for regulating elubers in conservatory, and washing and getting all clear before the winter. Many things want a little regulating, as the time saved from the general routine would permit. Potted *Primulas*, *Cinerarias*, *Tropæolum elegans*, &c., and lots of plants that do not stand well in cutting-pots. Set *Gloxinias*, *Geueras*, and *Achimenes* to dry in their pots, as they will receive enough of moisture if they are in contact with the soil that is standing on a floor. Set also large plants of fine-leaved *Begonias* to dry and rusticate a little, as they will come all the stronger next season, if they get a little rough treatment now. Will collect *Caladiums*, &c., from conservatory to prevent their getting too chilled, which causes them often to rot afterwards when placed in a suitable temperature—about 60°, and dryish when at rest—just on the same principle that many of us get victims to rheumatism when getting up in years, because we were too careless or too ignorant when young. People are slow to learn, that men and plants have the seeds of disease and premature decay sown thick and deep in their systems by improper treatment; though it may take days, months, or years, before the evil shows itself so as not to be overcome. Plenty of work will be found now in wet days, in washing the pots in which plants stand, or giving them fresh ones.

#### FLOWER GARDEN

Now becomes thoroughly tantalising. Given a number of deciduous trees, and the keeping lawns, &c., all nice, is a mere impossibility. Sweep, sweep, roll, clean, are the never-failing directions; but it is just do and begin again. It is bad enough in summer to go over the same grass with the cutters three times in a fortnight; but now to keep clear of leaves, it would be three times in a day, and then the progress would not be much in advance of trying to wash a blackamoor white. Gentlemen who cannot bear to see a yellow leaf at this season, should summon a company of school children to keep running after them. But many think this should be done with the usual amount of strength, and some acres of extra flower-gardening into the bargain. All flower-gardening this month is also thoroughly trying. You get a few days' sunshine, and *Geraniums*, *Calceolarias*, *Gazanias*, *Salvias*, *Hollyhocks* and *Dahlias*, are just in their glory, and the air is so balmy, that you seem to saunter from bed to bed with

as much delight as you could do in the first days of July; but, presto, a couple of days of drenching rains come and you find bushels of *Calceolaria* blooms washed off, and the trusses of flowers looking as wretched as three-parts-drowned rats, and a part of the same wretchedness begins to steal over you. We begin to think that this new style of flower-gardening takes up a vast amount of time, and on the whole is the most expensive of all gardening. I am sure plant-houses, and forcing-houses, and good fruit and vegetable gardens, even if they made no return, which they handsomely do, are much less expensive than a lawn and flower-beds, where there is nothing to be got in the end but the gratification of the eye—and for that, too, we must be dependant on the weather. I keep telling all our suburban friends that a large lawn and a large flower garden are just a large expense, or a large eyesore; and that it is do, continually do, and nothing for it but a nice lawn and a nice lot of flowers in a fine day after all. I prophesy that if this rage for masses of dazzling flowers continue, we will have our flower gardens less, more artistic in form, and covered all over with glass or other medium, so that we shall not run the risk of having their extreme beauty destroyed when most wanted, by a storm of wind and rain. From what little we have seen done this way, we feel sure that the finest beds of *Geraniums*, &c., in the open air, would pale before those protected by glass. The first that has a garden on this system, and the accessories all in unison, will have the satisfaction of producing a sensation in the flower-gardening world.

#### TRANSPLANTING.

There is no time better than the present month for moving and transplanting all kinds of deciduous and evergreen trees, especially if they can be got up near home, and transplanted with large roots, with or without a ball. When we do much this way, we like to go over such trees and prune them a month or six weeks before planting—that is to say, if any pruning is wanted. This concentrates the proper juices of the plant more in the branches, stems, and roots that are left. If balls are not secured, which is desirable, the roots should be traced as long as possible, and never allowed to be dry. When planting after securing the bole, if large, from winds, the roots should be nicely packed among the rich, fresh soil, and fairly watered. If the weather should be sunny, deciduous trees, if the leaves are not all fallen, and evergreen trees, in every case, should be damped over the top twice—say an hour before and one after midday with the garden engine, which will do more good than repeated delugings of the soil, which only make it a marsh, and unkind for the young roots to go into. The more water at the soil, too, the greater the cold by evaporation. If just moist enough to encourage fresh root-action, and a little dry soil is put over all, the roots will be incited to push forth more readily from the increased heat thus secured. In fact, this heat in the soil is the great argument for early-autumn planting, only if we commenced too early the buds, not being matured enough, would suffer from the sun and wind. As soon as the cold weather begins to set in, the rooting process all the winter will be greatly promoted by mulching the ground to keep the frost out of it. Those who still sturdily maintain that roots cannot be made without the development of leaves, should just for amusement, if not conviction, stick a bough of a Mulberry tree firmly into the ground now, and satisfy themselves as to the roots next spring before a leaf has unfolded.—R. F.

#### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c."* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

*ACER PALMATUSM ATRO-PURPUREUM*.—R. S. D. says that he saw this at Kew, and that its crimson purple foliage is much brighter than that of the

best purple Beech." He considers it a great acquisition and wishes to know if any nurseryman has it for sale. He thinks it would be an excellent companion for the variegated *Negundo fraxinifolium*.

**LAWN MOWERS (J. S.).**—We cannot take upon ourselves to say which is the best. They all do their work well if properly managed and taken care of.

**FUNGUS (M. C.).**—We are obliged to decline naming Fungi. They require so much care, and a mistake in a name is so fraught with danger that we cannot incur the responsibility.

**ASPHALT FLOORING WITHOUT LIME (Westmorlander).**—One part coal ashes, and two parts fine gravel, both quite dry, mixed into a mortar with boiling coal tar, would answer. No bullock's blood or oil. There is no fear of its getting too much dried by the fire—it will rather soften it. Asphalt walks become impressive in sunny weather.

**GRAPE VINE DRIED STALKS (A Constant Subscriber).**—These, and with the berries red and acid, are what gardeners call "shanked." We presume the Vines are planted in a border outside the house, and if so, the shanking is probably caused by the roots being too cold. We have repeatedly pointed out the course to be pursued in such cases, which you will find by referring to the indices.

**CINERARIA MARITIMA (Idem).**—Except for gardeners, the spring is always the best time to strike this plant, and no plant is more easy to lift or to keep over the winter. You might take up a whole bed of it, put all the plants in a washtub, and keep them in the back kitchen just as well as in the front parlour, if there was not much damp about the floor. Sanders on the Vine is the right book for you.

**VERBENA CUTTINGS (Virgil, Derby).**—If you cannot strike Verbenas in September, even in the open air, it is not of the slightest use for you to take up old Verbenas for keeping through the winter, because there is not one thing in the round of the season more difficult than that, and very few indeed of our very best gardeners can accomplish it. Can you not get some of the outside runners in Verbena-beds which are just rooted and no more, and put them in pots exactly like cuttings, and keep the pots outside as long as the frost will allow, and also out of the sun for the first three weeks? Of all the other ways put together, this is by far the best way for most people, and also the easiest; but, recollect, never put such pots of runners of Verbenas under glass for the first three weeks—that is the secret, and if you could keep them out two months all the better. (P. B.).—If you had taken the trouble to read "Doings of the Last Week," and other articles on the propagating of bedding plants, you might have avoided all your mischances about the Verbena cuttings. You say nothing of drainage, and perhaps you made your soil too wet before inserting the cuttings, and that added to the evil; but your two great causes of failure were too much heat, and covering with bell-glasses. Until the middle of September we should give no heat to cuttings, except what the soil and atmosphere afforded, and should never think of a bell-glass; but would merely cover with a sash to keep close and shaded in bright sunshine, and give all the light at other times the cuttings would bear, and air at night and morning provided they showed no signs of flagging. In a case where we wished rapidity of root-making we would use a bell-glass, but only during the day, or if left on, tilted-up at night. We expect you left yours on night and day; and the well-watering, and the confined moisture cut up the poor things with damp—and having had no chance to breathe or perspire, they were forced to absorb moisture to the point of rotteness. It would take too long a story to tell why all your cuttings, similarly treated, did not suffer the same fate; but you will get a fair idea of the case if you remember that, of the poor fellows that were shut up in the blackhole of Calcutta, there were a few that survived that horrible confinement.

**MANAGEMENT OF YOUNG QUICK HEDGES (P. B.).**—We like young Quick hedges to be encouraged to grow freely, and then to be cut well down to produce good width and strength for the base of the hedge, which we like best to be trained in the pyramidal or wedge shape; but if you tell us what you particularly desire, we will try our best to oblige you. Meanwhile, as to propagating bedding plants, consult our pages for the last two months.

**MUSHROOM SPAWN (A Subscriber, St. Helen's).**—You were answered last week in "Doings of the Last Week."

**FILBERT PRUNING (A. W.).**—In Kent, where large quantities of Filberts are grown for the London market, they are pruned-in more closely than any fruit tree we know of; all the strong, coarse shoots being taken away entirely, and only short pieces of the small wood left. The coarse laterals of from 3 feet to 6 feet long may be removed at once; but it is better to wait until about Christmas before the general pruning, as the embryo bearing-bud shows itself then. More particulars will be given in an early Number by one of our correspondents from Kent.

**PRUNING A NECTARINE TREE (Idem).**—Your tree must be in a promising condition not to make shoots more than 2 feet long, and if these be well furnished with fruit-buds to their base you may shorten them in one-half; but, if fruit-buds be wanting, do not cut off so much, as the tree may, perhaps, become too gross next year if cut-in too much this season. We hope it will shed its leaves early in the autumn.

**TROPAEOLUM (H. X. W.).**—Your plant is one of the best dark kinds of *Tropeolum*, with a strong, climbing habit, and is a very common plant about London. But that breed of them came first from the continent, and was the second kind named Brilliant; the first Brilliant was an English seedling.

**FEANS FOR A FERN-CASE (E. C. F.).**—The following merely require frost to be excluded in winter:—*Adiantum capillus-Veneris*, *A. cucullatum*, *A. formosum*; *Pteris tricolor*, *P. argyrea*; *Asplenium viviparum*; *Davallia dissecta*, *D. canariensis*; *Leycopodium cerasia*; *Cystopteris fragilis*; *Asplenium filabelliforme*; *Nothochloa vestita*; *Trichomanes reniforme*.

**VINES IN GREENHOUSE (J. S.).**—If your Vine, only planted last April, is not pretty strong, we would advise its being cut down to some half a dozen eyes; but, if it appears vigorous, the side shoot No. 3 may be cut-in to 18 inches, and trained so that its shoots will occupy another rafter from No. 1. No. 2, in like manner, might occupy a rafter on the opposite side; but, in so doing, you must make No. 1, the centre shoot, the shortest, and thereby have three rafters furnished from one plant. But only allow one shoot from each next summer. The Vine may be pruned at any time after the bulk of the leaves turn yellow—say by the end of October. Ingram's Prolific is reported an excellent Grape, but has not been sufficiently tried. The Black Lombardy is good; and if you want a very late one, try West's St. Peter's or Lady Downe's Seedling.

**PRUNING ESPALIER TREES (N. X.).**—It is not an easy matter to obtain a good crop of fruit all over a tree neatly trained and pruned; for it almost always happens that the spurs in the centre of the tree lengthen each year so as to necessitate their cutting-back for appearance sake, and thereby most of the fruit-buds are cut off. We know of no remedy for this, excepting now and then cutting a large limb clean out of an Apple or Pear tree, and training-in young fruitful wood. But this, in some degree, mars the symmetry of the tree, and it is questionable whether it increases the quantity of fruit or not, as the wood of two and three years old at the tip ends bears best, and this, being at the ends, is more fruitful than the same aged wood in the centre. In situations more than usually favourable to the production of fruits, trees will occasionally bear well to the centre; but the merit of their doing so is more owing to natural than artificial causes. Root-pruning is useful in espalier fruit trees; but, excepting for appearance, and the merit of taking up little room, dwarf standards but little pruned bear quite as well, and are superseding espaliers in many instances.

**CALADIUMS IN WINTER (Northumbrian Subscriber).**—The best way to keep Caladiums in winter is to allow them to remain in the pots, giving them little or no water after the leaves have faded, but allowing the pots to stand on a moist bottom, so that they do not get too dry, and keeping them in a temperature not below 60°. We have lost some when below that temperature; if 65° it will be as well. *Tiburnum plicatum* is hardy enough in the south of England. It is a native of the north of China.

**FRUIT TREES AGAINST A SLOPING BANK (C. C. Hunt).**—We cannot say without knowing that the bank has a steep slope. If you took care that the roots did not get down too deep, you might concrete the surface of the bank, and thus insure heat and dryness to the trees. There can be no doubt that Cherries, Pears, Apples, Plums, &c., would do well trained on a trellis on a properly sloping bank. The flue will be an advantage every way.

**INSECT ON ERICAS (An Old Subscriber).**—We are afraid they have nearly bug, and if so the cure will be very tedious, and wholly impossible if existing on the roots and soil as well as the branches. In that case the best cure would be to burn the whole. If not on the roots, lay the plants down and syringe well with water at 80°, holding some sulphur and lime in solution, and when dry dip them several times in gun water as advised today for Azaleas and thrips.

**WARNING A PIT (Sophia).**—If you only wanted to keep out frost, a small Arnott's brick stove, placed in the middle and fed from the outside, would be the cheapest and give heat enough. If you wished for more, a small flue and furnace would be the next cheapest and best, and 4 feet from the furnace being brick, the rest might consist of earthenware pipes 9 inches in diameter. We would have advised better if you said what you want your pit for.

**VARIEGATED ALMA GERANIUM TURNING GREEN (A Two-year-old).**—The most pointed "remark" we can offer on this subject is, that the same has been of yearly occurrence, not only with Alma, but with all other variegated Geraniums old as well as new. The next prominent remark is only the corollary of the first, which is, that it would be extremely difficult to mention any variegated Geranium which has not thrown off a green sport at one time or another. And the third remark will be an observation founded on your Alma, which died down by mishap or ill usage—two conditions which have been laid down by some as the best and most probable conditions for obtaining a variegated disease from a green-leaved plant; but the "conditions" are against the tide in this instance at all events.

**AZALEA LEAVES (E. S. D.).**—We could not make much of the eggs, but there is little doubt that the leaves are eaten up by thrips, and there can be nothing more destructive. We would advise shutting up the plants in a close place, and smoking them well with the best shag tobacco, leaving them for twenty-four hours, and then taking them out and syringing them well with clear soft water, and after a week smoking and syringing again. If that does not settle the thrips, make up a weak solution of gum or glue water, but strong enough to be a little adhesive when pressed between the finger and thumb, and dip the plants in it, or syringe them with it, so that not a leaf is missed. Allow the plants to stand in a shed for two or three days until the gum is dried and begins to crack, run your fingers carefully through the shoots, and most of the matter will fall off; and then syringe well all over several times with water about 90°, but lay the plant so obliquely that the soil receives not the syringing.

**BOWLING-GREEN (An Old Subscriber).**—The best bowling-green we remember was 90 feet long and 60 feet wide, with a ditch 6 inches deep all round. Half these dimensions would suffice; but it is advantageous to be able, at some points of the game, to have the jack far off. There is no better mode of levelling the turf, if already laid, than by beating it with a sod-beater; keeping it well watered in dry weather, and mowed and rolled frequently. A builder's level will enable you to detect inequalities in the surface.

**JAPAN LILIES (Belladonna).**—We did not, nor do we, recommend these Lilies to be grown in such small pots; we merely referred to the practice of some, to show how very simple and how easily the Japan Lilies can be grown. We grow them in pots proportioned to the size of the bulbs, and keep them in the same pots three, four, and five years without disturbing them.

**GRASS IN PAVED YARDS (M. F.).**—We know of no modes of extirpating it except by rooting it out from between the stones by the help of a knife, or by strewing salt thickly over it. Boiling brine might be more promptly fatal to the grass.

**ANATOMISING PLANTS (A Beginner).**—If you mean skeletonising the leaves, we recommend you to apply to Mr. Persac, of Exeter. He charges 5s. for imparting his mode of rapidly effecting the object.

**FLOWER GARDEN (Subscriber, Sunderland).**—Your plan is very good, concise, and to the point, and all on one page—that is, the whole letter, the plan of the beds, and all the numbers and names referring to the plants for the beds are on one single page. The whole is done thoroughly well, and does you great credit.

**BEDDING GERANIUM (J. G.).**—Your Geranium is of the greenhouse bedding class, and is one of the *Ignescens* race, but you packed it in sticking plaster? and we could not undo it without tearing it to pieces.

**WORMS AND DAISIES IN LAWNS (A Subscriber).**—Lime water applied when the casts intimate it is needed will drive away worms. Daisies can only be eradicated by the knife. We usually fill with earth the holes made by thus eradicating them, and sprinkle a few seeds of Suckling on the surface.

**MAGGOTS IN ONIONS (E. Wootton).**—They are the larvæ of the Onion fly, *Anthomyia ceporum*, of which a drawing and full description is given in the *Cottage Gardener's Dictionary*. Be careful to burn all the Onions thus attacked, otherwise the pupæ will give birth to a brood of flies in the spring, which flies will deposit their eggs in next year's crop. Gas lime sprinkled on the surface between the rows of Onions, as soon as these appear above ground, emits fumes which are said to drive away the flies. Never be afraid to ask for information; nothing is trivial which helps to remove an injury.

**VARIOUS (E. H.).**—First, your leaf is of the Algerian Ivy—the largest of all. Catch the earwigs with hollow bean stalks, as gardeners rid them off their wall fruit. They hide themselves inside any hollow stalks or tubes for the day, and are blown out into cans of water and drowned. *Melia sempervirens* is a large forest tree from the West Indies, and requires the same treatment as the trees in the great conservatory at Kew, and is not worth it. *Roses* cannot be made out by leaves, or even by shoots a yard long, and sometimes net by the flowers, as they vary much.

**TERRA COTTA GARDEN-EDGING (Devonians).**—We believe it is manufactured by Messrs. Eastwood, Belvidere Road, Lambeth.

**NAMES OF FRUIT (J. L. A.).**—Your Peach is certainly different from any known good sort; and as you say it is never good, the best thing you can do is to destroy it. *Plums*.—No. 1, Downton Impératrice; 2, is probably the Nectarine Plum. The *Apple*, No. 1, called Barton's Free Bearer is, perhaps, the same as Barton's Favourite. It seems to be a seedling from the Noneseuch, but is not so regularly formed. (*A. Athinson*).—Hawwell Sourling, (*George*).—Your Pear No. 1 is Duchesse d'Angoulême; No. 2, Beurre d'amaoula. The shrubs are No. 1, Acer negundo; and No. 2, Chimonanthus fragrans. The Sweet Potato will not succeed in the open air in this country. (*Fanny*).—Your Pear is Brown Beurré. (*Stonewall Jackson*).—1, Hollandbury; 2, Herefordshire Pearmain; 3, possibly Bredon Pippin. (*Ridge Wood*).—1, Gansel's Bergamot; 2, Beurré Diel; 3, No Plus Meunis; 4, Glout Moreau; 5, Figue de Naples; 6, unknown; 7, Keswick Codlin; 8, unknown; 9, Sussex Scarlet Pearmain.

**NAMES OF PLANTS (Omega).**—1, *Pteris longifolia*; 2, *Nephrodium molle*; 3, *Polystichum angulare*, var. *proliferum*; 4, *Cyrtomium filicatum*; 5, *Platyloma cordatum*. (*B. A. S.*).—*Senecio mikadoensis*. It does flower sometimes, but not freely. (*J. B.*).—1, *Cacalia coccinea*; 2, *Anaëcia* not in flower; 3, *Polygala Dalmaisiana*; 4, *Tetratheca hirsuta*. (*J. S.*).—*Cornus mascula*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

OCTOBER 15th. FROME. Sec., Mr. C. Harding, Grndon Farm, near Frome. Entries close Oct 8th.

OCTOBER 23th and 29th. CALKE. Secs., A. Heath and F. Baily. Entries close October 15th.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.

DECEMBER 16th and 17th. LORD TREDEGAR'S, Newport, Monmouthshire. Sec., Mr. J. G. Palling, Newport.

DECEMBER 29th, 30th, and 31st. MANCHESTER.

### PRESERVATION OF EGGS.

(Translations from M. Jacque's work on Poultry continued.)

"FOR more than six months we had to make the same remark respecting the eggs placed in the artificial hatching-machines in use by Messrs. Tricorne & Adrien, jun., at Vaugirard. The result, then, of these facts, and these very conclusive experiments is, that clear eggs such as are laid in the beginning of autumn, keep very long for the causes we have named, and that the same results may be attained at other seasons of the year, by the suppression of the cocks in large yards where the profit is looked for in eggs only.

#### "ALTERATION IN EGGS.

"The fruitful germ organised by nature to produce on certain conditions a living being—that is to say, a chicken, no doubt perishes if kept long. It can also perish from rough shaking, the result of handling or travelling to distant places. These movements may help to destroy the germ by breaking the ramification of the fine and stretched ligatures by which it is attached to the delicate and transparent membrane of the yolk. When life has ceased in this germ, it becomes corrupt as well as everything in contact with it.

"In these organic bodies corruption always begins in the germ. This demonstrates that the most efficacious means of keeping eggs, and of being able to send them long distances without injury, is to prevent their fermentation.

"Humidity communicates to eggs a fermentation which changes them. Frost cracks the shell, and, disorganising the inside, disposes them to putrefaction. Too much heat dries up their moisture and forms the void which constitutes the cell at the large end; the air penetrating by the pores of the shell into it contributes to their decomposition. Eggs changed in any of these ways are valueless, and can only serve for food to hens and chickens.

#### "VARNISHING EGGS.

"Réaumur who thought, not without reason, that by preventing the evaporation of an egg it might be kept a long time, has

advised that the surface of the shell should be covered with a varnish that would resist water. He advises oil, grease, or butter. It is probable this method has been tried unsuccessfully, as it has been abandoned although so simple. There is reason to believe that there are other causes of corruption than the loss of moisture—such as evaporation and the introduction of putrid miasma in exchange.

#### "PRESERVATION OF EGGS.

"The means used for the preservation of eggs are numerous, and have been thought worthy of the attention of many distinguished economists. It is very important to preserve the precious products which abound in summer, to be eaten or sold in the winter when they are scarce and dear. The preservation of eggs is considered so important as a question of domestic economy, that one of our most illustrious learned societies has proposed it as the subject of a prize."

As it will be some time before the result can be known, we will give that of our own researches on the subject.

We have tried the different means proposed by the authors who have preceded us in this endeavour. We have tried those of Réaumur of which we have spoken. We have also tried gum water and alum water. These means which are intended to prevent the introduction of air into the egg are good, but they do not last long enough. Dry or powdered lime or chalk, ashes that have not been used for laundry purposes, barley or oat hulls, communicate an unpleasant taste to the egg. Chalk water preserves eggs for some months, but this also gives a bad flavour. They spoil as soon as they are taken out of this preparation: they must, therefore, be left in it till they are wanted for use. Water strongly impregnated with kitchen salt causes the liquid of the egg to imbibe it, hardens the yolk, and renders it unfit for many culinary uses. Another plan is to cook eggs in boiling water the day they are laid, and just as much as if they were to be eaten boiled—that is to say, the albumen should be milky and slightly set. Every one knows three minutes will accomplish this if they are put in boiling water. This degree of cooking renders the eggs fit for all domestic uses, and to prevent mistake, sand-glasses have been made of perfect accuracy. When they are taken out of the water they should be marked so that they may be sold or used according to the time when they were preserved, and they should be kept in a cool dry place. By this proceeding they may be kept about three months, after which the inner membrane of the shell becomes thicker, and this denotes the beginning of a change. To eat as boiled eggs for breakfast, it is only necessary to warm them.

Eggs boiled hard soon after they are laid may be kept two months, and are convenient food for travellers. If after they are boiled they are covered with paste made with clay, ashes, or marine salt, they may be kept for two years at least.

A method peculiar to ourselves, and which has appeared to us the most certain and most convenient, is to have large boxes or barrels thoroughly lined inside with paper. These are put in a cool but dry place. A layer of fine white salt an inch thick should cover the bottom. New-laid eggs should be laid side by side on this salt, and all vacant spots or places should be carefully filled with it. Successive layers of eggs and salt fill the box, which is then hermetically closed. Fine white salt is preferable to marine salt, this latter often has an unpleasant odour which it communicates to the egg.

On the 1st of August, 1849, we opened a case of six hundred eggs, preserved in September, November, and December, 1848—that is to say, eleven months after they were put away; although they no longer possessed the delicate flavour of a new-laid egg, they were well-kept, and well-tasted; good enough for any domestic use. The evaporation of liquids was hardly perceptible in the air-chamber; but the white was rather more liquid than in a fresher-laid egg.

At the actual price of salt, the preservation of these six hundred eggs costs 3s. 9d.; this outlay becomes insignificant when it is recollected that after this lapse of time the eggs have not absorbed 2 lbs. of salt. The same salt will last for years. The white of the egg preserved in this manner tastes slightly of salt.

#### CHESHIRE AGRICULTURAL SOCIETY'S POULTRY SHOW.

THIS Society's Meeting took place at Northwich, on Friday, the 26th inst. The poultry formed one of the chief attractions of the Show.

The Judge of Poultry was—Loyd, Esq., whose decisions appeared to give general satisfaction.

DORKING.—First, J. Waddell, Toft. Second, W. Gaman, Thornton-le-Moors.

SPANISH.—First, W. Woodley, Bunbury. Second, J. Sheen, Tilston.

GAME.—First, E. Viggor, Over. Second, J. Groucott, Haughton.

HAMBURGH (Spangled).—First, T. Dale, Middlewich. Second, S. Allen, Acton.

HAMBURGH (Pencilled).—First, D. Harding, Middlewich. Second, Mrs. Cheers, Hartford.

COCHIN-CHINA.—First, Mrs. Cheers, Hartford. Second, Lady G. Egerton, Oulton Park.

ANY OTHER VARIETY.—First, A. Hulme, Knutsford. Second, J. Waddell, Toft.

DUCKLINGS (Aylesbury).—First, T. Johnson, Over. Second, E. Viggor, Over.

DUCKLINGS (Ronen).—First, W. Gaman, Thornton-le-Moors. Second, W. Erdly, Larkton.

TURKEYS.—First, W. Glassford, Lostock, Gralan. Second, J. Waddell, Toft.

GEESE.—First and Second, T. Burgess, Jun., Burleydam.

#### POULTRY FOR A SMALL SPACE.

WHAT do you consider the smallest space in which a cock and two hens could be kept in health, and what kinds would do best, and whether there is any kind which make less noise than others?—N. R.

[Spanish, Brahmas, or Cochins-Chinas may be kept in a very small space, provided it has neither a brick, stone, nor boarded floor. They will do well in a space 12 feet square. Pains must of course be taken to contrive they shall have sunshine, and to provide them with dust, grass, and gravel, which are almost as necessary as food to them. Noise depends much on provocation. If there is no other cock within hearing, the crowing is not much.]

#### NEWCASTLE POULTRY SHOW.

THIS Exhibition of poultry forms an additional subject of interest to the annual gatherings of the Staffordshire Agricultural Society. It has, on every preceding occasion, been exceedingly well supported by our principal amateurs and general breeders of poultry, and it gives us great pleasure to state the fact that there was scarcely an indifferent pen shown this year throughout the whole collection. No doubt this continuous prosperity of the poultry department ensues from the confidence that arises among exhibitors, on account of the great care taken by the Committee of the birds entrusted to them, and the unvarying punctuality of their return at the close of the Show. A very unfortunate mistake, however, this year we cannot, as public journalists, avoid referring to. The pens used were those of Mr. Turner, of Sheffield, and, by some misunderstanding or other, the number provided for the accommodation of the competing fowls proved some twenty short of absolute requirements. We were assured by the indefatigable Secretary they were duly ordered, and this statement was as flatly contradicted by Mr. Turner's man who was present at Newcastle: therefore, at that time to affix blame to either party with certainty was impossible. A peculiar feature in the Poultry Show held the day following at Melton-Mowbray, however (where Turner's pens were also employed), most probably tends to enlighten us on the subject. At Melton, about twenty unused pens lay still folded beneath the coops that were erected, and, strange to say, that although the arrangements between the Melton Committee and Mr. Turner specified particularly that his man should attend to put the pens up and take them down when done with, no man on the part of Mr. Turner had even reached the Melton Show tent at the opening of the Exhibition to the public, and of necessity the Committee had been compelled to engage other parties, as best they could at the last moment, to put up the pens, or a blank must have ensued. It is scarcely needful to say that such careless management gives a hundredfold additional trouble to the officials of a poultry show, besides the inevitable want of future confidence engendered by such proceedings. At the Newcastle Show, the only course that could be pursued under these circumstances was to exhibit about twenty pens of the poultry in baskets of the most open character that could be selected among the wickerwork packages in which others had been received.

The Game fowls were a splendid feature of the Show; and when we say also that Mr. Rodbard's well-known birds in the Spanish class were closely pressed by several competitors, we

could scarcely pass a higher or better-deserved encomium on the exhibitors of that variety. The *Dorkings*, too, were most excellent. The *Cochins* were exhibited (all colours competing), and the precedence fell to a trio of by far the best Partridge-coloured ones we have seen this season. All the varieties of *Hamburgs* were well shown, and proved quite a leading feature of the Show.

With the exception of the first-prize *Turkeys*, the remainder were very common-place specimens.

In *Geese*, the Newcastle Show ranked highly; Mrs. Seamons, of Aylesbury, standing, however, quite a-head of her rivals. They were a marvellously fine pen.

In *Ducks*, too, this lady took first prize with a splendid pen of Aylesburys, and would have, without doubt, cleared the prize list entirely in this division, but from the fact of a "broken-bellied" Duck being, unfortunately for her owner's interests, shown in the best pen of the two (save this defect, which always insures disqualification). A pen of capital Rouens consequently took second position.

In the "Extra Poultry class," Mrs. Blay, of Worcester, exhibited some especially good Silver Polands, Black Polands, and Andalusians. Taking into consideration the heavy rain in the early part of the day, the attendance was a good one.

The Judge was Edward Hewitt, Esq., of Eden Cottage, Sparkbrook, near Birmingham. We published his awards last week.

### ORIGIN OF OUR POULTRY VARIETIES.

SOME ten years since the columns of this Journal contained inquiries as to the natural history of our various breeds of poultry. Poultry-keepers, both for exhibition and table purposes, would be necessarily interested in such an inquiry, for its investigation might have afforded them material assistance. But whatever information may have been thus acquired, it has not yet been given to the public, and hence the present allusion to the subject. Mr. Darwin's admirable work on the "Origin of Species" elucidates the mode in which such inquiries might best be conducted, and would bring most important assistance to its practical discussion.

The first question is, whether all our different breeds of domestic poultry are to be attributed to some one common stock? Now, the existence of undomesticated Galli, such as *G. giganteus* and *G. Bankiva*, however satisfactory they may stand as the respective parents of the Malay and the Bantam families (although there are difficulties as regards the latter), will not account for the parentage of other fowls. In respect of size and general features they may stand at either extremity; but still some connecting link is evidently wanting. It has been therefore considered probable that the bird which occupied this position, since he cannot be now found or traced, has, like the camel, and, in a less degree, the sheep, been absorbed by domestication, and no longer exists in a natural wild state.

The answer, therefore, to this question seems to be in the negative—viz., that there does not exist, and probably never has existed, any one common parent for all the present members of the poultry-yard. Consequent on this I would put a second question—Is there any other wild Gallus, besides *G. giganteus* and *Bankiva*, that would answer the requirements of such a common progenitor?

Again: has the observation of the poultry-breeder furnished him with any instances in the different varieties where a falling-back to a common type has shown itself? Or, on the contrary, has his experience in this respect tended to support the idea of their original specific distinction?

If any of your correspondents could enlighten us on these points it would certainly be a matter of interest, and possibly of profit also.—W.

### MELTON-MOWBRAY POULTRY EXHIBITION.

THE Exhibition of poultry just closed at Melton is the first yet held in this locality, and the arrangements reflect great credit on the management generally. Among the specimens shown were many pens that would have held favourable position at any of even our largest shows; but, as is invariably the case at the first institution of such exhibitions, not a few local competitors had not made the most eligible selections procurable in their respective poultry-yards. It is only experience that can obviate this shortcoming; and, judging from the birds shown, it is evi-

dent poultry-breeding is a pursuit highly favoured in the surrounding district.

The weather for the Melton Exhibition was highly favourable, and, consequently, everything went off gaily as the clang of marriage bells. A profusion of banners, combined with evergreens in all directions, gave the whole affair the appearance of some public fête. The hotels were filled with visitors to repletion; and the dense mass of vehicles that lined the principal streets on both sides, from the aristocratic family carriage down to the dog trap of the tenant farmer, told conclusively that such an attendance was far greater than anticipated by the licensed victuallers of Melton. On reaching the Show, the great number of lady-visitors was most conspicuous, and holiday-gear was evidently the order of the day. About noontide threatening clouds appeared in the south, but very luckily no rain ensued; and, consequently, the Show proved quite a success.

In the tent, the *Spanish* fowls stood first on the list; and, we must say, were the least creditable class throughout the Exhibition.

The *Grey Dorkings* throughout were very excellent, and the *White Dorkings* were equally praiseworthy. In the class for *Silver Grey Dorkings*, it appeared that exhibitors were at a loss in selection; notwithstanding there were many individual specimens of great merit, although a perfect pen throughout could scarcely be found.

Only one pen of *Buff Cochins* fowls was shown, and those so decidedly meagre in quality that the first prize was withheld; and we fancy it must have been rather a strain of leniency in the Judge to allot them even a second position. The *White Cochins* were nearly all of them "vulture-hooked"—a fatal objection.

The *Game* fowls were not nearly so good as we anticipated seeing. The selection by exhibitors in the *Game* classes possessed at least the feature of great novelty, *Brown Red* hens being misted to *Black-breasted Red* cocks; whilst one competitor, evidently having a relish for "going the whole hog," placed a purely white hen in the same pen with a pair of *Black Red Game* fowls. Such irregularities detracted seriously from the merits of many contributions to the *Game* classes.

In the *Hamburgh* classes the greatest deficiency was the want of white ear-lobes, scarcely a pen being perfect in this necessary trait of character.

The *Game Bantams* were mostly good; but the *Laced Sebright's* prizes were withheld altogether, those shown being decidedly inferior.

A prize given by Nathaniel Whitechurch, Esq., of Melton, for the best *Dorking* cock, brought a goodly competition; the donor of the prize taking the first position with decidedly the best cockerel we have seen for years past.

We do not wish to see a better show of *Geese* and *Turkeys* than the one at Melton; they would have added credit to any poultry exhibition in the kingdom.

The *Golden* and *Silver Chinese Pheasants* were very well shown, and richly deserved the special prizes awarded them.

The *Pigeon* classes, though not numerously filled, contained many birds of great merit and value.

The *Rabbits* were numerous and good; the *Silver Greys* were particularly worthy of distinction.

The tent for the accommodation of the poultry was an exceedingly commodious one.

Mr. Hewitt, of Eden Cottage, Sparkbrook, Birmingham, officiated as the Judge. We published his awards last week.

### LIGURIANS IN NORTH LANCASHIRE.

THE doings of these general favourites upon our plains and moorlands may be interesting and instructive to some of the readers of THE JOURNAL OF HORTICULTURE who are doubting whether they will answer in their respective localities.

About the middle of last April a stock arrived in this district in such a state from rough usage by rail, that there was not a single comb in its place. Matters being made right, they commenced their work in good earnest, and soon proved themselves superior to the ordinary bee. The stock flourished as if by magic, and in nine weeks threw off a swarm, and in seven days a second, and, if the season had been favourable, most likely there would have been a third, as there was a queen cast out.

The first swarm was put into a nine-frame hive, which rapidly filled with comb, the old queen again showing her immense fecundity, and the workers their determination to struggle with

the bad season and make up for lost time worked three hours per day longer than the common bees in the same apiary, thus gaining for themselves the good wishes of all.

The second-swarm queen, I think, has outshone her royal parent in fecundity, the hive being at the present time quite as populous, and only being deficient about 6 lbs. in stores.

The old stock is not so strong, being evidently too much drawn upon this bad season. For the satisfaction of the inquirers as to their honey-gathering qualities, the first swarm is double the weight of any one hive of common bees upon the same pasture, and the second not far behind.

The Ligurians are certainly more handsome than the common bees, but not so quiet to handle; but this is nothing, as a little protection is all that is needed. They protect their home with great energy, and you may be sure to find them busy if there is any honey in the locality. In every respect they are superior to the common bee, and I wish that mine were all Ligurians.

I hope they will arrive safe in Australia; if so, their success is beyond doubt if in practical hands.—A NORTH LANCASHIRE BEE-KEEPER.

OLD QUEENS RETURNING TO THE DRONE-LAYING CONDITION OF VIRGINS.

THE BEE SEASON IN EDINBURGH.

By this post I send a couple of live queens, not for the purpose of having them put at the head of two colonies, but in order that "A DEVONSHIRE BEE-KEEPER" may kindly favour me by getting them dissected and communicating the results.

It would be interesting to know in what state he finds their reproductive organs, whether in a normal or abnormal condition. Both are very old, and the more perfect of the two has for some months past ceased to lay workers' eggs—a few drones only appearing in small cells. The tattered-winged one has also ceased laying for some time.

This has been another miserable bee season in this locality (Edinburgh); a great many deaths, few swarms, and little honey collected.—JOHN LOWE.

[Both queens were dead before they reached me, but were nevertheless so fresh that there was no difficulty in making a perfectly satisfactory examination. On dissecting-out the spermatheca, or seminal receptacle, I found that in both cases this organ presented the exact appearance of that of a virgin; and on submitting it to the test of the microscope, this fact was abundantly proved. In neither of them was there the faintest trace of the countless myriads of spermatozoa which are always present in the spermatheca of a young impregnated queen bee; but, on the contrary, nothing was present save a colourless fluid, perfectly clear and pellucid, appearing, indeed, completely identical with the liquid contents of a virgin spermatheca. I am extremely obliged to Mr. Lowe for affording me the opportunity of investigating and recording another fact, which proves to demonstration the correctness of Dzierzon's theory of parthenogenesis in the honey bee.—A DEVONSHIRE BEE-KEEPER.]

QUEEN BEES ASSAILED BY THEIR OWN WORKERS.

SINCE relating the case referred to by "INVESTIGATOR" in the last Number of THE JOURNAL OF HORTICULTURE, in which bees attacked and killed their own queen which had just been hostilely assailed in another hive, I have had another adventure of the same kind, attended, however, with a more fortunate result.

Attempting to introduce a fertile queen to a small stock which had lost its own sovereign a few days before, I found her violently assailed, and therefore removed her immediately, although with some little difficulty, from her exasperated assailants. On returning her to her own hive a similar scene was enacted with, if possible, increased virulence. Bearing in mind the unfortunate result of my former experiment, I extricated her with the utmost despatch, and found myself on the horns of a dilemma with a beautiful Ligurian queen on my hands in a sadly exhausted condition, owing to the violence of the assaults she had sustained, and equally refused admittance either into her parent or the adopted stock. After a little consideration, I determined upon imprisoning her for two or three hours in a small box formed of perforated zinc, and suspended in the centre

of her own hive. At the expiration of that period I withdrew the sliding door of the "queen-eage," and admitted her expectant subjects; they at once rushed in and again subjected her to a rigorous confinement. Further interference appearing useless, I closed the hive and left her, with sad forebodings, to her fate. On examination the next day I was agreeably surprised at finding her quite safe and once more perambulating the combs in all the dignity of undisputed sovereignty.

I am rather doubtful of the correctness of the inference drawn by "INVESTIGATOR," that bees sometimes confine their sovereign out of regard to her safety. In one case, in which I by mistake got two queens into one hive, I found both the native sovereign and the stranger treated with apparently equal rigour, without favour or affection for either, so far as I could perceive. In the majority of instances, however, a stange queen is stung to death without ceremony, nor have I ever seen a queen give such proofs of her prowess as were witnessed by "INVESTIGATOR." In fact, I had the idea that her long body was so unwieldy as to place her at a disadvantage in actual warfare—an impression which once received a strong confirmation by seeing a vigorous queen stung to death in single combat with a worker after a very short contest.—A DEVONSHIRE BEE-KEEPER.

OUR LETTER BOX.

LEEDS AND WAKEFIELD POULTRY SHOWS.—*Minus* inquires if the prizes awarded at these Shows have been paid. Will some of our readers enable us to give an answer?

HEN DROPPING HER EGGS (*Amateur*).—The egg-dropping from the perch proves that there is something amiss with your hen. It is not a common occurrence, but we have often met with it. Give her a table-spoonful of castor oil, feed for a day or two on ground oats mixed with new milk, and give her lettuce leaves.

FOOD FOR CALIFORNIAN QUAILS (*Belladonna*).—Almost every kind of grain, but especially oats and hempseed. They like also bread and lettuce leaves.

POULTRY SHOWS (*S.*).—We insert the announcements sent to us in our list of those forthcoming; but we think that if not of sufficient importance to be advertised, they are rarely worth attending. At all events it is evidence that the foads are not overflowing.

KEEPING CALIFORNIAN QUAILS (*Amateur de Volaille*).—Californian Quails require a pen with a sunny aspect, being also part gravel and part grass. They do not want a house, but there should be a shed to which they can resort, and this should be partly filled with bays or large boughs, among which they like to perch. It should be perfectly dry and sandy under the shed. Their usual food is oats; they are very fond of bread and lettuce, and will eat almost every grain.

TAME PHEASANTS (*Idem*).—We have had, and have now, Pheasants quite as tame as any farmyard fowls. We have had them full-winged, and they have neither gone away nor become wild. Nothing makes a bird wild so thoroughly as banding it; and, as you cannot cut its wings without catching it, we advise you to leave it at large. If you feed regularly, you will keep it tame.

BULLFINCH (*E. C. F.*).—A work will be published by us about the close of the year. Your Bullfinch is over-fed. Give him less of any kind of food, and leave off the millet entirely. If he could be allowed to fly about in a room for a few hours daily, his paralytic symptoms would disappear. Fatness and idleness are the causes of death to most domestic pets.

POINTS IN A POODLE (*Mrs. Fleming*).—The following are given by Mr. Meyrick:—"His shape should be compact, and should possess the general symmetry which marks a combination of activity with strength, and of which it is impossible to convey an exact idea in words. The points most looked to are: his head, which should be large, with a high, broad forehead, and a square muzzle; straight legs; and hair very thick, and falling in long, sharply-twisted curls or ringlets. The colour is either pure white, or pure black, but generally a mixture of the two colours. The height should be between 15 inches and 18 inches."

ROWAN JAM (*Westmoreland*).—Our correspondent wishes that some of our Scotch readers would furnish us, for publication, with a recipe for making jam of the berries of the Rowan or Mountain Ash.

LONDON MARKETS.—OCTOBER 6.

POULTRY.

Partridges remain very scarce, as the corn is now harvested and birds are become wild. We cannot look for any increase in the supply, and we consider, to the present time, it is the shortest supply we have ever seen. The same may be said of Grouse, which are very scarce and dear. Poultry is scarce, but there is little trade.

Large Fowls	3 0 to 3 <sup>00</sup> 6	Ducks	2 0 to 2 3
Smaller do.	2 0 " 2 6	Partridges	2 6 " 0 0
Chickens	1 6 " 1 9	Rabbits	1 4 " 1 5
Geese	6 0 " 6 6	Wild do.	0 8 " 0 9
Grouse	4 0 " 4 6	Pigeons	0 8 " 0 9
Pheasants	3 6 " 4 0		

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 14—20, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.		Sun Sets.		Moon Rises and Sets		Moon's Age.		Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	m.	h.	m.	h.	m.	h.	m.	h.		
14	Tu	<i>Linum trigynum.</i>	30.006—29.984	80—40	S.	—	24	af 6	9	af 5	14	9	21	13	55	287
15	W	<i>Arbutus laurifolia.</i>	30.096—30.022	74—41	S.	—	25	6	6	5	16	10	21	14	8	288
16	Tu	<i>Jasminum azoricum.</i>	30.217—30.171	69—29	N.E.	0.1	27	6	4	5	23	11	23	14	21	289
17	F	<i>Aloe</i> , various.	30.260—30.106	61—35	N.E.	—	29	6	2	5	morn.	—	24	14	33	290
18	S	<i>St. Luce.</i>	30.140—29.997	62—31	E.	—	31	6	0	5	33	0	25	14	45	291
19	Su	18 SUNDAY AFTER TRINITY.	29.970—29.801	66—34	E.	—	32	6	iv	—	44	1	26	14	56	292
20	M	<i>Anthericum revolutum.</i>	29.858—29.775	58—39	S.	—	34	6	56	4	57	2	27	15	6	293

METEOLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 58° and 40° respectively. The greatest heat, 76°, occurred on the 14th, in 1845; and the lowest cold, 22°, on the 19th, in 1843. During the period 131 days were fine, and on 114 rain fell.

THE ORNAMENTAL CHARACTER OF STANDARD FUCHSIAS.



CONSIDERING the very ornamental character of standard Fuchsias, it is really matter of surprise that so very little attention is paid to their cultivation. Standards of from 5 feet to 6 feet in height, planted out singly on the lawn or pleasure ground, have really a grand effect. I well know that many persons have taken a dislike to standard plants of this favourite family, on account of their "moppy" appearance, and from the wretched-looking specimens too often met with we are compelled to admit that this is but too true. But this is the very reverse of what a standard Fuchsia ought to be, and it is quite practicable to have it so, as it does not arise from any inaptness of the plant to form standards, but consists chiefly in the selecting of unsuitable sorts to form heads for standards of the height above mentioned.

Those varieties, the wood of which is of a stubby, short-jointed character, are altogether unfit for forming heads to full standards, and if used for this purpose, as we fear they too often are, failure and disappointment, of course, are the result. But there is a much more valid objection to standard Fuchsias than this, which is their extreme proneness to throw up suckers from the root. This, no doubt, is a great evil, and one that can be combated in no other way than by removing them as they make their appearance. This latter objection is, we believe, the principal drawback to their more extended cultivation, even by those parties who can fully appreciate a fine standard Fuchsia, of the beauty of which, we think, there can scarcely be any difference of opinion, only a difference in the degree of admiration. Any little trouble bestowed in removing suckers is amply compensated by the beauty of the plant.

Notwithstanding the ornamental character of the Fuchsia, very little attention is paid to its cultivation as a decorative plant for the flower garden. This is evidenced by the fact that they are so seldom seen in use for such purpose; and if standards are objected to on account of their "legginess," why not cultivate them as half-standards, dwarfs, or pyramids, which latter form places them amongst the most beautifully artistic things we have.

Half-standards, or plants with from 18 inches to 3 feet of clear stem, are very ornamental, whether planted-out as single specimens on the lawn, or planted at regular distances along a ribbon-border, the plants forming the groundwork of the border, just concealing the naked

stem of the plant. We think they can be very appropriately introduced in the latter case, as they serve to break the flatness, so prevailing a feature in ribbon-borders of any considerable length, on account of the uniform height of the plants.

The red-flowered varieties of Fuchsias are better suited for tall standards than the white sorts—that is, those with white sepals; this, probably, is on account of their being a little more tender—at all events, they seldom make such fine heads as the first-named. There are a few, however, which succeed pretty well if the situation is a little sheltered. Take the following—Madame Sontag, the Bride, Elizabeth, Diadem of Flora, England's Glory, and Pearl of England. This latter being a pretty free grower, and a most profuse bloomer, makes a magnificent head to a standard. How the white-corollaed varieties would succeed in this way we are not prepared to say; but we are afraid not well. In the red-flowered class we would mention, Nil Desperandum, Voltigeur, Clapton Hero, General Williams, Governor-General, and the old Fuchsia gracilis. These are all first-rate for forming heads to standards of 5 feet or 6 feet in height.

The way to secure fine standards is to select some free-growing sort as a stock. Fuchsia corallina is the one we use for this purpose. Strike this latter from cuttings, and grow on as rapidly as possible, and to a single stem, removing the laterals until it has attained the desired height, and then graft. Common whip or tongue grafting is the best, omitting the tongue, however; as, from the pithy nature of the wood of the Fuchsia, we think the tonguing weakens the graft too much, and a union is less speedily effected. We use no clay in grafting; merely a handful of moss (*Hypnum*) tied over the wound, and kept moist by occasional dampings with the syringe. When the stock and scion are firmly united, which will be perceived by the latter beginning to grow rapidly, the moss, of course, may be removed. It is better, however, to do this a little at a time, as, if removed all at once, the graft is apt to show it by the flagging of its leaves.

The after-treatment consists in practising the frequent stoppings and pinchings necessary to form the head, keeping a sharp look-out for suckers, which must be removed immediately they make their appearance. Half-standards, or anything under 3 feet of clear stem, can be had on their own roots by merely removing the side shoots until the desired height is attained, and then stopping the leader, so as to induce laterals, which latter must be stopped as often as is deemed necessary, to secure a well-balanced head.

The training and forming pyramids has already been treated of in this Journal, and need not be recapitulated here.

In conclusion, I would repeat that, in my humble opinion, almost any amount of trouble bestowed upon this beautiful family of plants will be amply compensated by their surpassing beauty.—J. DUNN, *Gardener to A. R. Boulton, Esq., Herrock Hall, Lancashire.*

## THE INTERNATIONAL EXHIBITION OF THE ROYAL HORTICULTURAL SOCIETY.

OCTOBER 8TH.

FORTUNE favours the brave in war and the bold in peace enterprises; but the boldest of our friends could hardly have anticipated such a thorough victory as our first International Exhibition, now on view at South Kensington, has proved by the result. Never in this world, or at all events in this part of it, was there ever seen anything approaching to the magnificence of this display. Many who were at the opening of the grand display had seen at one time or another specimens of all the things which were there, that were quite as good, and some of them better, as those in this international competition; and I have myself seen far better garden stuff sent into the kitchen by the old garden woman than you could pick up on any of the stalls. Yet everything that was there was thoroughly good of its kind; and, what tells more to our credit, there was not a bad lot from one end to the other. As a nation of gardeners, we lost not a hair's breadth in this trial; and, with the exception of the Pears and Apples, and some few Pomegranates, which we do not profess to excel in, from Mr. Solomon, of Covent Garden, there was nothing there much better than our own. The true and genuine old Golden Pippin was there in better flavour, from very nearly the 60° of north latitude, in Jenny Lind's country, than I could find it from any British grower in these collections. And yet, also, Mr. Eyles beat the first kitchen-gardener in Nice in the very article in which the Italians have been said to excel.

The collection of Gourds from the Chiswick garden was the best collection of Gourds there by many degrees, both in the number of kinds and in the looks and lustre of the specimens. They were from the size of six Gourds to the ounce, or say from fifty to sixty Gourds to the pound, grocers' weight, up to 87 lbs. a-piece. There were three or four more from both sides of the Channel which were heavier than that, but not more handsome; and there was the very old trick—the first trick I ever heard of in gardening—of growing their own names on the skin of the fruit, or nature-printing as one might say. Mr. Eyles, though a young man, is an old hand at that trick. He had some of the finest drawings out of the "Illustrated London News" nature-printed on Gourds at Chatsworth years ago; and Sir Joseph Paxton tells an excellent anecdote about them. They were shown to old Joe something, a native, who, on seeing a picture of the Duke stamped on the Gourd in a different colour, raised his eyes and exclaimed, "The Lord be praised, there is nothing like Nature after all!"

There was no lack of the true Custard Marrow, and there were "sharks" or dark rocky Gourds; "Bell-handle," which would really answer the purpose, if the stalk were fastened to a bell-pull, the upper half next the rope being yellow and the other half black; "Powder Horns" exactly in shape as for grouse-shooting; "Swans' Eggs" to the very life; "Bishops' Heads," a pretty little cream-coloured Gourd marked with even, eight, or nine dark ribs, representing the crown rather than the head of his Holiness—one of these in the collection of Mr. Stuart, of Nice, was named Princess Pia, a name that has just been changed to that of Queen of Portugal; "Gooseberry" Gourds, quite green and prickly, and as much like a Gooseberry as anything could be, and fifty of them would hardly make over a pound weight; and American Squashes, far more likely for Pumpkin-pies than any from the south of Europe. Altogether there did not appear to be any better for cooking in England than the Rock Marrows, cream and straw-coloured, rocked all over and of a moderate size. There were a few very large ones, the largest pair of which was the one 91 inches round the bulge, the other 87 inches: this one was marked 154 lbs. I was glad to see a large collection of edible Gourds, including the Bottle Gourd, which we take to be dangerous, from my Sardinian correspondent. But the meaning seems to be that these, or many of them, will not kill a fellow when he cannot get a Potato to stop a gap that is ill to bear in an Italian climate or in any other. But the American Gourds, whether they be Federals or Confederates, seem really to come within Burns' meaning of the pudding race, and to be a great help in filling up a valley in the region of the inner man.

The Messrs. Sutton & Sons, of Reading, were the only firm who made a dash at exhibiting their products in the style of high effect, and they did it most effectually, more in the ancient style of "setting" the walls of an armoury—that of Sir Walter Scott's, at Abbotsford, for instance. The back wall of the western

arcades, the whole length of their collection, was hung with scarlet cloth, firm as paper-hanging, to a height of 12 feet or 15 feet. Against this scarlet cloth they arranged spikes of many kinds of Grasses, from the Pampas downwards, in moon and star shapes, and in fans, peacock tails, and all manner of devices, which looked exceedingly well, and set off the things in a way to make a real impression.

But this Exhibition, from among the nations, must be taken as an experiment—a feeling of our way into the feelings of the kingdoms of the earth; and the Exhibition having proved successful, beyond the most sanguine of our hopes, there can be little doubt but it will be repeated every three years, if not annually. Then we shall turn another leaf, set everything up to the highest effect, or allow, if not request, all parties to do so in the fashion of their own countries; but, above all, we must study geography at last, and set every collection in the right parallel of latitude; for these arcades seem, as it were, to have been made on purpose for such scientific arrangements. Nothing could have been farther from the truth in geography than the way the different collections were disposed; but then, as there was no attempt at putting them otherwise, there was no harm done, but just the contrary.

The best fruits of the earth were the Potatoes; for what could be better than a roasted Kidney 6 inches long, and flat as a flounder, of a cold frosty day? The next best "fruits" were the Red Onions—you could almost see a man's eyes gushing out by merely looking at them. But the "Farmer's Profit" Potatoes were the most unprofitable of them all for the use of man; for their eyes were so big, so full, and so many, that they would hold water enough to steam or boil them in their jackets.

The most curious Potatoes were some beautiful white Kidneys from Mr. Page, farmer, Godalming, which were grown entirely in rotten tan, specimens of which were alongside of them.

And the rarest dish was a remarkably fine lot of Truffles: you will find them in the south-western arcades, black as they are, and as fine as possible. They are from Mr. Wainwright, gardener to W. C. Thornhill, Esq., Kettering, where one would look for some good Beech trees to harbour such Truffles.

The cereals were chiefly in the upper western arcades, and beautifully they were in glass cases of divers makes, and much in the ways you have seen them at the great International; but, as I have just said, the Messrs. Sutton took the shine out of all of them for effect.

All the best dessert fruits were in the conservatory in three rows the whole length of the building and across both ends of it. The tables along the sides held four rows, or dishes in depth, chiefly Apples and Pears; that along the centre was a double setting, Pines and Melons in ornamental high stands along the centre, and three rows on each side of the centre. The Pines were about from forty to fifty in all, and Melons as numerous. A large circle in pyramid in the centre, was occupied with sensation fruit from Covent Garden, the Apples and Pears being quite monstrous; the Glou Morceau, Easter Beurré, Beurré Diel, St. Germain, and Bells Angevine; also the Calville Apples, the Crassane Pears, the Duchesse d'Angoulême, Bon Chrétien, Bon Curé, and such like in Mr. Solomon's collection must have surprised himself when he first unpacked them.

The Flemish Pears on the whole were more sleek-looking than ours. In a large collection of new Pears from M. Nelis, were some very fine-looking specimens, but it is a question if any of them were superior to an English seedling from Mr. Ingram, of Frogmore, named *British Queen*, which was one of the best-looking Pears in the whole Exhibition, for a first-class dessert. It is all very well to have Algerian Goliath-looking Pears and Apples at a Lord Mayor's dinner; but for an aristocratic dinner that is not the fashion, but the moderate in size and the best looking, with the proper names sent up with them, and the *British Queen* Pear is a model size for such a dinner. It is a seedling from Marie Louise, but not quite so long as a full-lengthed Marie, more russet and has a blush over it on one side. I was told on good authority that it will stand among dessert Pears, as the *British Queen* Strawberry among Strawberries; but Sir Joseph Paxton who was on the spot, and who is more practical than most of us, declared he would rather be able to tell the tale than to hear it. There was a match Pear to the *British Queen*, nearly, but not quite so good-looking, from Her Majesty's garden at Frogmore.

The great force and competition for Grapes took ground on the west side, half of the middle row in the conservatory. Here the battle raged the fiercest, but the centre and either wing, nor

the generals were much different from what they have, hitherto, been on either side of the Thames. I did not hear of the dead or missing, but I met some of the wounded, and, of course, I did, as I often have to do, sympathised with them most sincerely.

The three bunches of Muscat of Alexandria which won the day in threes, were the most Golden Muscats that have yet been exhibited before this Society, but they were not so luxuriant-looking as the more russety looks of the Muscats, from Mrs. Cubitt, nor so big as I have seen them from Bowood.

The Black Grapes were all together on one side, and they were, indeed, so "black and all black," that the whole continent of Europe could not improve them a single shade, nor show any to be named the same day with them.

The Messrs. Low, Veitch, Bull, and the Messrs. Downie, Laird, and Laing, and a few others exhibited some fine plants, and the finest of them all, and of all that have been exhibited for the last ten years, is *Caladium Lowii*, from the Clapton Nursery. Nine members of the Floral Committee held up both their hands when the unanimous award of a first-class certificate was being passed for this most remarkable Caladium; but if nineteen of them had been at this Show, and had to do the thing over again, every one of the number might have held up his right leg in addition, to clench it the more firmly and certain. If you recollect, some of us mistook *Alocasia metallica* on its first appearance, to be an unearthly plant from beyond the flood. Well, with a good deal of the make of *metallica*, this *Caladium* looks as if it was the very first plant after the flood, and that the salt water left an emerald metallic lustre all over the plant, with the midrib and all the big veins zebra-like, looking like the milky-way through the glaze on the blade. There were a score of them now shown to prove the fact, and the plant is coming out next week cheap as a new Fuchsia, in comparison to *Alocasia metallica*.

Then there were two little seedlings of a new *Phalenopsis*, from Moulmein, named *Lowii*, from the same firm. It is white and crimson, and Dr. Lindley has just received a dried specimen of it, which he is said to have likened more to the *Phalenopsis grandiflora* than anything else. Then there was a new, strong, woody *Sonerila*, and four kinds of double and no double *Petunias*, from the same firm. The best plant Mr. Bull has yet exhibited was on this occasion a most beautiful glaucous kind of *Araucaria Cunninghamii*, with some others; and lots of the lovely blue *Vanda*, and other fine things, came from the Exotic Nursery. Also, *Stenogaster*, and the pretty variegated *Erionema* something, for Her Grace the Duchess of Cambridge and the Princess Mary of Cambridge swept past me at the time, and thereby I lost the last and best half of the *Melastomad*.

Then I took to a lot of beautiful new *Pentstemons* from the Messrs. Downie, Laird, & Laing, and found Dr. Hogg and Donald Beaton, two of the best scarlets, with open mouths and white throats; but *Clio* would beat the Doctor and his man Sandy. It is so full of cream and silvery markings. *Blue Beauty*, a new colour in purple; and *Novelty* the next; and then a whole generation of *Liliput Dahlias*; and nine large boxes of cut *Roses* from Messrs. Paul & Son. D. BEATON.

SUMMER comes before us with a garland of flowers, and Autumn brings the yellow corn, and a rich treasure of fruit. To the spoils of the one full justice has been done, and it is now our task in this time of falling leaves and dewy evenings, to record the triumphs of the other. The prefixes of "great" and "grand" have been so lavishly bestowed of late on horticultural exhibitions, that they fall as dead sounds on the public ear; but on this occasion the display of fruit at Kensington is not merely great, it is magnificent, and nothing equal to it has ever before been witnessed in this country, or, we feel confident, in the world.

The imposing spectacle presented by the vast array of fruit occupying every available spot in the large conservatory, and along with Gourds, and other productions, stretching far into the arcades, we have left to the graphic pen of our friend, Mr. Beaton, to describe, merely remarking that the entries in the English department alone exceeded 1200.

We will now endeavour to give as full particulars as possible of the most interesting portions of the exhibition, beginning with the fruit.

In Class A, collection of fruit, fruiterers only, there were only three exhibitors. Mr. Lewis Solomon, and Messrs. Webber and Co., of Covent Garden, being respectively first and second. Mr.

Solomon's contribution was superb, particularly of Pears, which were the admiration of every one, on account of their immense size, and that beautiful colour which the sunnier climate of France could alone impart. These Pears comprised magnificent specimens of Uvedale's St. Germain, under the name of Belle Angevine, splendid high-coloured fruit of the Glou Moreceau, and Bon Chrétien d'Espagne, Calabasse, Napoléon, White Doyenné, Duchesse d'Angoulême, St. Germain, Colmar, Crassane, Monsieur le Curé, and Easter Beurré, of extraordinary size; Beurré Diel, magnificent; St. Germain, and Beurré Royal. Of Apples, there were—Reinette du Canada, and Winter White Calville, very large and fine; Pomme d'Api, and Ribston Pippin. The remainder of the collection consisted of Pines, both Queens and Cayenne, the former evidently of great weight, the latter were in pots, but though very large, were very unripe; Royal George Peaches, Black Hamburg and Muscat of Alexandria Grapes, White Marseille Figs, Pomegranates, of remarkable size, Melons, Morello Cherries, and Red Currants; of Vegetables, Asparagus, Artichokes, Purple Aubergine, Tomatoes, Capsicums, and Cardoons.

Webber & Co., had also a very extensive collection, partly of English, and partly of foreign growth. Of Pears, there were large and fine specimens of the Glou Moreceau, Easter Beurré, Beurré Diel, Duchesse d'Angoulême, Triomphe de Jodoigne, St. Germain, highly coloured; also, Monsieur le Curé, Uvedale's St. Germain, and Catillac. Winter White Calville, and Reinette du Canada Apples, were of great size, and very beautiful, and so was a kind called *La Belle des Bois*; Pomme d'Api was beautifully coloured, a point which constitutes the merit of this variety. Besides the above, there were some very good Apples and Pears of English growth, Muscat and Black Hamburg Grapes, Orion and Beechwood Melons, Cob Nuts, Walnuts, Hiccory, Brazil, Monkey, and Pistachia Nuts, Oranges from Naples, Lychee, Quinces, and three Black Jamaica Pines.

The effect of this collection would have been considerably increased, had greater masses of each kind of fruit being exhibited; but as it was, the display was very creditable to the highly respectable firm by whom it was furnished.

Mr. W. White, of Montpellier Row, Brompton, was the remaining competitor, his contribution contained a Black Antigna Pine, said to weigh 4 lbs., a Black Jamaica of the same weight, a very large Smooth-leaved Cayenne, Black Hamburg Grapes, several good dishes of Apples and Pears, and others not up to the mark, either in size and colour.

In Class B, collections from private growers, there was more competition, and several excellent exhibitions were produced.

Mr. Tillyard, gardener to J. Kerk, Esq., Stanmore, showed three handsome bunches of Muscat of Alexandria and excellent Black Hamburgs; Coe's Golden Drop Plum beautifully ripened, and Ickworth Impératrice; White Marseilles and Brown Turkey Figs; Green-fleshed and Scarlet Gem Melons; Eugenia Ugni; Red and Yellow Raspberries; White Dutch Currants; Walburton Admirable Peach, very fine; Moorpark Apricots; Morello Cherries; Glou Moreceau and Chaumontel Pears; and Margil and Cox's Pomona Apples. To this the first prize was awarded.

Mr. Henderson, gardener to the Duke of Sutherland, Trentham, who was second, had a very fine collection which included a good Montserrat Pine, a Black Antigua, Trentham Hybrid Melon; Black Hamburg and White Tokay Grapes, the former very handsome both in bunch and berries; Walburton and Late Admirable Peaches, of large size; Coe's Golden Drop and Diamond Plums; Chaumontel, Louise Bonne, and Williams' Bon Chrétien Pears; Lord Suffield and Calville Blanche Apples; fine Moorpark Apricots; Elruge Nectarines; Morello Cherries; Brown Turkey and White Ischia Figs; Eugenia Ugni; Red Dutch Currants.

Good collections also came from Mr. Young, gardener to W. H. Stone, Esq., Havant; Mr. Allen, gardener to J. B. Glegg, Esq., Withington Hall; and Mr. Kailc, gardener to Earl Lovelace, Ripley.

Pines were not so numerous as we expected, but several very fine fruit were exhibited. In Class C, Queens, the first prize was given to Mr. Green, gardener to Mrs. Honeywood, Kelvedon, for a very handsome fruit of the unusual weight of 6 lbs. 1 oz.; Mr. Young, of Havant, who was second, had a very fine one, certainly nearly 5 lbs.; and Mr. Robinson, gardener to R. Benyon, Esq. M.P., Englefield House, Reading, was third with one weighing 4 lbs. 15 oz. Mr. Moore, gardener to J. C. Wall, Esq., Redland Lodge, Bristol, had two very fine fruit, one of

which weighed 5 lbs., the other 4½ lbs., which would have certainly taken a prize had they not been very far gone. Mr. Bywe, gardener to R. T. Crawshay, Esq., Merthyr Tydvil, had two fruit, one of which was 3 lbs. 7 ozs., the other considerably larger, but the crown was large and the pips small.

The Class D, for Any other kind, also contained some remarkable fruit. The largest was a Smooth-leaved Cayenne, from M. Chantrier, gardener to the Duc de Levis Ventadour, Paris, and weighed 7½ lbs., but its crown was large, and it only received a second prize, the first being given to a very handsome fruit of the same kind, from Mr. Ingram, of the Royal Gardens, Frogmore, and which weighed 6 lbs. 7 ozs. There were also two others from the same source, but not so large. A fine Providence from Mr. Bywe came in third. A Prickly Cayenne, from Mr. Johnson, gardener to the Duke of Wellington, Strathfieldsaye, weighed 6 lbs. 9 ozs., but it was unripe at top and imperfect; Mr. A. Henderson had a good Black Antigua; Mr. Green, of Kelvedon, an Enville, 5 lbs. 6 ozs., but gone very much at the base; Mr. Speed, a Russian Globa, to which there was the same objection; and Mr. S. Windsor, gardener to Sir R. Brooke, Norton Priory, a Black Prince and Black Jamaica.

There was a magnificent display of Grapes, both White and Black, the bunches in some cases being of extraordinary size. Among the White Muscats, Mr. Hill, Keele Hall, had six bunches of Muscat of Alexandria, weighing altogether 17½ lbs., the heaviest three being no less than 10½ lbs. in weight. The bunches were regular and the berries even, though scarcely quite ripe. To these the first prize was given. Mr. Tillyard, who was second, had also large and handsome bunches; and well-grown examples also came from Mr. Meredith, Garston, near Liverpool; Mr. Frost, gardener to E. L. Betts, Esq., Preston Hall; and Mr. A. Ingram, gardener to J. J. Blandy, Esq., Reading. But it was in the class for three bunches that the finest Muscats we have seen this season, were exhibited by Mr. J. Drummond, gardener to J. S. Smith, Esq., of Tunbridge Wells. These were not only remarkably fine in point of size, but also perfection in colour. Those from Mr. Tillyard which came next in the prize list, though larger and with handsome shoulders, were not so perfect as regards ripeness. Excellent bunches were likewise shown by Mr. Potts; Mr. Drewett, gardener to Mrs. Cubitt, Denbies, near Dorking; and Mr. Frost. There were several other exhibitors, but the fruit was either deficient in size and colour, or the bunches straggling.

Of other White kinds, Trebbiano, from Mr. Sage, was very fine, one bunch weighing 7½ lbs., and received a first prize, and the same kind was likewise shown in good condition by Mr. Ingram, of Reading, Mr. Tillery, and Mr. Bywe, who had also Tottenham Park Muscats. Three bunches of Marchioness of Hastings, weighing 13½ lbs., were shown by Mr. Hill, of Keele Hall; and the same kind also came from Mr. Bull, of Chelsea.

Of Black Hamburg Grapes, the finest six bunches came from Mr. Henderson, of Trentham, the bunches very large, and the berries perfectly ripe and covered with a beautiful bloom; Mr. Hill, gardener to R. Sneyd, Esq., Keele Hall, who was second, had six fine bunches weighing 11½ lbs.; Mr. Meredith received an equal second; and good examples of this variety also came from Mr. A. Ingram, gardener to J. J. Blandy, Esq.; Mr. Turner, of Slough, and some others. The finest exhibition, however, among the Black kinds was that of Mr. Drummond, gardener to J. S. Smith, Esq., Tunbridge Wells, who has been already referred to as having shown the best Muscats. The three bunches which he exhibited were the Dutch Hamburg, and the berries were of enormous size and beautifully coloured. Mr. Henderson, of Trentham, had three bunches nearly as large, very compact, and beautifully ripened. Fine bunches were also shown by Mr. Omant, gardener to J. Lurch, Esq., Epsom, though not compact. Mr. Meredith's, of Garston, and several other exhibitions were of average merit.

In other Black kinds, Mr. Drummond received the highest award for Barbarossa, which was large, beautifully coloured, and very compact; indeed, it might easily have been mistaken for the Hamburg. Kempsey Alicante, a very fine late variety, weighing, for the three bunches, 8½ lbs., came from Mr. Meredith, and was not only exceedingly handsome, but compact and nearly black. To this was awarded a second prize. The same variety also came from Mr. Cox, of Worcester, the berries being large and handsome, but very different in colour. Mr. Hill, Keele Hall, had three bunches of Lady Downe's Seedling, weighing 5½ lbs., beautifully coloured. Mr. Bywe, gardener to R. T. Crawshay, Esq., Cyfarthfa Castle, exhibited the same kind, as well as

Black Prince and Black Barbarossa; whilst excellent Black St. Peter's were sent by Mr. Tillyard.

The large conservatory at Chiswick furnished an extensive and interesting collection of Grapes, among which were bunches of Barbarossa and Frankenthal 4 lbs. in weight, Black Monukka 3½ lbs., Dutch Hamburg also nearly as large, and excellent bunches of Black Prince, Raisin de Calabre, Golden Hamburg, and Trebbiano. Ahbea looked as beautiful as ever; and there were besides several varieties that were not exhibited at the last Show, such as Siderites, Bidwill's Seedling, Muscat Ottonel, Tokay Noir d'Hongrie, a Deccan Grape (sent home by Colonel Sykes), as well as a basket filled with bunches of the Frankenthal, which, though not remarkable for their weight, possessed large and well-ripened berries.

Of Dessert Pears there was an immense show, and many of the exhibitions contained large, as well as beautifully-coloured specimens. In Class K, twelve dishes, Mr. Dyerrihouse, gardener to Viscount Eversley, Heckfield, was first, his kinds consisting of Beurré Diel and Easter Beurré, very fine; immense, well-coloured fruit of the Flemish Beauty; Brown Beurré, Gansel's Bergamot (large), Vicar of Winkfield, Beurré Rance (fine), Marie Louise, Beurré de Capiaumont, Louis d'Orleans, No Plus Mauris, and Winter Nelis. Mr. T. Ingram, of the Royal Gardens, Frogmore, was next with an excellent collection, consisting of very fine Duchesse d'Angoulême, Kingacssing, Chancellor (large), Beurré Diel, Prince Albert, Beurré Rance, Knight's Monarch (very fine), a large Californian Pear (of a greenish-yellow colour), Van Mons Léon le Clerc, Chaumontel, Beurré Rance, Beurré de Capiaumont, and Conseller de la Cour.

Mr. Frost, of Preston Hall, had Soldat Esperen, Calebasse Grosse (very fine), Glou Moreceau, Beurré Rance (good), Van Mons Léon le Clerc, Duchesse d'Angoulême, Champ Rich d'Italie (a large greenish-yellow Pear with russet specks), Beurré Diel, Beurré Superfin, Marie Louise, and Comte de Flandres.

From Mr. Morris, gardener to T. White, Esq., Wethersfield, there also came some excellent fruit; among which were fine Duchesse d'Angoulême; Bonne d'Ézée, very fine, but generally considered a second-class variety; Beurré Diel, large, good; Beurré Bosc, Léon le Clerc de Laval, Louise Bonne of Jersey, fine, and others of average merit.

Mr. Ross, gardener to C. Eyre, Esq., Newbury, had, among others, highly coloured fruit of Glou Moreceau and Gansel's Bergamot. The rest were generally too small.

Mr. Gale, of Hammersmith, had some excellent fruit of Louise Bonne of Jersey, Beurré Diel, Glou Moreceau, Chaumontel, and other good kinds, which were well ripened; and considering that they were all produced on standards, were of large size, but, of course, they could not compare in this respect with fruit from walls. Mr. Saunders, gardener to Sir H. Meux, Bart., Theobalds, had a very good collection, particularly as regarded the Beurré Diel, Beurré d'Amanlis, and Van Mons Léon le Clerc. Mr. Culverwell, Thorp Perrow, had Hacon's Incomparable, fine, and a good dish of Sackle, a variety of which, it may be remarked, there were but few exhibitions, and yet it was that which, at the great Fruit Show at St. James's Hall some years ago, carried the palm from all others.

Triomphe de Jodoigne and Louise Bonne of Jersey, from Mr. Gilbert, of Ipswich, were both of good size, and his Colmar d'Arèrberg, very fine in appearance; but this is an inferior kind as regards its quality.

Other good exhibitions, mostly of the varieties already named, came from Mr. Sage, gardener to Earl Brownlow, Ashridge; Mr. Harrison, of Oatlands, Palace Gardens; Mr. Ingram, of Reading; and Mr. Park, of Retford.

The next Class, L, being for only six dishes, there was a greater competition. Mr. Snow, gardener to Countess Cowper, West Park, was successful in winning the highest prize with Van Mons Léon le Clerc (very fine), Glou Moreceau, Beurré d'Anjou (or the No Plus Mauris of the French), Maréchal de la Cour, Beurré Diel, and Marie Louise, all of which were very large and fine. Mr. Ford, of Watton, received the second prize for large and fine fruit of Easter Beurre, Glou Moreceau, Beurré Diel, Marie Louise, and Duchesse d'Angoulême. Mr. Tranter, gardener to the Hon. G. Ryder, Hemel Hempstead, sent good Brown Beurré and fine Beurré Diel, Bergamotte d'Esperen, and Beurré Bretonneau. Mr. Bousie, of Stoke Park, Slough, brought some remarkably fine specimens of Beurré Clairgeau; his Hacon's Incomparable and Duchesse d'Angoulême were also particularly good, and he received an extra prize—a similar award being made to Mr. Stroud, gardener to the Hon. Mrs. Finch, Great

Berkhampstead, who had also a very good show. Mr. Frost had Louise Bonne of Jersey and Calbasse Grosse, both large and remarkably fine; Forelle, from Mr. Hutecheson, was also good.

In Class M, three dishes, the finest came from Mr. Ingram, of Frogmore, consisting of Gansel's Bergamot, large, and finely ripened; and Golden Russet and British Queen, two seedlings of his own raising, bearing considerable resemblance in appearance, and probably of the same parentage, but distinct. Their quality is said to be excellent. Mr. D. Lumsden, gardener to Lady Hamilton, Slough, came in second with Gansel's Bergamot, Beurré Bose, and Marie Louise, all very good, particularly the first. Mr. Frost, who received the third prize, had some large specimens of Beurré Clairgeau (brilliantly coloured), Gansel's Bergamot, and very good examples of the Seckel; not, however, equal to those from Mr. Harrison, of Oatlands.

Excellent collections came from Mr. Baldwin, of Turnham Green, whose Beurré de Capiamont was very fine; G. Wilson, Esq., Weybridge, very large but unripe; and Mr. Bousie, of Slough, and Mr. Newton, gardener to J. G. Graham, Esq., Enfield Chase.

Single dishes of Dessert kinds were shown in Class N; and here Mr. Ingram, of Frogmore, was first with his seedling British Queen before referred to. Mr. Bain, gardener to A. Perkins, Esq., of Hanworth Park, was second with a dish of large and well-coloured Seckel; whilst Mr. W. Culverwell, of Thorp Perrow, who showed large specimens of Haeon's Incomparable, came in third. Mr. Salter, of Dulwich Wood, had very good Flemish Beauty; G. Wilson, Esq., Maréchal de la Cour; and Mr. Ralphs, of Walton-on-Thames, Haeon's Incomparable.

In Class O, Kitchen Pears, Mr. Snow was first with Uvedale's St. Germain, a kind which was largely exhibited by others; and Mr. J. Willmot, Roehampton, second with Catillac, large and fine. Mr. S. Ford, gardener to W. E. Hubbard, Esq., Horsham, and Mr. Morris, Wethersfield, had also large specimens of Uvedale's St. Germain. Of Catillac there were some excellent examples; and Mr. W. Chater, of Saffron Walden, had the Verulam or Buchanan's Spring Beurré, the merits of which as a stewing Pear are not sufficiently known.

The heaviest Five Dessert Pears were Calbasse Grosse from Mr. Frost, their total weight being 5 lbs. 10 ozs.; whilst some very large Beurré Diel came from Mr. Morris, Wethersfield. A dish of Duchesse d'Angoulême from Mr. Drewett, of Croydon, weighed 4 lbs.  $\frac{1}{2}$  oz. One of Beurré Diel, from Mr. Spivey, weighed 4 lbs. Beurré Diel, 4 lbs. 4 $\frac{1}{2}$  ozs, from Mr. Hawes, gardener to J. W. Rhodes, Esq., Henley; and Beurré Bretonneau from Mr. Tranter, 3 lbs. 9 ozs.

The best Twelve Dessert Apples came from Mr. Bousie, gardener to Lady Molyneux, Stoke Park, Slough, who had finely-grown fruit of Court Pendu Plat, beautifully coloured; Rosemary Russet, Clark's Pippin, King of the Pippins, finely coloured; Ribston Pippin, Beauty of Wilts, Gravenstein, very fine; Benwell's Pearmain, Devonshire Quarrenden, and Cox's Orange Pippin, Cockle Pippin, and Formosa Nonpareil.

Mr. Whiting, gardener to H. T. Hope, Esq., The Deepdene, Dorking, had in his collection large and well-coloured fruit of Adams' Pearmain, Court Pendu Plat (rather small, but very fine in point of colour), Braddick's Nonpareil (very good), also Franklin's Golden Pippin, and Sweeny's Nonpareil, though perhaps not properly a dessert Apple. Mr. Frost had Court Pendu Plat, fine, but not highly coloured; a beautiful even dish of King of the Pippins; Irish Pesch, large and highly coloured; Fearn's Pippin, very fine; Ribston Pippin; Syke House Russet; and other good kinds. In Mr. Ingram's exhibition there were some very large Golden Pippins; and Nugget, a seedling, with a yellow skin, with broken streaks of red next the sun, and beautiful fruit of the Blenheim. Fine, highly-coloured fruit, also came from Mr. Cox, gardener to W. Wells, Esq., Redleaf; Mr. Butterfield, Basingbourne; Mr. Grover, of Hammersmith; and Mr. C. Ross.

In Six Dessert Apples, Mr. Hall, gardener to Capt. Tyrrell, Ealing, had the finest exhibition, his Court Pendu Plate were of extraordinary size; Blenheim Pippin, large, and finely grown; King of the Pippins, very large, and finely coloured; Ribston Pippin; Braddick's Pippin; and Fearn's Pippin, the last particularly fine.

Among Mr. Lane's six were Ruck's Nonesuch, brilliant in colour; Kerry Pippin, beautifully streaked; and Forge, also very high-coloured.

Mr. Simpson, of Stoke Farm, Slough, Dr. Cooper, of the same

place, Mr. Willmot, Mr. Baldwin, Mr. Frost, and Mr. Cox, of Redleaf, must also be noticed as furnishing excellent collections.

Of three dishes Mr. Wright, gardener to Mrs. Bamsden, Twickenham, furnished the best, which were Golden Russet (very fine), Duchess of Clarence, and King of the Pippins. Mr. J. Newton, who was second, had some beautifully coloured fruit, the kinds being Ribston Pippin, Scarlet Pearmain, and Margil. Single dishes were shown by Mr. Grover, of Hammersmith, who had Kirke's Incomparable, a brilliant dark crimson variety, to which the first prize was given; Mr. Salmon, of West Ham, who showed Cornish Gilliflower, remarkably fine; and Mr. Barnett, of Shiffnal, who had Bull's Golden Reinette, very large and fine.

Kitchen Apples were exhibited by numerous competitors, and were, with some exceptions, large and handsome. The best twelve were from Mr. Butterfield, of Basingbourne, who had fine fruit of the Catshead, Kentish Brooding, Norfolk Beefing, Royal Russet, and Blenheim Pippin; also Golden Noble, Alexander, Nelson Codlin, Normanton Wonder, King's Pippin, Bedfordshire Foundling, and Waltham Abbey Seedling. Mr. Cox, of Redleaf, had some fine Gloria Mundi, very large Dutch Codlin, and Alexander finely coloured. Mr. Moffatt and several other competitors, had excellent collections; and in the next Class V, for six dishes, the competition was equally good. The best here was furnished by Mr. Snow, who was also first with a single dish of Alfriston, which was truly magnificent. Mère de Ménage, of large size and a deep blood red colour, came from Mr. Lee, gardener to Viscount Combermere.

The prize for the heaviest dish of Kitchen Apples was taken by Mr. Snow with Alfriston, weighing 5 $\frac{1}{2}$  lbs; Mr. Parsons, of Danesbury, had the same kind 4 $\frac{1}{2}$  lbs. in weight; and Mr. Smith, of Enfield, Tower of Glamis, another excellent kitchen Apple, 4 lbs. 6 ozs.; whilst Minehall Crab, from Mr. Wicks, was 3 $\frac{1}{2}$  lbs.

In Melons, there was nothing very remarkable. The best was Victory of Bath, from Mr. Alliston; Heckfield Hybrid, from Mr. Johnson, Strathfieldsaye, came next; and Bromham Hall, Trentham Hybrid, Turner's Scarlet Gem, and Golden Perfection, were the best of the others.

Of Plums, the sort principally shown and certainly that exhibited in greatest perfection, was Coe's Golden Drop. The competition was here very close; Mr. Tillyard, Mr. Bousie, Mr. Snow, and Mr. Kaile standing in the prize list in the same order as their names.

Some very good Keens' Seedling Strawberries were shown by Mr. Masters, gardener to the Earl of Macclesfield, at Tetworth; and Alpines came from Mr. Cunningham, Fulham Palace Gardens.

Currants, especially the Red kinds, were very good, the best coming from Mr. Terry, St. Albans; and Mr. Henderson had also an excellent dish.

A few Raspberries and Oranges were exhibited. Some nice Orange trees in pots came from Mr. Bull, of Chelsea; and from Messrs. Lane & Son, of Great Berkhamstead, were some beautiful fruiting Vines in pots, the bunches being of large size.

To the Gourds, Roots, Foreign Fruit, and other subjects, we shall take occasion to advert next week.

## A WORD OR TWO ABOUT A FEW BEDDING GERANIUMS.

A REMARK which Mr. Beaton makes about his own Stella Geranium in his report of Hampton Court Gardens, has led me to express my opinion of this and a few other Geraniums not yet in general cultivation as bedding plants. I may mention that I was somewhat surprised this season at not meeting with beds of such as Stella, Madame Vaucher, Madame Chardine, Paul l'Abbé, Admiration, &c., at some of the leading places for such things about London.

If Mr. Beaton had never done more for flower-gardening than the raising of *Stella*, it would have been worth a lifetime in that line. It took me by surprise the first year I grew it, although I had it with a very high character. A large bed of it here this season, although a field of bloom lay between the eye and it, arrested the eye immediately the garden was entered. It is a grand thing. Yet I am hoping that *Triomphe de Paris* will be an improvement on it.

Madame Vaucher takes quite as prominent a position as a pure white as *Stella* does as a crimson, and is really a white worth growing largely, which is more than I can say for any

of the other whites that I have tried. As a pot plant it is a charming thing.

*Madame Chardine*, as a soft, salmon-coloured variety, is magnificent, it being a most abundant bloomer, throwing well up its large globular trusses of pleasing blooms.

*Paul V'Abbé*, a dark rose, proves to be an extraordinary bloomer, and makes a magnificent bed. The individual trusses remain in perfection for a great length of time.

*Admiral* is particularly fine as a dwarf horseshoe, the best that I have seen. It makes an exquisite bed, and as a pot variety it is superb.

*Rosy Queen*, in the way of *Christine*, proves to be a superior variety, particularly for late blooming. It stands wet weather better than *Christine*, and lasts longer in perfection as the nights get long and damp.

The above are conclusions formed from my experience of the above varieties as bedded on the fine deep open loam of East Lothian. On other soils the results may vary. I was surprised on coming to this place to find that Tom Thumb was superior to New Frogmore; while, on the Middlesex clay, the latter was by far the most effective: hence we find a war of words about the comparative merits of things, without taking into consideration all the varied circumstances under which notes are taken, and, consequently, the war ends in smoke as far as any benefit to lookers-on is concerned.—D. THOMSON, *Archerfield*.

### FRUIT TREES NEAR A MANUFACTURING TOWN.

WILL Pears grow as wall fruit in a large garden, situation high, walls facing south, west, and east, but adjoining a large manufacturing town on one side and the country on the other? If so, what sorts?

Will Filberts grow and bear fruit in such a locality, and Mulberry trees?

I have already *Glou Morceau*, *Napoléon*, and *Louise Bonne* of Jersey, and they all bloom profusely; but only once has even one borne in the same proportion. Aspect west. A Plum on the same wall, *Coe's Golden Drop*, has rarely blossomed, and never borne. Soil clayey. An Apricot, too, thrives, but never blossoms.—A LADY GARDENER.

[You should have told us your position, and whether the smoke is extra troublesome. In the meantime we do not see why success should not attend your efforts. If the Pears bloom so profusely, and yet bear none, it is a sign the wood is fairly ripened, and the buds somewhat perfected in autumn. The blooms, however, may not be quite perfect, and if extra thick, thinning out the smaller flowers, and those with imperfect incipient fruit, might be an advantage. In London we have seen Pear trees barren, though they had abundance of bloom; whilst Apples bore pretty well under similar circumstances, and I attributed the difference to these causes: The Pears bloomed much more early, and from the heated atmosphere of the metropolis, were thus more subject to spring frosts. More fires being then used than when the Apple was in bloom, there was much more smoke, and on examining we found many of the stigmas of the incipient fruit so crusted with soot that the fertilising pollen of the stamens had no chance of acting upon them. At any rate, we managed to set fruit of Pears by using gauze covering over some small trees well supplied with bloom. If the garden is open to the country on one side, we could scarcely think that smoke would be the cause of your failure. There being plenty of blossom, we should ascribe the sterility either to imperfect ripening of the wood, so as to prevent the fruit-buds being perfect, or a want of nourishment and strength to enable the bloom to set freely. It would be worth while on the latter supposition, to examine the state of the roots as to moisture, and if there was enough of that, to give some rich surface mulchings. We think want of strength is most likely to be the cause in your case. You may add *Williams' Bon Chrétien*, *Marie Louise*, *Duchesse d'Angoulême*, *Beurré Diel*, *Knight's Monarch*, *Beurré Rance*, *Seckle*, *Easter Beurré*, *Forella*, &c.

Filberts will be sure to bear if trained open bush form, if the smoke is not extra dense. You would see the other week how to make Mulberry trees fruitful. Unless root-pruned they will not bear well until they get old and bonnet-headed. By regulating the top and the roots, the trees will bear plentifully either against a wall or in the open air; but far north they do not ripen

nice as a standard. We have seldom seen them doing much in the way of fruiting against a wall, because they were encouraged to do nothing but grow, and extra luxuriance and extra fertility are always in opposition to each other. The *Golden Drop Plum*, and the *Apricot* that grow so freely but never blossom, and, consequently, never fruit, we presume to be in a very different condition to your Pears, and you can tell us if the shoots are not strong, and the leaves large, and keeping their green appearance until a severe frost has come. Now, if that is the case, thin out the largest of this summer's shoots, take the points off the middle-sized ones, shorten back the spurs, and leave only as many as the sun can get at, when all is close to the wall. Then take out a trench 5 feet from the tree; if at all old, undermine it, cut any tap roots, and lay the horizontal ones in fresh, poor soil, water a little, mulch to keep out frost, and if the sun should be powerful, syringe the leaves in the middle of the day, that they may ripen-off kindly. If the trees make very little wood next season, give a little manure water several times during the summer over a fresh mulching, and if you get little in 1863, we could almost be certain you would have blossom in 1864.]

### CULTIVATION OF THE FILBERT.

WHATEVER differences of opinion may exist respecting the management of most of our hardy fruits in regard to the amount of pruning they require, there is no question that the knife, or it may be the saw, is more freely used in the treatment of this tree than in that of any other. It is not too much to say that in the case of the Filbert fully nine-tenths of every year's growth are cut away, and often more than that; and, if we except the Grape Vine when pruned on the spur system, there is certainly no other fruit tree on which the knife plays so conspicuous a part. As the Filbert is in general a free and rather fast-growing tree, the abundance of wood to choose from enables the cultivator to select that which is best adapted to give the shape he wants. This is done with so much exactness, that, in a well-managed orchard of this fruit, one tree so much resembles another that the cursory observer might suppose they had all been turned out of one mould. A glance at the way this is done in Kent, where so many acres are under this crop, will assist the amateur in keeping his trees within reasonable bounds, and also in making them more fruitful than if allowed to run rampant amongst other trees less vigorous than themselves. To make this more clear, we will divide this subject into the following heads:—

**SOIL AND SITUATION.**—Although occasional plantations of this fruit may be formed on stiff heavy ground, such plots are the exception, for they rarely prosper and are fast disappearing. A dry stony soil, not too shallow, without anything pernicious in the subsoil, is the one the Filbert likes best; and many hundreds of acres of the best plantations in Kent are on the slopes of hills having limestone at no great depth below. Occasionally they are also planted over chalk, but the result is less satisfactory.

Generally speaking, the soils which overlie Kentish ragstone, or its substitute, which in local language is called "Hassock" (a soft stone unable to endure frost), are the best; and in tillage quantities of such stones as large as a half-brick are turned up and mixed with the surface soil, presenting anything but an inviting appearance. In such soils both the Filbert and Morello Cherry seem to thrive better than in ground of any other description, and, what is equally important, they bear well also. Such a soil is, of course, a stranger to stagnant water; and though the substratum is hard when first broken up, there is nothing in it pernicious to vegetation, as seeds will vegetate in it soon after being thrown to the top. Being of a half-sandy nature, it may with advantage be used as a fertiliser to soils of a contrary description. All the Filbert plantations are not on soil of the above description, but it is generally admitted that on such the best crops of fruit are produced. The nearer, therefore, that it can be imitated elsewhere, the greater the chance of success.

Situation has also something to do in the matter, and when a choice of this exists the western slope of a hill is the best position; but in the valley of the Medway plantations are formed on all inclinations, dryness of bottom being one of the conditions first of all insisted on, and a soil not by any means meagre in regard to depth, is also necessary. The other conditions are all subservient to them. Shelter from very high winds may be

useful, but this is of less consequence than for most other fruits; but very exposed places, as the tops of naked hills, are too cold and ungenial, and, though the tree will thrive there, it is seldom fruitful enough to be satisfactory. Though blooming amongst the earliest of all our fruits, the tree is far from being the hardiest. The beautiful little tufts of crimson which form the female or nut-bearing blossom are very sensible to frost, and are often damaged by it. The long green catkins or male blossoms which hang all the winter are hardy enough; but if destroyed before the others make their appearance, the crop, of course, is bad. Generally speaking, however, the well-being of the crop depends on other conditions more than this; and so many things are necessary to perfect success, that the crop of Filberts is, perhaps, more capricious than that of any other fruit, although when good nothing yields a better return. Upwards of a ton weight per acre has been gathered in favourable seasons; but as Filberts are often planted in conjunction with Apples, Pears, and other fruits, the return is limited in consequence of the ground taken up by these. Nevertheless, the cultivator generally favours his Filbert trees if they do well, and the others are cut away.

**PREPARATION OF THE GROUND AND PLANTING.**—Ground of the above description is generally trenched, and all hard stones that will do for road-making purposes are taken out; but such soft ones as are of no use and likely to be split up into fragments by the winter frost are left in. I think about 9*d.* per rod for trenching the ground, and about the same per ton for such useful stones as are taken out, is often paid, and the increased value of the land well repays this outlay. This being done early in the autumn, the young trees are planted as soon as they can be conveniently got in, taking care to do this, if possible, when the ground is dry.

Many growers raise their own plants; in fact, it is common for most Kentish farmers who grow fruit for market to have a nursery where they rear large quantities of Currants, Gooseberries, and the like, as well as graft and propagate Apple and other trees by the hundred. In such places Filbert trees are plentiful enough, and they are raised from suckers, which are produced in great numbers when required, as will be shown hereafter. Small plants having about 10 inches or a foot of clear collar, and then spread out into branches in all directions are selected. Assuming that the plantation is intended ultimately for Filberts only, they are planted about 12 feet apart each way if the ground is good; but if not so likely to suit them, 10 feet might be substituted. Generally Currant trees, or it may be Hops, or both, are planted between to occupy the ground while the Filbert is growing, and sometimes standard Apple, Pear, or Plum trees are planted at wider intervals to remain as permanent trees; but this plan has been in a great measure abandoned, and everything made subordinate to the Filbert when it is intended to have a first-rate plantation.

If the ground at the time of planting has been recently trenched, and much of the subsoil thrown to the top, it would be better to have a little mellow fine earth that has been long exposed to the atmosphere, and to give each tree a spadeful or two to start its roots into. This is frequently done with Hops, and also other trees where necessity obliges the planting so quickly after the trenching. Treading around the plant when dry weather sets in about April will be necessary. A low-growing crop is sometimes taken off the ground. This, however, will suggest itself to the cultivator, but I have seen plenty of instances where the farmer paid £6 and upwards per acre rent, and where he found it to his advantage to allow the newly-planted trees—Filberts, Gooseberries, Currants, or Hops, the whole of the ground, occasionally stirring it during the summer, and, of course keeping all the weeds down. If the intending cultivator thinks he cannot afford Filberts the whole space, let whatever vegetable crop he takes off the ground be kept clear of the Filbert trees, and remove it as early in the autumn as possible. I may also observe, that if Currants or Gooseberries be planted between the Filbert trees, they may be from 5 feet to 6 feet apart, taking care that those nearest the Filberts are cut away in time to prevent their injuring the more permanent occupiers of the soil.

**PRUNING THE YOUNG TREES.**—It has been remarked that no fruit tree is cut with more severity than this, and long experience has proved that without doing so a good crop of fruit need not be looked for. Some judgment is also wanted to start the tree into the proper shape at first, and a peep at those of mature age will show how this is to be effected. The universal custom in Kent is to train the tree into a sort of basin shape, not unlike

the ribs of an umbrella when inverted; and in the adult tree, the edges or tips of all the branches radiating from the centre being of a uniform height of about 5 feet, a great similarity exists amongst the trees which compose a plantation; and if the ground is level the eye of the spectator will skim over the whole. Their height and uniformity are very striking after they are newly pruned, but, of course, when the summer's growth is going on they are widely different, and show as rampant a growth as that of any plant I am acquainted with, some of the shoots being little short of 8 feet long, straight and tapering like an Osier wand. Those of the young plants are rarely so long, and it is these that we have more especially to direct our attention to.

In the young plants all central and all gross shoots must be removed, and such small ones as are of a spreading tendency are left, being shortened at the tops. It will be as well to describe the Kentish mode by which another gross growth is in a great measure prevented from taking place when the former one was removed, which is very simple and might in some cases be copied elsewhere with advantage. It is simply to cut out the coarse rampant shoot with a coarse-toothed little hand-saw, making a sort of haggling cut instead of the clean one caused by the knife. This rough haggled cut, with its occasional splintering of the top, is less likely to produce another similar shoot from its base next year than if it were an evenly cut one: hence the practice of using the saw, not in pruning the young trees only, but also those of more mature growth.

The pruning of the first year leaving only five or six side shoots, the number will not be much increased the second year, only a fork may be here and there introduced when the space seems wide. The rank, coarse wood being cut away as before, and the small, short-jointed pieces only left, and these shortened to the suitable length. Keep the centre perfectly open so that the sun may shine into it and on the north side as well, or, perhaps, better than on the south side of the tree. In the third year some tiny shoots will indicate, probably, the presence of fruit-bloom, leave a few of these shortened to about 3 inches or less, and keep the remainder of the tree pruned to the shape recommended above, which is that of a basin or bowl, and do not let the permanent branches or ribs be too thick.

**PRUNING TREES OF MATURE GROWTH.**—If the ground is suitable the summer shoots will be long and straight like many of the basket Willows, and sometimes they are used for the same purposes. From 3 feet to 6 feet is the average length. The first thing done when pruning commences in the autumn is to look over all the trees, and pull out by a jerk of the hand all the gross strong-growing shoots in the centre. Generally they will come out pretty well, and bundles of these are very useful for tying-up plants, or such out-door flowers as only require a slender stake. The rest of the pruning is done with the knife and saw, the latter being used to cut off such strong gross shoots as it may be necessary to shorten to a couple of inches or so, and the more slender are cut back with the knife. It is seldom that more than 4 inches are left of any young shoot, and very often much less.

The short-jointed small wood generally produces the most nuts, and those most exposed are the best; but nuts are also grown near the centre of the plant, on spurs of the long main branches, and some on the subsidiary ones. Occasionally a large limb may be cut out, but this is not often the case unless disease or appearance of too much crowding points it out as necessary, or when the tree has exceeded its bounds. In the latter case it must of necessity be cut back, and the occasional bringing forward of young branches from the centre will enable this to be done on the same principle that other fruit trees are pruned; but the Filbert will bear a greater amount of spurring-back than any tree I am acquainted with. The quantity of young wood left on an adult tree each year at pruning is exceedingly small, and in most other fruits would produce disease; but Filbert plantations last a great number of years, and their bearing properties are rather enhanced than diminished by age. Each succeeding year's pruning leaves them in the same uniform shape as before which is an open cup or basin-shaped centre, with the outer edges not more than 5 feet high. Of course, exact training to this cannot well be accomplished without tying, which is rarely adopted; but the cutting at the edges to the height above indicated leaves the tops parallel with the ground surface; and, though there are some branches near the outer edge between the ground and the edge of the basin spoken of, they are of less consequence than the framework of the tree forming the shape here described.

**VARIETIES.**—There are two or three varieties of Filbert bearing local names; one with a thin shell and the covering of the kernel of a deep pink colour, is esteemed the best at table, but it is not the best bearer. Cob nuts are more popular than Filberts, being larger and producing more weight per acre, and they certainly keep longer; but so much depends on public taste, that those who grow them for market of course cultivate those most likely to pay best, taking into consideration the peculiarities of their position and other features. A large variety of Cob, called *Spanish Cob*, was much in fashion a few years ago, but it is less so now in consequence of its lacking the flavour of smaller nuts; but the amateur who wishes to grow a few for his own use might have a few of both Filberts and Cobs. The latter, after being harvested and put away, last longest; but while both are good, the Filbert will be the greatest favourite.

**MANURE FOR FILBERT PLANTATION.**—Very rich manure, as farmyard dung, is seldom used, as tending to too much grossness. In this district where such large quantities are grown, woollen rags, or a sort of mill waste called *SHODDY*, which is a combination of cotton and woollen waste obtained in the carding of the one and dressing of the other, are largely employed. These substances, which to ordinary observers might almost appear "inert," are great favourites with the Kentish farmers. The rags, it is proper to observe, are chopped into pieces not larger than half the palm of the hand, the other separated by tearing it open. Other manures are also occasionally employed.

**PREVENTION OF SUCKERS RISING AT THE COLLAR.**—This is very effectually done by scooping away the earth all around the collar in October, forming a sort of basin about a yard or more in diameter, and exposing the main roots. The action of the frost on these roots is said to prevent the tree exhausting itself with suckers, and certainly none are produced when this treatment is adopted. The ground is again made level at the time of digging in March, the trimmings being all previously conveyed away; and if all go on well a good crop of nuts is looked for. As with all other crops, this is, however, not a certainty, as many extensive plantations did not last year produce on an average more than a bunch of nuts per tree—not sufficient to be worth looking for, while in favourable seasons from 10 to 20 cwt. of fruit per acre has not been uncommon. So much depends on the season, that with all the advantages of situation, skilful management cannot always command success in this instance any more than in many others; but well-directed skill, aided by other favourable conditions, certainly renders success more likely.—J. ROBSON.

### THE CUCKOO.

I HAVE many times had an inkling to scribble a few lines upon subjects you have entered upon, but I have cooled down without doing so; but in *THE JOURNAL OF HORTICULTURE* of the 30th ult., an article on the "Cuckoo and Fern Owl," by Mr. B. P. Brent, has induced me to say a little on behalf of the Cuckoo.

In the spring of last year a Cuckoo paid us a visit, much to the alarm of myself and fowls; believing it to be a Hawk, and I having chickens, it was not hard to believe he was desirous of thinning my small stock. Of course, I was as anxious to prevent it, and a trial was made several times to bring him down, but without effect, he (or they I may presume) passed to and fro frequently during the summer. Autumn came, and their visits became more frequent, when at last success crowned my efforts, when, to my regret, instead of a Hawk it was a Cuckoo; but its mate continued for some time afterwards to visit our little valley, and many times have I watched it fly from a tree down amongst the Cabbages, and return to the tree with (I have no doubt) large caterpillars hanging from its beak.

In course of time it absented itself, and the spring of 1862 arriving, I scarcely need say it would have been welcomed, and as far as I could protect it would have been safe. At last we had a visit or several, and, which did not transpire last year, or it would have saved a life, we heard the well-known call on one or two occasions; but, to my sincere regret, it has not been seen half a dozen times during the summer, and not once during the last three months.—W. BUDD, *Norwich*.

**DEATH OF MR. JOHN CURTIS.**—This occurred on the 6th inst. at his residence, Belitha Villas, Barnsbury Park. Mr. Curtis was one of the oldest of our national naturalists, having attained

to three score and ten years. He was a Fellow of the Linnæan, one of the six honorary members of the French Entomological Society, and of several other Societies for the promotion of natural history. Insects were his especial study, and he had filled the office of President of the Entomological Society. Under the anonymous signature of "Ruricola" he contributed a series of illustrated essays to the *Gardeners' Chronicle* and in the "Journal" of the Royal Agricultural Society, on insects injurious to our cultivated plants, and which he published in a collected form in 1860 under the title of "Farm Insects." He also published in 1829, "A Guide to an Arrangement of British Insects;" in 1830, "An Account of the Fire Fly of the West Indies;" in 1858, "The Genera of British Coleoptera," and "The Genera of British Lepidoptera." But his chief work is "British Entomology: being Illustrations and Descriptions of the Genera of Insects Found in Great Britain and Ireland, Containing Coloured Figures from Nature of the Most Rare and Beautiful Species, and in Many Instances of the Plants upon which they are Found." This work appeared by degrees between 1824 and 1835, being completed in sixteen volumes.

Mr. Curtis may be numbered among the martyrs of science; for his microscopical researches, rendered necessary not only by his own entomological studies but in his employment as a pour-trayer of insects, caused the loss of his eyesight about four years since, and about that period he had deservedly conferred upon him a pension from the civil list fund.

We sincerely hope that his entomological collection will not be dispersed, but will be purchased by Government for one of our national museums.

### MUSCAT GRAPES.

I HAVE little fear of being contradicted when I say the Muscat stands pre-eminent among Grapes. Such is the universally acknowledged fact. I may, however, be called in question regarding my opinion of the distinctness and comparative merits of some of the varieties in cultivation. But, in the hope of being of service to those who may be about to plant Muscats, I will venture to offer what has been my experience of several varieties, and call attention to that which I consider the most desirable of those that shall be referred to, so far as my experience has enabled me to judge.

What is known, and more extensively grown than any other, as the old Muscat of Alexandria, has been long and widely prized as a most excellent Grape. It has, as will be readily acknowledged, its drawbacks or failings—such, for instance, as being an uncertain setter, except under the influence of a very high temperature and dry atmosphere. It is also probably the most difficult Grape in cultivation to ripen thoroughly, and when not ripened thoroughly, it does not hang long without shrivelling. As to the difficulty of ripening it, there has been ample proof afforded this year, for any one who has inspected the great London shows in July would fail to find a thoroughly ripe and well-coloured example, while from the reports of the September Show at the Crystal Palace we gather that few, if any, of the Muscats were ripe.

There is the Bowood Muscat, a distinct and noble Grape, which sets as well as a Hamburgh in a moderate temperature. It grows to a large and splendid berry, ripens early and perfectly, attaining an exquisite amber colour and high flavour, and is a very desirable Grape.

The only other variety that I will name is the Tynningham Muscat. I know this has been pronounced identical with the Bowood variety, an opinion with which I cannot agree, and my conviction in the matter has been confirmed, not by simply seeing them on the exhibition table, or the one variety at one place and the other at another place, but from having narrowly watched them grown and ripened, and kept side by side in the same house for successive years. The Tynningham variety fruits very freely, either on the closest system of pruning or where an eye or two are left. The Bowood has proved with me a precarious fruiter, except when an eye or two are left, then it shows freely and strongly. In the ripening of their wood, the Tynningham ripens freely and as regularly as any Vine. The Bowood ripens its wood in patches and streaks, and, under the same amount of fire heat, it often remains in patches and streaks of green and ripe wood till pruning time. But the most important distinctive feature is, that although ripening their fruit at the same time and equally well, the Tynningham variety hangs much longer in a sound condition than the Bowood. The

Bowood shrivels, while the other hangs fresh and sound. The Tynningham Muscat I consider the best of the three named, it having all the good points of the other two without their faults, and I would strongly recommend it to intending planters of Muscals on account of its freeness in setting, its high flavour, its large berry, high colour, and long-keeping properties.—(D. THOMSON, in *Scottish Gardener*.)

*de Bresson*, white, with a brilliant rosy carmine eye; *Le Vésuve*, beautifully striped; *Eclair*, rich rosy scarlet, with a dark crimson centre, very effective.—(*Ibid.*, 119.)

ROSE LORD CLYDE.—A fine variety, raised by Messrs. Paul and Son, of Cheshunt. The flower is very full in the early part of the season. "The colour a rich crimson, abundantly suffused with a plum-coloured hue, not unlike some of the deeper-coloured Bourbons."—(*Ibid.*, 120.)

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

LILIAM AURATUM (Golden-striped Lily).—*Nat. ord.*, Liliaceæ. *Lin.*, Hexandria Monogynia.—Native of midland provinces of Japan. Flowers ivory white, with a broad golden yellow stripe down the centre of each division of the perianth, with numerous purple spots. Very sweet-scented.—(*Botanical Magazine*, t. 5338.)

ACANTHONEMA STRIGOSUM (Strigose Acanthonema).—*Nat. ord.*, Cytrandaceæ. *Lin.*, Didymia Angiosperma.—Native of tropical Western Africa, found at an elevation of 4000 feet to 5000 feet. It is a small herb, growing epiphytally on trees. Flowers pretty, tubular, mottled with blood crimson. Bloomed at Kew from June till August. More of interest in a botanical point of view than as an ornamental plant.—(*Ibid.*, t. 5339.)

BOTRYCHIUM DAUCIFOLIUM (Carrot-leaved Moonwort).—*Nat. ord.*, Filices. *Lin.*, Cryptogamia Stachyopterides. Native of Nepal, Sikkim, Ceylon, and Java. A little-known Fern, respecting the name of which some confusion has existed, and which is the *B. subcarnosum* of Mr. Moore.—(*Ibid.*, t. 5340.)

MONOCHÆTUM TENELLUM (Slender-branched Monochætum).—*Nat. ord.*, Melastomaceæ. *Lin.*, Octandria Monogynia. Native of Guatemala. A lovely plant with an abundance of rich purple flowers and Myrtle-shaped leaves. Messrs. E. G. Henderson and Co.—(*Ibid.*, t. 5341.)

WAITZIA TENELLA (Slender-stemmed Waitzia).—*Nat. ord.*, Compositæ. *Lin.*, Syngenesia superflua.—Native of the Swan River. Flowers lively yellow, of the kind known as everlasting. Likely to prove very useful for flower-gardening. Introduced by Mr. Thompson, of Ipswich.—(*Ibid.*, t. 5342.)

RHODANTHE MACULATA (Blotched Rhodanthe).—*Nat. ord.*, Compositæ. *Lin.*, Syngenesia superflua.—Native of Western Australia. In general habit resembling *R. Manglesii*, but differing from that well-known species in being of larger growth and having flowers twice as large, whilst the inner series of ray-like involueral scales are rosy pink stained at the base, near the disk, with a deep sanguineous blotch. "The flower-heads are large, the dry involueral scales having an expansion of about an inch and a half, and surrounding a yellow disk. The scales are toothed on the tip; the outer ones silvery and transparent; the inner ones, in several series, striated, rose pink, marked at the base with a crimson blotch, which is stained in the centre with a darker sanguineous hue. The yellow disk is consequently surrounded by a two-coloured deep crimson ring, exterior to which is the broad rose-coloured ray." It is a charming acquisition.—(*Florist and Pomologist for October*.)

RHODANTHE ATROANGUINEA (Dark red Rhodanthe).—*Nat. ord.*, Compositæ. *Lin.*, Syngenesia superflua.—Of dwarfer habit than the preceding. "The flower-heads are numerous, with a dark bronzy red disk, and a self-coloured striated ray of a deep rose colour, expanding to about an inch across; the outer scales being, as in the allied plants, of a transparent silvery hue. While in bloom, the dark-coloured disk becomes speckled with yellow as the florets successively protrude their anthers. Altogether its aspect is very pleasing."—(*Ibid.*)

MITCHELSON'S PLUM.—Raised many years ago by Mr. Mitchelson, of Kingston-on-Thames. It is said to have sprung from the seed of a Damson. Fruit above the medium size, oval, black; flesh yellow, juicy, and sweet. An excellent preserving Plum. Ripe in the beginning of September. The tree is remarkably hardy, and, being an enormous bearer, is much cultivated for market purposes.—(*Ibid.*)

HYBRID ERYTHRINA.—A new hybrid raised by M. Belanger, of Tours, combining brilliant scarlet flowers, with a more dwarf and free-flowering habit.—(*Floral Magazine*, Plate 117.)

PINKS, ATTRACTION AND DEVICE.—*Attraction* is remarkable for the size and smoothness of its guard petals; colour a bright violet purple. *Device* is large, very full; the colour a bright rosy purple, and the petals very smooth.—(*Ibid.*, 118.)

PHLOXES.—Three new French varieties:—*Madame la Comtesse*

GETTING RID OF THE LEAVES.

THE leaves make such a succession of litter upon our lawn, and accumulate so fast in the heap of our rubbish-yard, that I think of having them thrashed off the trees, and the whole burnt. Is there any better mode of getting rid of them?—A. L. F.

[Never did we expect to receive such an inquiry from one of our readers, and we can only reply that whilst leaves are green they are too useful to their parent plants; whilst dying the tints are too beautiful; whilst decaying are too productive of heat; and when thoroughly decayed are too fertilising, for us to adopt or recommend any mode of "getting rid" of them. Even poetry raises her voice from America for their protection:—

"They were washed by the autumn tempest,  
They were trod by hurrying feet,  
And the maids came out with their besoms,  
And swept them into the street,  
To be crushed and lost for ever,  
'Neath the wheels, in the black mire lost—  
The summer's precious darlings,  
She nurtured at such cost.

"Again has come the spring time,  
With the Crocus's golden bloom,  
With the smell of the fresh-turned earth-mould,  
And the Violet's perfume.  
Oh! gardener, tell me the secret  
Of thy flowers so rare and sweet!  
'I have only enriched my garden  
With the black mire from the street.'"]

THE NURSERY TREATMENT OF YOUNG TREES AS TO ROOT-PRUNING.

THE treatment which the roots of trees receive in the nursery, is, in our opinion, of material importance, and may differ much, with equal propriety, according to the object of the planter, who may either desire to induce rapid and luxuriant growth, or to obtain fruit-bearing properties. It is customary, in most nurseries, to cut the roots of seedling Oaks with a spade in the second year of their growth, to transplant frequently afterwards, and, on every occasion of removal, to trim the strongest roots. The plants so treated are generally considered eligible for removal; they are sure to *live*; but instead of sending up good leaders, they mostly produce weak shoots, and grow stunted and forked, having a stronger resemblance to the miniature old trees of the Chinese gardeners than the characteristic vigour of the British Oak. Rapid growth is a condition not to be disregarded in growing trees for timber, provided always that such growth is fully exposed to the influence of solar light, which alone can give solidity to the newly-formed tissues. It appears to us, that, when we contrast the means given by Nature to the Oak for ample development and sturdy growth, we are not taking the proper course to attain our ends, as it is most probable that the finest Oaks now in existence (such, for instance, as the *Pan-shanger*), are the offspring of acorns which accidentally sprang up where they still stand. Such was, doubtless, the origin of the largest Oaks at Windsor; and those magnificent relics of the once royal domain of Woodstock, which are still remaining, the almost imperishable record of past ages. Surely, when we view these noble products of unassisted nature, it should lead us to reflect upon the fitness of our customary procedure, and ask ourselves if it may not be a blind empiricism, rather than rational practice. We require vigour; we take the most effectual means to check it.

The observation we are about to make does not precisely fall within the scope of this article, but as it is collateral with it, we think it not irrelevant to say, that we believe that if our forest trees were sown where they are to remain, or planted permanently when very young, it would tend much to induce those gigantic proportions which we alone see or read of as developed in natural forests.

The axiom that whatever is conducive to luxuriant growth is inimical to productiveness, has been touched upon. We will only

now say that it has also a *vice versa* bearing. It follows, therefore, that although it is not wise to curtail the young roots of our forest trees, it is most sound, sensible, and efficient practice, to control those of our *fruit trees*. We would scrupulously preserve the tap root of an Oak or a Pine, but would utterly annihilate such an organ in the Apple, Pear, Plum, or any other fruit-bearing tree. Moderate growth, abundance of surface roots, and well-ripened wood, are the desiderata to be aimed at with fruit trees; and root-pruning should be commenced in the nursery, and carried on with discretion during the whole course of their existence.

Autumn, early autumn, is the best period for pruning the roots; as soon as the "sear and yellow leaf" appears, it may commence. It is important that the jagged and ragged cuts made by the spade should be smoothed by the knife, and we would carefully remove the soil from the roots, selecting only the strongest for operation. Root-pruning is certainly one of the first principles in the successful culture of fruit trees. Its importance is obvious, when we consider the reciprocal action which exists between roots and branches, and the control which it gives over the energies of the subject so treated. Although it has not been general amongst English gardeners till latterly, it has long been so among the Dutch. It is not difficult to conceive what would have been the fate of such a thing as that of pruning the roots of plants half a century ago. With what zealous indignation would the gardening worthies of that day have scouted the man who had the temerity to make such a suggestion, or to hint at such a horticultural heresy? "Necessity" is said to be "the mother of invention," and our onward progress in this, as in all other arts which minister to the comfort and luxury of mankind, will be in proportion to the increased demand which will arise as we progress in education and refinement. Let us discard prejudice, and believe nothing impossible.

PRUNING THE BRANCHES OF FOREST TREES FOR TIMBER AND PICTURESQUE EFFECT.

Among the various modes of pruning which have had their advocates in the gardening periodicals, I am not aware that any distinction has ever been made between those whose object is simply to produce useful timber, and those whose aim is to produce objects of picturesque beauty. The treatment of such trees is but too generally confided to ignorant workmen, who believe that the nearer approximation trees make to scaffold poles, the greater is their beauty and perfection. But the discriminating manager will make this difference between the marginal and interior trees, that, while he prunes and fore-shortens the latter to throw all their energies into one trunk, he will only seek to obtain in the former a certain height of clear stem,



Fig. 1.



Fig. 2.

leaving the head to diverge and ramify according to its natural habit.

The pruning of forest trees, as commonly practised, is what we consider more properly a mutilation, generally performed in a rough and slovenly manner, by chopping off with a bill branches of considerable size. We protest against the use of this instrument, and recommend, and believe, that all the pruning which timber trees require may be done with a knife, or the finger while young. We would adopt what we have called preventive pruning, allowing no unnecessary growths to require lopping by becoming too large. We think that, in the case of a young tree whose stem we wish to increase, it is desirable to

spur-in the side branches for a year or two, as the nursery-men do with the Pear and the Apple stocks, gradually and annually removing a tier or two of the lower spurs till a sufficient length of clear stem is obtained. It is contended by some, that every branch of a tree is of service to it, and should not be removed. When it becomes *really a branch*, such removal is always attended with mischief. The great point for the pruner to bear in mind is, that the secretions of trees do not depend upon the quantity of shoots and foliage, but more upon the latter having full exposure to the action of light. The quality of timber grown in the dense gloom of the interior of a wood, is, for this reason, inferior to that afforded by the marginal trees.

We would deprecate (unless in very exposed situations) the system of introducing what are called "nurses," but which are rather destroyers as generally employed. We say, Plant forest trees with the roots Nature has given them; plant while very young, or sow the seeds, and commence pruning almost immediately; spur-in the young side shoots, remove rival leaders, and annually remove some of the lower spurs from the stem before they are large enough to cause a wound. In vigorous trees, choose the spring for the operation, when the wound is quickly healed.

In illustration of the good effects resulting from the practice we recommend, we refer to the accompanying figure of a portion of the stem of a young Elm—the stem from which it was taken being about 8 feet in height, and its diameter, midway up it, 4 inches. Fig. 1 represents about a foot of its trunk as taken from the middle; it is cut longitudinally down the middle, and the grain is clear, straight, and free from blemish. Fig. 2 is another section of a similar tree, showing a knot which has resulted from allowing the side shoot to become too large before removal. The benefit of early or preventive pruning, and the evil of late

or remedial pruning, is here plainly shown. Fig. 3 represents the stem of a young tree in process of pruning—the lower branches removed, the upper spurred-in.

In pruning cone-bearing trees (Conifers), it is good practice to fore-shorten the branches before removal. It is impossible, however, to lay down rules for every contingency, and much must be left after all to the judgment of the operator. But of this we may rest assured, that if pruners are mere automatons, and not observers, much that is fundamentally correct in theory may be misapplied in practice.—H. BAILEY, *late of Nuneham, Oxon.*—(*Gardener's Magazine of Botany.*)



Fig. 3.

ORNAMENTAL PLANTS.

ALMEIDEA RUBRA (Red-flowered Almeida).—*Nat. ord.*, Rutaceæ. *Linn.*, Pentandria Monogynia.—A handsome stove shrub, of branching habit, growing 3 feet to 5 feet high, and furnished with broadly lanceolate alternate petiolate leaves, which are acute at the base, acuminate at the apex, and entire on the margin. The flowers come in thyrsoid panicles, and consist of

a short five-toothed calyx and five obovate-spatulate obtuse spreading petals, all of a deep bright rose colour. It is a slow-growing plant; and at Kew has been grown in the Palm-stove, with the benefit of bottom heat. From Brazil. Introduced before 1850, through M. Makoy, of Liege. Flowers in the autumn.



2. Potentilla ochreata.

1. Almeida rubra.

POTENTILLA OCHREATA (Ochreate Potentil).—*Nat. ord.*, Rosaceæ. *Linn.*, Icosandria Trigynia.—A curious and pretty hardy shrub, forming a dwarf, hairy bush, with weak spreading branches. The leaves are short-stalked, pinnate, or digitate, the oblong revolute leaflets varying in number from five to nine; they have a grey coat above, and are whitish and hairy beneath;

some are usually two-lobed. The flowers are terminal, with five-linear-lanceolate very hairy bracts, having a red scabrous keel, triangular sepals, of the same length, yellow inside, and nearly circular petals, of firm texture and a bright yellow colour. From the Himalayas. Introduced, about 1849, by Major Madden. Flowers in September.—(*Gardener's Magazine of Botany.*)

### THE FASTOLF RASPBERRY.

WHAT Mr. Robson says of the Fastolf Raspberry is very true; but the soil here is just the converse to what he describes, and is congenial to the Raspberry without a doubt, which our annual enormous crops of Red and Yellow Antwerps testify to, and so would the birds if they could, for we allow them out of our abundance to revel amongst the fruit to their heart's content to reconcile them to the careful netting of the Strawberries, Gooseberries, and Currants.

Some seven or eight years ago I wished to do better than well, and hankered for Fastolfs on account of their reputed size and flavour. I bought some of the Yellow Bee-hive variety at the same time, the latter fellows soon proved inferior in flavour to the Yellow Antwerps, so their services were dispensed with. But the Fastolfs put me continually on my metal and to the blush. I have tried them under aldermanic diet, fat soil, deep soil, sharp soil, shallow soil, and have them growing palpably before me now with seven-foot canes, and with canes dwarfed and bearing incipient fruit upon them, but whilst the wood and foliage will come of a sickly hue; whilst growing side by side the Antwerp canes are ruddy as a Cherry. The Fastolfs bear an abundance of fruit annually, but the berries are lean and not full-flavoured, and the stools have an unaccountable tendency to die-off like the branches of a Moorpark Apricot. How I should have attempted to manage them next I am at a loss to say, nor do I much care, for if Mr. Robson says they are wearing out, I freely second the motion, and with very good reason too. Their doom is sealed for me, and I shall remain content with my Antwerps, until I have proved a better sort.

This has been the most fruitful season with me I ever remember. True, I had a long and hard stand-up fight with the vermin; but the result—such a crop of Strawberries, Gooseberries, Currants, Plums, Apples, Pears, Quinces, and Grapes. Yes, out-of-door Grapes in this redoubtable season, 1862! and I verily believe by their quick colouring during the last few days that I shall be enabled to make a small barrel of tolerable wine. But I had a great mind to cut the incipient bunches all off in despair in June or July, or some such time.

With Apricots and Peaches I must report failure again, but the trees are healthy and that is more than a great many people can boast of, so I will even yet look forward to another year, though I know I shall never be able to cope with the blasting effects of the cold spring winds from off the waters of the lake in Blenheim Park; but Hope favours us with a small orchard-house, and I hereby call upon Hope to do so. The flatterer!

Of vegetables I have not to complain of a single failure; and of Potatoes never did I reap so rich an harvest. I have had some twenty sorts on trial one against the other, and have taken copious notes of their proceedings throughout, which I shall take an opportunity to let you know all about, and at the present time conclude by saying, that we have had some capital Roses, and that we are very thankful to the Supreme Giver of all good things.—UPWARDS AND ONWARDS.

### STRATHFIELDSAYE.

IN the north-east portion of the county of Hampshire, and situated about midway between Basingstoke and Reading, lies the noble and fair domain of Strathfieldsaye, the seat of his grace the Duke of Wellington.

Though Strathfieldsaye may not be said to possess the princely grandeur of some of the dual residences of "merrie England," still the historical associations connected with it, its extensive and beautifully-wooded parks, and spacious and well-regulated gardens render it worthy of a description in the pages of THE JOURNAL OF HORTICULTURE.

At the period of the Doomsday survey Strathfieldsaye was held by Hugh de Port, and was then known as Strathfield or Stradfelle, which means the field of the road or way, from its close proximity to the great Roman road from London to Silchester—the Vindonum of the Romans, and Caer Segont of the ancient Britons, which passes near the boundary of the park.

It afterwards passed into the possession of the ancient and noble family of Saye or Say, from which the adjunct Saye is derived, to which family it continued to belong till the marriage of the heiress of the Sayes to Sir Nicholas Dabridgecourt, High Sheriff of the county of Hampshire in the fifteenth year of the reign of Richard II. It remained in the hands of the Dabridgecourts till the early part of the seventeenth century, when it was

bought by Sir William Pitt, to whose successors it belonged till purchased by Parliament of Lord Rivers, and presented by the nation as a tribute of gratitude to the great and illustrious Duke of Wellington.

Entering the park by the Basingstoke lodge, which is situated at the south-west boundary of the domain, we proceed onward through an avenue of Oak, which opens on to a broad and elevated situation in the park immediately facing the southern front of the mansion. Below us flows the river Loddon, here forming a broad and majestic stream, on which are several islands; these being covered with trees, tend very much to enhance the beauty of the scene.

On crossing the river we pass the parish church and rectory-house, both situated within the limits of the park. The former is a plain and somewhat curious style of building in the form of a Greek cross, with hexagonal tower. In it are interred several members of the Pitt family.

But we are now approaching the mansion, which is a large and massive building of a plain though bold and unpretending style of architecture, situated almost in the centre of a finely-wooded park of 1500 acres.

The principal approach to Strathfieldsaye House from the north and eastern boundaries of the park is by a noble avenue of Elms one mile in length. Viewed from the western or principal entrance to the mansion this avenue has a very imposing effect. In fact, we fear our attempt to describe it will fall very short of doing justice to its merits, which can only be fully appreciated by a personal view.

In the more immediate vicinity of the mansion, and extending as far as the boundary of the pleasure grounds, the carriage-drive is bounded on either side by large and gracefully drooping Yews, the branches of which sweeping the closely-shaven grass on each side of the road, form both a pleasing and striking contrast to the more lofty grandeur of the Elms. On the outside of this avenue are two noble rows of *Cedrus deodora* some 15 feet in height. These have been planted with a view of taking at some future period the place of the Elms, when the latter shall have fallen victims to the ravages of time.

The western or principal front of Strathfieldsaye House is in the form of a square, having a centre and two wings attached, the entrance to it being through a spacious portico supported by columns of the Tuscan order. The entrance-hall, which is of noble proportions, and elegant in design, is decorated with many fine paintings, some noble statuary, and other works of art. In short, the whole mansion is replete with objects of interest to the visitor, who will not fail to admire the large and valuable collection of paintings, the extensive library, and many other objects of curiosity and interest it contains.

Immediately facing the western front is a spacious courtyard, with buildings on either side, consisting of stables, laundries, &c., also a large tennis court. On the southern side of the mansion, and attached to it, is a noble span-roof conservatory, 60 feet long by 28 feet wide, and 30 feet high in the centre. The floor is constructed of ornamental slate. Among other interesting objects, it contains two fine plants of *Dacrydium cupressinum* reaching to the roof. The leaders of these noble specimens of the Weeping Yew of New Zealand are unfortunately gone, it having been found necessary to remove them to confine the plants within the limits of the conservatory. This is a subject of regret, as they have been stated by one of the ablest authorities of the day to be two of the finest specimens in Europe. In this house, also, are some good examples of *Rhododendron arboreum* and *Noblecanum*, *Camellias*, *Oranges*, *Acacias*, *Indian Azaleas*, &c.; also some very fine plants of *Pinus longifolia*, *Wincesteriana*, and others. The whole was gay with *Chrysanthemums* and other plants used for winter decoration.

Leaving the conservatory, we pass on to the eastern side of the mansion, in front of which is a broad terrace-walk 380 feet in length, leading to the pleasure grounds. From this spot a commanding view of the park and river may be obtained. The pleasure grounds are extensive, and contain many valuable trees and shrubs.

Immediately facing us is a fine specimen of *Diospyros lucida*, 40 feet in height, its branches drooping gracefully to the ground. Farther on we noticed some fine *Cryptomerias* and *Cedars* of Lebanon; the beautiful striped-barked Maple of North America (*Acer striatum*); some fine Plane trees; the rare *Liquidamber*; a noble specimen of Weymouth Pine, *Pinus strobus*, 100 feet in height; and a beautiful silvery-leaved variety of *Cedrus libani*. In a more distant portion of the grounds may be seen

a very fine plant of Hemlock Spruce, *Abies canadensis*, about 60 feet in the spread of its branches, which feather to the ground, forming as it were a natural bower. The base of this noble tree is 12 feet in circumference. At some distance from this is a noble specimen of British Oak, the bleached and barkless trunk, and branches of which are partially covered with Ivy. It forms a very agreeable contrast to the more sombre hue of the surrounding Pines.

Situated midway between the two last-mentioned trees is a healthy young plant of "the giant of the American forests," *Wellingtonia gigantea*. It is about 12 feet in height, and 2 feet 6 inches at the base. A neat and elegantly constructed label bears the following inscription:—

"*Wellingtonia gigantea*,  
Californian Tree.  
Planted by her Grace  
The Duchess of Wellington,  
April 24th, 1857."

Near the extremity of the grounds stands a very tastefully-built summer-house, erected beneath the branches of some overhanging Yews, it forms during summer a very cool and pleasant retreat. Retracing our steps by a broad gravel walk which sweeps gracefully through the whole extent of the grounds, we pass a large clump of Cedars of Lebanon, some of which are over 100 feet in height. They serve as a good illustration of what those noble trees must be when seen in the primal forests of Mount Lebanon. In these grounds also are many other fine specimens of coniferous trees which we have not space to mention. Many, both here and in the park, were killed during the severe winter of 1860 and 1861. There are, however, still remaining, some very fine specimens of *Cedrus deodara*, *Pinus excelsa*, *Taxodium sempervirens*, and others.

Leaving the pleasure grounds and crossing the avenue before mentioned, we pass through what is known as "the American flower garden," and almost immediately find ourselves within the precincts of the kitchen gardens. These gardens are about nine acres in extent, two inside the walls, and seven out. On entering through an archway at the eastern side we at once gain a view of the principal ranges of houses, consisting of two divisions, one having a southern, the other a south-eastern aspect, the two forming a frontage of 400 feet. The first is a Peach-house 60 feet long by 12 feet wide, and 14 feet high. It contains some well-trained trees of Royal George, Noblesse, Grosse Mignonne, and Bellegarde or Brentford Mignonne. The trees are trained to a wire trellis about 15 inches from the glass. They had been pruned, washed, and otherwise put in order for forcing. In front of this house is a lean-to pit 60 feet long by 16 feet wide, used for cultivating plants for greenhouse and conservatory decoration.

The next house is a stove 40 feet long by 16 feet wide, and 16 feet high. It contains some well-grown specimens of Gardenias, *Ixoras*, *Begonias*, *Draenas*, &c.; also, some very good plants of *Cattleya Mossie* and *granulosa*, *Erides Brookii*, *Vanda Roxburghi*, *Dendrobium nobile*, some *Stanhopeas* and others; also a few very good varieties of Ferns.

Leaving this we enter the greenhouse, a neat and elegantly constructed building on the ridge-and-furrow principle. It is 46 feet long, 27 feet wide, and 14 feet high. Ventilation is secured by means of cranks both at the top and bottom of the house, the ventilators being easily opened or shut at pleasure.

The front stage or stand for plants is formed of slate supported by strong iron rods, and being kept polished with oil has a very clean and neat appearance. The principal portion of the plants are cultivated in pots: some being planted out in beds in the centre of the house. These beds are neatly edged with stone similar to that of which the floor is constructed. The plants consist principally of *Heaths*, *Epacris*, *Eriostemons*, *Pimeleas*, *Boronias*, &c., amongst which are introduced variegated *Yuccas* and other plants remarkable for the beauty of their foliage. The back portion of the house is occupied with *Oranges* and *Camellias*.

The next two houses, respectively 40 feet and 60 feet in length, are filled with *Vines*, the latter being the earliest house used for Grape-growing at Strathfieldsaye. In it forcing had already commenced, and though this was in the dark dull days of November, the *Vines* were breaking strongly and bidding fair to produce a good supply of fruit. The sorts were *Black Hamburg* and *White and Dutch Sweetwater*. The front stage was filled with *Dwarf Kidney Beans* in pots; *Strawberries* occupying the back shelves of the house. In front of this

house is a pit 60 feet long by 16 feet wide, used for growing *Peaches* and *Nectarines*. They are trained to a flat trellis on the Dutch system, and the trees are certainly excellent examples of good cultivation, generally producing very fine crops of fruit.

We are now about to enter another range of houses, 150 feet in length, by 12 feet wide, and 10 feet high, having a south-eastern aspect.

It is divided into three compartments, the first of which is a Fig-house containing the following sorts:—*Brown Ischia*, *Blue Turkey*, and *Nerii*. They are trained to a trellis near the roof of the house, and also to the back wall. They annually produce very fine crops of fruit. The other two divisions of this range are *vineries*. The first containing *Canon Hall*, *Tottenham Park*, and *Alexandrian Muscats*; *Charlesworth Tokay* and *Golden Hamburg*. In the latter were *Black Barbrossa*, *Black Prince*, *West's St. Peter's*, and *Trebbiano*, both houses containing a very fine crop of fruit, large bunches, and well coloured; the *Muscats* being remarkably large and fine. The front wall is built on arches. The borders are formed on the most improved principles, and the *Vines* are planted inside the house. On the back wall zinc troughs are fixed for standing *Strawberries* in pots.

Parallel with the southern range of houses is a broad gravel walk 10 feet in width, in front of which are some large circular beds, which, during summer, are gay with flowering plants; these being bounded by a border planted in the ribbon style. In the centre, immediately facing the greenhouse, is a fountain, and from this point another walk, 8 feet wide and 420 feet long, runs through the entire length of the walled kitchen garden. On each side of this walk is a border planted in the ribbon style, these being separated from the quarters or divisions of the garden by espalier *Apple trees* trained to neat supports made of iron.

A wall running from east to west divides the garden into two portions; the southern side being occupied with *Peach trees*. Though every means has been tried that practical skill and judgment could suggest, the result of late years has been for the most part unsatisfactory, the trees gradually dying away, or, at the best, producing little returns for the labour and care bestowed upon them. The cause of this, doubtless, proceeds from the cold, damp situation in which the gardens are placed, suffering as they generally do, severely from the late spring frosts.

The southern side of the boundary wall, 350 feet in length, is planted with *Apricots*, and they are certainly all that the most zealous cultivator could wish, both in point of training, and vigorous and healthy appearance.

On the opposite side of the walk fronting the border in which the *Apricots* are planted, stands a row of beautifully-trained pyramidal *Pear trees*, with pendulous branches. They are 15 feet in height, and viewed from the top of the walk at the south-eastern entrance to the gardens, they have a truly noble appearance, forming with the *Apricot trees* before mentioned, one of the most striking features in the gardens at Strathfieldsaye.

On the outside of the gardens is a paddock, in the eastern corner of which the visitor will notice a small clump of trees, the centre one being a young plant of *British Oak* surrounded by *Cypress*. Beneath them lie the remains of the renowned war horse, "Copenhagen," the charger which carried the late Duke of Wellington through his last great fight at Waterloo.

To avoid repetition, it will be as well at once to state that the whole of the wall fruit trees we saw at Strathfieldsaye (*Peaches* excepted), were excellent examples of skilful cultivation and management. The garden walls are 13 feet in height, surmounted with a good coping of slate.

At some distance in the rear of the hothouses, and divided from the other portions of the garden by a neat *Laurel hedge*, are four ranges of pits, each 70 feet in length. Three of these are occupied with *Pines*. The fruiting-pit, a half-span, is in two divisions, it is 17 feet wide, and 8 feet high at the back. The whole of the plants were in excellent and very robust health. They are grown in pots plunged in a bed of leaves. The sorts consist of *Ripley*, *Moscow*, and *Strathfieldsaye Queen*, *Black Jamaica*, *Black Prince*, *Prickly* and *Smooth-leaved Cayenne*; also, some very fine plants of *Providence*, *Black Antigua*, and others.

In one of the divisions of this house was a good supply of *Cucumbers*, grown in pots, and trained to a wire trellis over the back wall. At the back of these pits is a long range of building, consisting of sheds, store-houses, &c.; also, an excellent fruit-room. Near these is the compost-yard, in the front of which

are four ranges of low pits, each 50 feet in length, heated with hot water. They are used for the purpose of forcing early vegetables, salads, &c.

On the right is the orchard, two acres in extent, divided into four quarters; the larger fruit trees are planted in rows 14 feet apart, the centre of each space being occupied with Gooseberries and Currants. Here, also, are cultivated many of the common sorts of vegetables. Raspberries are trained to two arches formed of strong wire. They are each 190 feet long, 7 feet wide, by 5 feet high. The trees produce good crops of fruit, and trained in this manner they have a very neat appearance.

Strawberries are grown very largely here, both in the open ground, and also in pots for forcing; the sorts being—Oscar, Prince of Wales, British Queen, Sir Harry, Keens' Seedling, Trollope's Victoria, Empress Eugénie, and the Frogmore Late Pine.

The head gardener's residence is situated at the back of the principal range of forcing-houses, and communicating with them by a door leading into the greenhouse. It commands a view of the gardens both back and front. In its erection personal comfort as well as architectural design, have been taken into consideration. The principal portion of the houses, pits, &c., are heated by Ormson's patent tubular boilers, which give very good satisfaction.

The gardens were some years since efficiently drained on the system recommended by Mr. Josiah Parkes, the eminent engineer; the soil being a very tenacious loam, resting on a heavy subsoil of clay.

Proceeding onward by a carriage drive in front of the gardener's residence, we turn to the right and enter an elegantly-designed panel garden, called the "American flower garden." The side and central beds and borders are filled with choice varieties of Rhododendrons, Kalmias, Azaleas, &c. At each end is a roseroy, facing which are beds filled with flowering plants. In the centre of the garden is a fountain, around which are beds and borders for flowers. In this garden are some very fine specimens of *Araucaria imbricata*, and two large plants of *Paulownia imperialis*, presented to the late Duke of Wellington by Louis Philippe, King of the French. They have annually produced a fine show of flower-buds, which unfortunately have invariably been destroyed by the spring frosts.

We have now once more reached the outside boundary of the gardens, but we cannot leave them without paying a tribute of respect to Mr. Johnson, the Duke's head gardener, who for upwards of twenty-four years has successfully conducted the horticultural establishment at Strathfieldsaye. His courtesy, combined with his skill as a cultivator, is well known to all who have the pleasure of being acquainted with him.

Leaving the gardens we enter the park, and taking our route by the noble avenue of Elms, we pass on our way towards the London lodge, situated on the borders of Heckfield Heath. Leaving the avenue and turning to the right we again cross the river, and ascend the hill. Having gained its summit we turn to admire the beautiful scene opened to our view. Before us stretches the park, with its venerable Oaks and Thorns scattered in natural and picturesque beauty around. The scene being enlivened by numerous herds of cattle grazing in the distance. Here and there may be seen glimpses of the silvery Loddon, as its sluggish waters glide through this venerable domain, and as the eye wanders over a vast track of woodland country, which has the appearance of a mighty forest, the hills in the neighbourhood of Kingsclere are distinctly visible. The view is here bounded by those situated near Castle Highclere, the beautiful seat of the Earl of Carnarvon. Passing through a beautiful wood, called Switzerland, we reach the lodge, and our journey being now ended, we bid adieu to "the noble and fair domain of Strathfieldsaye."—W. G. P. G.

### HOUSE-TOP GARDENS.

IN an article on this subject, the *Building News* says:—It is rather odd that the photographers should have furnished a lesson which has not been made much of for horticulture. As you traverse the City streets you may observe that no matter what the pitch of the roof, wherever a photographer haugs out his sign, he also has contrived to crown his habitation with a glass house. If these can be erected with impunity for taking portraits, why not also for the cultivation of plants? We know of one instance of a citizen who has a capacious plant-house on

a roof at the rear of his business premises, and keeps it furnished with blooming plants brought from time to time from his country residence, where they are grown for the purpose, and renewed as occasion requires. It is well known among intelligent gardeners that plants of delicate constitution—such as the Rose, for instance, cannot be grown in the open air in London, but they may be grown anywhere under glass, and the possessor of a greenhouse, on a roof or "leads" in Fleet Street or Cheap-side, could have his roseroy, and exhibit his two dozen "Teas" or "Perpetuals" at the annual Rose fêtes of the Horticultural Society without fear of being laughed at, but with some certainty of at least "honourable mention," and the cultivation of a new surprise to rosarians. Mr. Rivers avers that there is nothing impossible in growing on the roof of a house in any city in the kingdom a good supply of dessert fruits, from Peaches to Golden Pippins, by means of a glass roof, abundant ventilation, and woollen net over the ventilators to keep out the blacks. Perhaps in these remarks some may find the element for a spirited enterprise in this way, and if once the idea be taken up in London it will spread rapidly, and we may at last have some sort of public conservatory and flowery lawn high up above the level of the crowded streets for the recreation of the poor, who, many of them, never get a glimpse of greenness except when a dairyman's cart goes by laden with Rye fodder, and a troop of boys following it to steal the stalks for "aqueakers." But it will be quite enough to see a beginning made, and to that end we hope to hear more of the experiment in Edinburgh.

### WHAT TO LOOK FOR ON THE SEASHORE.

(Continued from page 536.)

THE *Gasteropoda* (so-called from two Greek words signifying "the stomach" and "a foot") are a class of Mollusca distinguished by the position and structure of the locomotive apparatus, which consist of a muscular disk attached to the ventral surface of the body, and which serves the purpose in two ways—firstly, as used for an instrument in crawling; and secondly, but in rarer instances compressed into a muscular membrane for swimming. The first genus of this class to which we have to draw attention is the genus *Chiton*.

The *Chiton* has an oblong shell, and consists of a series of imbricated (from *imbrea*: a "roof-tile") dorsal plates laid upon the cloak or mantle, which is firm and cartilaginous, and variously marked on the margins. The plates are generally eight in number, and arched. The body is elliptical, and the mouth, which is destitute of tentacula, is surrounded by a curled semi-circular membrane, and is capable of forming a short proboscis. The tongue is also short, and furnished with strong reflected spines. The foot is narrow.

This curious Mollusc is chiefly found attached to stones, shells, or rock, and occasionally, although unfrequently, it may be seen creeping along the sand. It is very common, being distributed generally round the coast. The greater numbers of the species are to be found on the shore, although some of them range to great depths; but the stroller on the seashore will be sure to meet with specimens if he takes the trouble of looking under the stones at low water.

The *Chiton* varies considerably in its colour. The commonest specimen of the British *Chiton*, which is called *CHITON CINEBEUS*, will exemplify this, as its colour is subject to the following diversities, as noted in the account of that creature given by Messrs. Forbes and Hanley:—"Olive is perhaps the most prevalent tint; but no stress can be laid upon colour in this species, since some are orange, some nearly white with patches of a chocolate hue, some crimson red with white markings, some flesh-colour with one or two of the valves of a madder-lake, &c. Many of the greenish varieties are wared with faint brown lines or speckled with paler dots, and the dorsal ridge is not unfrequently pallid, or else painted on either side with a paler stripe. The margin is frequently, but not invariably, banded or spotted with whitish opposite the sutures of the valves."

The next genus to be mentioned is the *Patella*, an animal very familiarly known to frequenters of the sea-shore under the name of the *Rock Limpet*.

The shell of the *PATELLA VULGATA* is entire and conical, of a pale dirty yellow colour, sometimes marked with radiations of a dark grey. It is coloured throughout, and the internal surface presents the same marks as the external. The younger *Patella*

is more richly marked than one which has reached maturity. In the former case the shell is sometimes seen of an orange red colour, the inside being iridescent, and radiated with bright crimson streaks. The animal itself is of a dusky bluish colour. The head is furnished with a large, fleshy snout, supporting at the base two long, pointed tentacles. The eyes which are black are placed on a small elevation at the external base of the tentacles. But the most singular organ of the *Patella* is its tongue, which is longer than the entire body, narrow, and furnished with three rows of short, reflected spines, or little teeth, interrupted longitudinally and transversely. Its fixed end only can be used in deglutition, the free end being coiled up in the abdomen. The cloak is large, of a yellowish-white, and covers both the head and foot. It is united with the shell along its upper margin. The foot is fleshy, and furnished with numerous muscular filaments, which, uniting in the upper part of the cloak, form a powerful muscle, by which the body adheres to the shell, and which serves either to bring the shell close to the surface, to which the foot adheres, or to remove it to a distance from it.

The *Patella* is to be met with on all our coasts, on the surface of rocks and stones between tide marks. It is not, however, so abundant as it was some years since, such incredible numbers having been taken for bait, as to have materially lessened the quantity. The *Patella* has the power of moving about from place to place with ease, but the inclination for such an effort appears to diminish with increasing age, so that it becomes chiefly sedentary, sometimes inhabiting a crevice in the rock until its increased size renders egress impossible. Its food consists of seaweed, and infusories supplied by the water. The *Patella* is frequently, and, in some places, abundantly used as an article of food, but its flesh is too leathery to render it a general favourite.

*PATELLA PELLUCIDA* is another of this species common to our coasts, having a thin semi-transparent shell, frequently marked with bright blue streaks. In other particulars it differs little from the *Patella vulgata*.

The next species we shall notice is the *Fissurella*, vulgarly known as the "Key-hole Limpet," from a small orifice at the apex of the shell. The shell of the *Fissurella* is conical and thick, and opaque. The animal has a thick head, furnished with two tentacles, at the external bases of which are situated two eyes. The cloak is united to the shell by a circular muscle at the perforation or the apex of the shell already mentioned. The colour of the body is a creamy white. The *Fissurella* is generally found adhering to shells, sometimes on the shore, but more frequently in deep water. It is to be met with chiefly on the southern and western coasts, being much less common in the north.

There is a genus of the *Fissurella*, called *Emarginula*, which differs from the preceding in not having the apex of the shell perforated; but, in its stead, a long narrow slit on the anterior margin, which is the entrance to the branchiæ and anus. The animal is white, the head is furnished with long tentacles, at the external bases of which the eyes are supported on short footstalks. The foot is large and strong, and surrounded at its union with the body by a row of filaments. The *Emarginula* is common to all our shores, being found in the largest numbers in the north, where it inhabits shell-banks and clear ground from low-water mark to considerable depths.

*EMARGINULA ROSEA*.—Is another specimen chiefly found on our southern coasts, and derives its name from a beautiful rosy colour occasionally tinting the aperture of the shell. This is not, however, by any means its general appearance, since in the larger proportion, the shell is found to be of a dirty white both externally and internally. The animal itself is white like the foregoing specimen, and differs from it in no material point, save that the foot is much more bulky. The *Emarginula rosea* has been taken at Poole, in Dorsetshire; at Exmouth, in Devonshire; and at Weymouth, in Dorsetshire; but although found on the rocks in some localities, it is in most instances a resident in deep water, averaging from 15 fathoms to 25 fathoms.—W.

(To be continued.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

As it is but rarely that we have such a favourable season as the present for digging and trenching ground, and as there are few gardens but would be benefited by the latter operation, we

trust the fine weather will not be allowed to pass without attention to this subject. *Artichokes*, let the plants be protected from hard frosts, at the approach of which, cut down the stalks and outside leaves to the inner ones, dig between and earth-up the plants to near the tops, and during severe weather to be covered thickly with straw, to be removed when frost goes. The earthing-up need not be levelled down till the spring, when their general dressing will be done. *Carboons*, tie up for blanching when the leaves are quite dry. Twist haybands round so that the earth does not come in contact with the leaves when earthed-up. *Cauliflowers*, continue to prick-out under hand-glasses and into frames. Any that are now fit for use to be preserved in a cool place. *Chives*, to be taken up and replanted every two or three years. *Garlic*, plant in a dry and rich soil on shallow drills 3 inches or 4 inches apart in the drills, and 10 inches between. *Herb-beds*, fill up and dress them for the winter. *Horseradish*, if too thick in the plantation to be taken up and replanted, reserving all the finest for winter use. It will keep fresh if laid in sand. *Lettuce*, to prevent the ravages of slugs mix soot and lime in equal proportions, and dust them over with it once or twice a-week. *Onions*, look over those that have been stored, and remove any that are beginning to decay. When Carrots, Parsnips, Beet, Salsafy, and Scorzonera are liable to injury from grubs, or from a low, damp, or unfavourable situation, it will, of course, be advisable to take them up. The tops to be cut pretty close, and the roots to be stored in dry sand under cover. In favourable situations each of the crops, with the exception of Beet, may remain in the ground for some time longer.

### FLOWER GARDEN.

When the plants in the beds have been destroyed by frost, they may be prepared for the reception of early-flowering bulbs, but if the whole of the surface cannot be covered with bulbs, a few planted round the outside of the beds will have a pleasing effect in the spring. If the spare beds are sown with Californian and other hardy annuals, they will also look gay in the months of May and June. The following are suitable for the purpose:—*Nemophila insignis* (blue), *Nemophila atomaria*, *Clarkia pulchella alba* and *Iberis coronaria* (white), *Silene pendula*, *Lep-tosiphon densiflora*, *Collinsia bicolor*, and *Gilia tricolor* (pink), *Clarkia pulchella* (rose), *Erysimum Peroffskianum* and *Eschscholtzia crocea* (orange), and *Collinsia grandiflora* (purple). Active measures should now be taken to prepare proper materials for protecting tender climbers and shrubs. It is best to have them in readiness so as to be able to apply to the different objects when protection is required. Any choice plants worth saving and still in the ground should now be lifted and placed under cover. The earliest opportunity may now be taken of removing all such plants as *Auriculas*, *Carnations*, *Pansies*, &c., that are growing in pots, to their winter quarters. A cold dry frame where provision is made for a circulation of air beneath and among the plants is one of the best situations for the purpose. But very little water to be given to these plants during the winter, they only require just sufficient to prevent their tissues from drying and shrivelling, and the drier they can be kept without this taking place the safer will they be from injury by frost, and the more healthy and vigorous to produce good blooms in their proper seasons. They should have air admitted to the frame daily, unless in very severe frosts. They will also require a moderate degree of protection in the most severe part of the winter. The most essential point is to guard against making the soil too damp and to prevent a confined damp atmosphere around the plants.

### FRUIT GARDEN.

Continue to collect-in and store away the late varieties of Pears and Apples carefully, and see that those already stored are in good condition. Walnuts, that have been collected and sweated, to be placed in earthen pans that are quite dry and not glazed; to be covered with a piece of canvass or thick brown paper, and about an inch of dry sand over it. It is a good and easy method for keeping either Walnuts, or Filberts, and other nuts. Run a soft broom over the Peach and Nectarine trees with great care, to take off first the very ripest of the leaves. The formation of fruit-tree borders should be in progress; stagnant water must be carried off by drains. A stratum of stones or broken bricks should intervene between the border and a cold, clayey bottom. Although these precautions may not be necessary on a gravelly or porous bottom, there are but few places where they can with propriety be dispensed with.

## GREENHOUSE AND CONSERVATORY.

Persevere in former directions. Remove all dead and decaying leaves. Continue to stop all luxuriant shoots in due time. Apply water in moderation and with due care as we get less solar light, and do not forget that many plants are now requiring rest. At this season the principal part of the watering to be performed in the forenoon, that by evening all superfluous moisture may be dried-up.

W. KEANE.

## DOINGS OF THE LAST WEEK.

## KITCHEN GARDEN.

KEPT on much the same as last week. Cutting-up *weeds* where spade or fork could not be used, but when small and thick, and room can be had, a slight turn-over with the spade is the best mode of keeping them down, as this can be done more quickly, and leave the ground in a better state than any hoeing and raking; and mere hoeing, if the weeds are small, is now of little use, as the sun is losing power. A good shower or two sends them all growing again. Earthed-up beds of Celery when the plants were dry, using a little coal ashes round the stems, and the earth close to the ashes, which tends to keep worms and slugs at a distance. Planted out more Cabbages, Cauliflowers, Lettuces, &c. Turned over the leaves of *Cauliflower heads* getting ready, to throw extra wet past the head, keep it white, and safer from a sudden frost. Thinned late Turnips, Radishes, &c., and cleared-off all seed-beds of Greens, and Peas, and Beans, when done with, as we could get at them.

## FRUIT GARDEN.

Gathered the ripest of the fruit on fine days. Even the latest Peaches will soon now be over. Rough-pruned Currants, Gooseberries, Raspberries, &c., and will dung the latter as soon as possible. As soon as the leaves all fall, it would be worth the while of those near a tanyard, to put a couple of inches of fresh tan all round the stem of each Gooseberry and Currant bush, extending fully as much as half the diameter of the head of the bush or tree, for destroying the eggs, &c., of caterpillars. We have used, also, a little fresh lime for this purpose, but do not think it so effectual as the tan, the pungent character of which seems to be the property which is not liked. It is some years now since I tried tan. We shall take the Nottingham netting off the Warrington Gooseberries now, as they are getting just rather ripe. Kept up a little extra heat to some late Melons. Removed most of the laterals from a late vinery, to give more light, and to have the wood and fruit more exposed to the sun. Whatever kinds of *Grapes* are intended to stand over the winter, should be getting fully ripe now. The riper they are now, the better they will keep. Such kinds as West's St. Peter's, though they should be black now, need not yet be sweet, but if deficient in colour by this time, they are not likely to have much flavour, or even hang well, as their juices will be too thin and watery. Burnt a little sulphur in an early house, where we were sure the wood was ripe, for the double purpose of arresting all growth, by killing the leaves, and giving a quietus also to any insects, as red spider, that might be in the house, and some thrips which we were sure were there, by the appearance of some of the leaves. When a vinery is constantly in use, and made to serve the office of cold pit, greenhouse, and plant-stove, and general forcing-house, as well as vinery, it requires sharp eyes and sharper fingers, to keep out every vestige of an insect. In our recommendations we cite shag tobacco burnt as the best remedy for the thrips on such occasions in a vinery, as it would be impossible to dip them; but if people were careful, and raised the same amount of cool, thick smoke from bruised Laurel leaves, judging from ourselves, we should say they would find the thrips liked that application the worse of the two.

## MILDEW ON GRAPES.

Though we have not been troubled ourselves, we are sorry to learn that mildew on the Vine, and especially on the bunches, has been rather prevalent this season. For this the great remedy and the great preventive are sulphur and plenty of air; in fact, with plenty of air it rarely manifests itself in-doors. Out of doors it generally is most abundant in warm, moist, sunless seasons. In very bad cases we should powder with sulphur, even if we did not have any great faith in it. We would have more dependance on the fumes of sulphur given off from being placed on hot-water pipes or flues, about 170° in temperature, and as soon as the fumes were felt in the house, giving abun-

dance of air. We were lately told of a failure where such sulphuring was used; but we elicited on inquiry that the atmosphere was moist, and little air given, and not enough of heat applied. There was thus a slow contest between what would nourish and what would injure the mildew. Another singular case was placed before us, in which the man in charge was accused of destroying the bunches by burning the sulphur in the house. Now, so far as the bunches were concerned, they were so thoroughly done for, so completely encrusted with the *oidium*, though the berries were not so large as peas, that the best thing that could be done for them was to pitch them into a furnace; but as to the dispute—the accusation on the one side, the denial on the other as to the burning of sulphur—there could not be a question that the gardener was in the right, as the wood and the leaves were plump and green; whilst if sulphur had been burned in the house both the foliage and the green parts of the wood would have been done for to a certainty. We are sorry to understand that this disease is mostly prevalent among our good friends the amateurs, who may have only one or two small houses altogether, and make them serve for all purposes. I believe that in almost every case a little sulphur in the shape of a paint, with water or milk, spread on the heating medium, and a brisk fire, but not to raise the pipes, &c., higher than 170°, and plenty of air given to neutralise the fire heat in dull and muggy days, would have rendered the unpleasant visitation next to an impossibility. There are many days in July, August, and September, muggy and close, in which a little fire heat, and more air in proportion, would be of general benefit, besides telling this ugly visitor to keep outside. The trouble of lighting the fire, the expense attending it, deters our friends and ourselves from doing it when it would be useful; and which we would be sure to do did we live near a coal-pit. I rather incline to believe that the mildew has never been so bad in coal districts, firing there is of little value, and a gathering coal is generally in the furnace, and more air is thus given. At any rate, now for late Grapes there ought to be a fire every day, except when there is a bright sun; and though the air be reduced in the afternoon, there ought to be constantly at night 2 inches or 3 inches for air open at least at the highest part of the roof all along and all night, except when the atmosphere approaches the freezing-point.

## FLOWER GARDEN.

There has been the usual routine of mowing, machine-cutting, sweeping leaves, rolling, &c., and all to be done over and over again. As the beds now are of less importance, in addition to giving them a rough picking to remove faded flowers, we have taken strong *cuttings* of *Geraniums*, such as Alma, Bijou, Christine, &c., placing five round the sides of a 60-pot, and plunging them in a little bottom-heat, but giving air all night, morning, and afternoon, and only shutting the sash down when the sun shone bright. If these, and many more we are now putting in, will callus and form a short spongiole or two before November, it is all we want, and they will need so little room in winter, and from their size, they will often beat those little tiny pieces taken off earlier, and which, being now struck, are exposed to plenty of air and light, and just protected from heavy rains. We have, as yet, lifted nothing out of the garden but a portion of our Golden Chain where it could not be much missed. I wish to take up, too, what little I have of Beaton's *Stella*, one of the finest things ever he sent out, though I am surprised to hear from a mutual friend that our coadjutor thinks very little of it himself. Its beautiful bright huge trusses have been noticed by every visitor. With Imperial Crimson Nosegay I have done little good, though I think it is true, but certainly with me it was nothing to what it showed itself at Kensington and the Crystal Palace.

*Thrips*.—We have been rather annoyed to find thrips making its way among our stocky pots of struck Verbenas. These had had no heat, farther than being stuck in a cold frame; and as we knew they are liable to this pest in the autumn, we pulled each half-dozen of the cuttings through a saucer of tobacco water before they were inserted in the pots. As soon as struck the pots were set in a cold earth-pit, and merely protected from heavy rains. There is no worse thing to get among plants. It is from such causes that we of the omnium gatherum people in our houses get insects carried there. Besides, if Verbenas are at all bad with thrips in winter, they are almost sure to bid you good-bye when the days lengthen, just when you want them for cuttings. I shall be a little doubtful of these gentlemen, though just now we did what we could for them. About a quart of

tobacco water was put into a pail. A bushel of bruised pulpy laurel leaves was put into a barrel, and four gallons of boiling water poured over them. When cooled to 90°, the liquor was poured clean off and mixed with the tobacco water; and each pot, with the fingers spread over the soil's surface, was reversed, and the Verbenas well washed in the liquid, without letting any of it into the soil. The worst leaves were picked off before this was done. The pots were then laid on their broad sides for the best part of twenty-four hours, and were then well syringed round and round with clear soft water, and were then set upright again. I have not detected any thrips alive since; but they must have another dose or two, and, to make assurance doubly sure, we shall put in a few more cuttings of the most desirable kinds, if these can be got at all in fair order for the beds, as at this season all the Verbena tribe out of doors are more or less subject to the attacks of the thrips. This will enable me here to give a hint to "A READER" who wishes to know the best and easiest way to treat Verbenas to make them strike.

Now, in the first place, for the liability to thrips late in the season, it is always undesirable to propagate Verbenas so late as October. I find to-day that some kinds, as Lord Raglan and Purple King, hardly show the mark of a thrips in the beds; whilst other kinds, as Defiance, are well nigh covered with them. In the second place, I would refer him to a paragraph in page 540, where he will meet with much to suit his case. In relation to taking the runners as cuttings, I would just say the pots will take no harm in a box if plenty of air be given. You may also try another mode—lay these rooted pieces into a pot, either singly in a small pot, or several in a 48-pot, using light sandy soil, and putting a pebble on the shoot to keep it down. Cut the shoots half through in ten days, and altogether in a few days more, and you will have young layered plants that will be far superior to any old plants you could take up out of the beds. Now for the cuttings. At this time they will require a little more care than at an earlier period. Now, this is just what I am doing to-day. First, the position for the cuttings. A wooden box set on the top of an old dung-bed. This well stirred over and a layer of ashes on the surface will yield a bottom heat ranging from 70° to 75° for a fortnight or three weeks. The *Vessels for the Cuttings*.—Some in pots well drained and filled with sandy loam, with a little sand on the surface; but as pots are getting scarce the rest in wooden boxes averaging 30 inches long, 7 inches wide, and 4 inches deep, and filled with similar soil. In both pots and boxes the cuttings will be planted thick, less than an inch apart. Then, as *Cuttings*, we prefer short side shoots about 2½ inches to 3 inches long. If without flower-bud all the better; if there, it is picked out. These are slipped off close to the stem, the lower leaves removed, the pair above them ditto, the next near the top shortened, leaving nothing but the buds and the small leaves at the top to continue the axis of growth. The removal of so much foliage is chiefly to lessen the risk of taking thrips with the cuttings. Then every few cuttings, as made, are washed in tobacco and sulphur water, and allowed to drip before being planted. They are then planted, gently watered, and put into the frame, shaded in bright sunshine—the glass merely shut down close in a little sunshine—the glass frame elevated an inch or two in the evening, and allowed to continue so until the sun begins to reach it next day. This prevents drawing and damping, and in about fifteen days we expect they will be rooted, when more air must be given, and even then a look-out made for thrips, &c.

We have also done the same thing at this season, merely planting at once in sandy soil under a cold frame without pots or boxes at all. If done a fortnight ago, this is the best plan where the frame can be spared until April.

For *bulbs*, see last year, and recent articles in the preceding Numbers. I would merely state, that when I did much with Hyacinths, &c., a 40-sized pot was in general large enough for a fair-sized bulb. I would only add here, that those who mean to do much in the flower garden with bulbs, should plant them as soon as possible in raised borders, in turfy loam and leaf mould, and then if covered they can be lifted with balls, after the beds are cleared and duly prepared for them.

#### CALCEOLARIA CUTTINGS.

My space is more than exhausted, but I have just made a beginning, and I would wish our friends to be as forward as myself. All bedding Calceolarias, with the exception of amplicaulis, perhaps, do best when they never feel fire heat. The very best mode to strike and keep them, is to have a plat-

form a little raised—say 4 inches, above the surrounding soil, a frame, or a pit, facing the south over that, some 3 inches of leaf mould at the bottom, 3 inches above that of sandy loam, and about a tenth part of fine leaf mould, and from half an inch to three-quarters of an inch of drift sand over all. The sand may be about 16 inches from the glass. If nearer than that the cuttings are too much influenced by sudden changes of weather; if farther from the glass they are apt to be drawn up weak; and in severe winters, when long covered-up, they are apt to lose their leaves and damp a little. Now, we could not hit upon such a suitable place; but, as the next best, had recourse to a brick-pit sunk somewhat under the ground, and too deep, and, therefore, objectionable on two accounts. We neutralised both these inconveniences, by putting in the bottom about a foot of litter and leaves that had been accumulating during the summer, tramped it hard, and we dress in a cold morning the trial stick would give a temperature for a fortnight at the bottom of 60° to 65°—scarcely warmer than the ground is now. On this we placed 3 inches of rotten dung and leaf mould, and finished as above. All is well trod and levelled before the sand is put on. This being rather damp is beaten with a spade, and is ready for the cuttings. These are stubby side shoots, from 2½ inches to 3 inches long, the lower leaves are removed, the others are shortened, and after being pulled through tobacco water are planted firmly in rows, 1 inch apart in the row, and the rows being nearly 2 inches from each other. In using such a position, I place some value on the litter below; but our young friends had better find out its use for themselves in the meantime.—R. F.

#### TRADE LISTS RECEIVED.

Louis Van Houtte, Ghent.—*Prix Courant de Plantes de Serres et de Plein Air; Bulbes, Oignons à Fleurs, &c.*

Eugène Verdier fils aîné.—*Catalogue de Roses remontantes, Gladiolus, Iris, Lilium, Phlox, Pœonia, Plantes diverses.*

William Wood & Sons, Woodlands Nursery, Maresfield, Sussex.—*General Catalogue of Ornamental Trees and Shrubs, Conifers, Evergreens, &c. A Descriptive Catalogue of Roses.*

H. Lane & Sons, Great Berkhamstead.—*Descriptive Catalogue of American Plants, Conifers, Trees, and Shrubs. Fruit Catalogue. A Catalogue of Roses. List of Ferns, &c.*

#### TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

MANURE FOR SPRING CROPS (Z. A.).—Have your stable manure and its drainage carefully preserved until the spring, and then put it upon the ground just before digging it for the insertion of the kitchen-garden crops. Whether lime will be of service depends upon the nature of your soil. Do not mix it with the stable manure.

THOMSON ON THE VINE (A Young Gardener).—Its price is 5s.

DESIGNS FOR SMALL FLOWER GARDENS (Peter Piper).—You will find some, and how to plant them, in "Flower Gardening for the Many," which you can have from our office free by post if you send five postage stamps with your direction.

PORTABLE GREENHOUSE (Old Calabar).—We cannot undertake to furnish estimates. If you wish to buy one ready made write for their prices to the makers who advertise in our columns. If you would build one by the aid of a builder in your own neighbourhood, buy our "Greenhouses for the Many," choose the plan which you prefer, and ask the builder for an estimate.

REMOVING FORCING-PIT (Rustic).—You must not remove the brickwork, nor the framework of the door attached to the brickwork; but you may remove the lights, the framework screwed on the boiler, and the pipes.

REG SPIDER (T. Hargrave).—If you refer to p. 33 of "In-door Gardening," and read the whole paragraph, you will see how Mr. Keane keeps away red spider from his Vines without syringing after the berries are set.

COCAIA-NUT FIBRE REFUSE (A Subscriber).—The dust you enclose is the darker sort. It is light-coloured because fresh and dry. It would become darker with moisture and age.

FERN CASE (Patelin).—The Ferns and Lycopod you mention will all grow in your Case, but in so small a Case will be crowded.

**VERBENA CUTTINGS** (*A Reader*).—You will find the information you need in "Doings of the Last Week."

**LONDON PUBLIC GARDENS** (*A Yorkshireman*).—Your unmitigated censure of the Kensington Gore Garden, and your seeing "nothing superior either in the bedding or general keeping" of Kew Gardens, is so unjust that we fear you are not a discreet critic, and we are not inclined to think otherwise by your excessive praise of the Crystal Palace. Try your pen at a description of the north country gardens, as you obligingly offer; we know that many of them are admirably arranged and managed.

**FORCING-HOUSE** (*K. R.*).—There is nothing objectionable in the plan of your friend if rightly carried out. Did we suggest anything, it would be that if the front wall was to be 4 feet, the back, instead of 8 feet, would be better to be 10 feet, 11 feet, or even 12 feet, which would give you a good slope for Cucumbers, &c. What you propose will be flat-roofed. Again: part of the front wall had better be glass, especially if your roof is flat. Once more: but for economy in heat, there is little gained by sinking the floor 2 feet, and even then as to warmth it is not all saving, as you will run the risk of having more damp. The Cucumber end should be next the boiler, and it would be as well if you could heat that end with the pipes, independently of the other, by stopcocks or valves. The flue going all round would not signify much, as the hottest end would be next the furnace. The flue in the Cucumber division, as it comes from the furnace, should be brick on bed; the rest, brick on edge well done. The slightest escape of smoke from the flue will injure the Cucumbers. Keeping this in view we would alter the proposed arrangements, carry the flue along beneath the bed, surrounded with stones, for bottom heat, and use the pipes for top heat.

**CAMELLIA FLOWER-BUDS BREAKING** (*Anna Crichton*).—It is possible that you were just too long in exposing your plant. When such plants and tree Rhododendrons are kept too long in a moist atmosphere after a flower-bud is formed, it is apt to break again. So in wet summers out of doors, the axis of growth sometimes commences again and goes right through the flower-bud. A certain amount of sun is necessary to perfect the flower-bud; but any extra excitement after the bud is formed is apt to make fresh growth, or even cause the buds to fall. We think very likely your plants had received rather too much water. Many flower-buds will come all right enough though rather pointed; but of course they will not do so if a green point comes through them. We are not satisfied that all those you describe will fall even now.

**PUTTING PLANTS INTO NEW GREENHOUSE** (*H. T. B.*).—There will be no danger to the plants if you do not put them in until a few days after the paint is dry. Give all the air permissible then, and give a little fire heat to insure a rapid circulation. Even after the plants are put in it would be as well to use a little fire heat, and leave more air on than otherwise would be necessary. Using these precautions, we have filled houses a week after the painting was finished, and never noticed anything affected.

**CEPHALOTUS FOLLICULARIS CULTURE** (*Jane Flowers*).—A common airy greenhouse is too open, dry, and cold for this plant. Plant it in chopped sphagnum, peaty soil, and broken potsherds, well drained. Set the pot in a saucer filled with moss kept moist. Place a handlight or bell-glass over it, tilted up on the side for ventilation. Shade a little from bright sunshine, and do not let the temperature fall much below 50° to 45°. These will insure a moist atmosphere, and the roots will be moist without being deluged.

**STOPPING LEAKING PIPES** (*Quis*).—You say nothing of what the pipes are made. If of iron, the easiest to apply, when the pipes are empty, is red lead mixed with a little tow. Portland cement will also do if you can force a body of it in the socket. Mr. Beale, of Woodhall, and Mr. Lane, of the Berkhamstead Nurseries, use nothing else. When the pipe is cracked, we have used a piece of stout cloth smeared with red lead, placed round and tied firmly with cord, and then painted. Last winter or spring almost the half of the side of a large boiler gave way; but we tinkered that so as to work well ever since, and nobody had the curiosity to ask how. Of course, a new one would be better and surer, but you cannot always get an employer in the mind to spend some £20 or more in getting a fresh boiler. Pipes can be so grown, but with extra care, and would do much better with a turn of the flue below the bed. Good firey loam, rough, and packed up six months previously, is the soil. Lime putty, made with sharp sand, and plenty of elbow grease and little water, tough as dough, is the best thing for pointing flues.

**TREATMENT OF SEEDLING PANSIES** (*S. F. F.*).—We have just cut down two of the best Pansies we know—the *Tornica* Pansy of the gardeners, or the *Maggie* Pansy of the ladies, and a yellow one which never misses to bloom from April to October; and you cannot do better than follow our example and be quick about it. Then, when the spring is fairly set in for fair weather we would lift them carefully, and divide and replant them the same day, and would take no heed to what "some people say."

**PEAR-TREE SCALE** (*A. B.*).—The "disease" is a parasitical insect, *Aspidiotus ostryaeformis*, the Oyster-shaped, or Pear-tree Scale. Painting the stem and branches thoroughly with a creamy paint made by boiling half a pound of soft soap and a pound of flowers of sulphur for about twenty minutes in four gallons of water will eradicate it. Your trees are dreadfully afflicted with this pest, and we should apply this composition now and again in the spring. In fact, you must repeat the application until not a scale insect can be detected.

**NAME OF BEGONIA** (*Top*).—There was no specimen in your letter.

**NAMES OF FRUITS** (*A. M. R.*).—*Apples*.—No. 1, Cackle Pippin; 2, Keddleston Pippin. *Pears*.—No. 3, a small Bourré Rance, rots at the stalk from being in wet subsoil (*C. E. Bridges*).—*Pears*.—No. 1, Marie Louise; 2, Bourré Clairgean; Fondante d'Antoine; 4, Bourré Hardy. *Apples*.—No. 1, Fearn's Pippin; 2, Ruslock Pearmain; 3, not known; 4, Flower of Kent. (*J. E. F.*).—*Apples*.—No. 1, Bedfordshire Foundling; 2, Cackle Pippin; 3, Golden Harvey; 4, Blenheim Pippin. *Pears*.—No. 1, Glou Moreau; 2, Bourré de Rance; 3, Marie Louise; 4, Doyenné Defais; 5, Triomphe de Jodoigne. (*E. Marlow*).—No. 1, Ribston Pippin; 2, Herefordshire Pearmain; 3, Keswick Codlin. (*North Derby*).—No. 1, Hessel; 2, Autumn Colmar; 3, a small Brown Bourré, evidently from a standard; 5, Achan; 6, Bourré Capiaumont; 7, Marie Louise; 8, Fondante d'Antoine; 9, Marie Louise. *Apples*: 1, Hawthorn (?); 2, Cornish Gilliflower; 3, Fearn's Pippin; 4, Alfriston; 5, Golden Winter Pearmain.

**NAMES OF PLANTS** (*W. Wanklin*).—The *Oenothera* is *Lamarckiana*. The small flower is *Nycteria selaginoides*. The *Tropæolum* was noticed last week. (*M. E. L.*).—1, *Pteris hastata*; 2, *Blechnum occidentale* minor, or,

as it is sometimes called, *B. cognatum*; 3, *Selaginella pubescens*. (*C. P.*).—1, *Portulaca Thellusonii*; 2, double yellow *Heliathemum vulgare*; 3, *Plumbago Larpentæ*; 4, *Anemone japonica*. (*C. S., Colchester*).—*Diplazium Wagnerianum*. The plants you mention are indigenous—the *Cyanophyllum* to Mexico, the *Pterides* to India.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

OCTOBER 15th. FROME. *Sec.*, Mr. C. Harding, Graddon Farm, near Frome. Entries close October 8th.  
OCTOBER 28th and 29th. CALNE. *Secs.*, A. Heath and F. Baily. Entries close October 15th.  
DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.  
DECEMBER 16th and 17th. LORD TREDEGAR'S, Newport, Monmouthshire. *Sec.*, Mr. J. G. Palling, Newport.  
DECEMBER 29th, 30th, and 31st. MANCHESTER.  
JANUARY 1st, 2nd, and 3rd. GLASGOW. (Pigeons and Canaries) *Sec.*, Mr. T. Buchanan. Entries close December 22nd.

### COOKING POULTRY.

(Translations from *M. Jacque's work on Poultry continued*.)

ALTHOUGH I do not wish to enter into competition with the "Cuisinier Royal," I must have a few words to say on the different methods of preparing poultry for the table. In every cookery-book there are numerous and varied receipts for dressing fowls, but few, or none, that relate to plain roasting. The combustibles to be preferred, are for cookery in a room or at a stove, wood charcoal quite clear of smoke; and for a fireplace or rather hearth, very dry wood, split small, producing a clear and scorching fire. When either of these combustibles is properly used, there is not the slightest appreciable difference in the flavour of the roasted fowl, though some old and fastidious epicures say wood is preferable.

Before a fowl is put on the spit, it should be scrupulously clean inside and out, and should be singed with white paper, neither with brown, greasy, nor dirty. A young and small fowl should be roasted quickly, and put down to a clear and lively fire. A middle-sized fat fowl, or a small poularde, should be put to a cheerful but moderate fire, and remain at it till a practised eye detects the exact point at which it is done, either by the look, or by skilful punctures made with a pointed knife or fork, to examine the colour of the gravy. A very large and very fat fowl should be put down to a good fire, but a moderate one, that the heat may thoroughly penetrate every part, and it must remain some time that the inner part of the thighs may be done. These parts should have a greater share of the fire, and be more exposed to it than the fillets (breast), in order that these delicious parts be not dried up. Much must depend on the intelligence of the person charged with this really important mission. It will make of the same fowl either delicious meat, or detestable food.\*

Fowls in general, but especially very fat fowls, are preferable when eaten cold, and if I were a gourmand, I would never deviate from the following rules:—According to the season of the year, from twenty-four to forty-eight hours should elapse between the death of a fowl and its being cooked, and at least six hours between its being cooked and eaten.

A fine fatted fowl, a Houdan, Crève Cœur, or La Flèche, or one of the enormous half-breeds, roasted to a turn, thoroughly cold, and served in the company of excellent white wines, of good cheese, and aromatic coffee, to a lot of hungry sportsmen just returned from a successful "first day," is a meal as simple as it is relishing. Cocks or hens from two to three years old, naturally fatted, and placed under sequestration in a very clean place for eight days, also large adult Brahmas or Cochins, merely in fleshy condition, can be made an excellent dish prepared in the following manner:—

The fowl should be drawn very clean, and well singed, no hairs remaining, and should be cut into moderate pieces. The leg into three pieces (femur, tibia, and feet); the wing into two pieces; the neck into three or four; the body divided in halves, lengthways, should be cut into convenient pieces, without detaching the meat from the bones. Fry the whole lightly in butter; the pieces must only have assumed a yellow hue, then add water till the fricasée is covered, more or less, according to the age of the fowl; for a hard one must of necessity remain longer in cooking, and the operation must be so arranged, that although there shall be plenty of gravy, no addition of water

\* I do not admit the turnspit, that unintelligent cook.

shall take place during cooking. It must simmer over a small fire uninterrupted, and be thoroughly closed that there be no evaporation.

When the ragout, spiced according to taste, is nearly done, which will be in one, two, or more hours, according to the age and nature of the fowl, a few excellent yellow potatoes may be cut in half and added, also onions if they are liked.

The potatoes should be placed on the top and cooked without disturbing the ragout in any way. This will avoid a mixture and a blending that are not always agreeable. A quarter of an hour from this time all should be cooked. The meat and the vegetables should be served at the same time, but separate, in order that it may be easy to pick the choice pieces.

There is another ragout that I have never found in any cookery-book, but which I have always thought excellent, it consists in preparing a young fowl of any size in the manner hereafter described.

The fowl or chicken cut in pieces and cooked till it is gilded, not browned, should be taken from the stew-pan, then make a brown sauce by the addition of as much flour as may be necessary for the size of the dish. Take care it does not burn, it would give it a taste of insupportable bitterness. Having done this, put the pieces back in the stew-pan, adding some small pieces of raw bacon, mild and only half fat, some eschalots chopped fine, salt, a good quantity of good pepper, a little nosegay composed of parsley, thyme, and a few bay leaves. Let it simmer over a slow fire and be well covered that there be no escape for half an hour, then, according to the size of your dish, add mushrooms and small delicate onions.

When all is cooked dress it in a dish and decorate according to taste, so that it looks well with chopped gherkins and marinated vegetables, as peas, haricots, chopped dwarf kidney beans, pieces of radish, carrot, gooseberries, &c., and send up hot.

#### MIXING VARIETIES IN ONE CLASS.

As I am well aware there are many committees of poultry exhibitions now about to issue their respective prize schedules, perhaps you will kindly allow me space to point out a failing, that undoubtedly, in many instances within my own knowledge, has of late most materially lessened the number of entries that might otherwise have been readily obtained—I allude to the practice of giving prizes to be competed for by a variety of breeds in the same class. I can assure committees generally that such an arrangement is the very reverse of popular among exhibitors, and places arbitrators in anything but an enviable position. Only a few days back, when engaged in conversation with a number of our most noted breeders, the very liberal prize list just issued by the Glasgow Society became the subject of consideration, and I heard several say they would most willingly exhibit, but all varieties of Cochins competed in one and the same class, which would be the only cause of their declining to do so. I suggested that, perhaps, as being the first Glasgow Poultry Show, the Committee did not feel justified in giving a greater pecuniary amount in prizes until they had proved how far public support would be enlisted. The unanimous opinion expressed in reply was, "Divide the same amount into separate classes, according to usual custom; Buffs and Cinnamon in the one, Brown and Partridge-coloured in the other, and then all our objections are at end." I confess this is the oft-told tale at every Exhibition I ever yet visited where two varieties competed together, and I myself endorse the opinion entirely, that even arbitrators themselves have frequently expressed a dissatisfaction when called upon to decide on the relative excellence of, perhaps, Golden-spangled and Golden-pencilled Hamburgs, entered in the same class; both, perchance, being excellent as pens of their respective varieties, and involving something closely akin to caprice in the eventual decision. It is a mistaken arrangement, and undoubtedly lessens rather than improves the competition; and now the matter is once mooted, probably various amateurs will favour you with their individual views respecting it.—EDWARD HEWITT, *Sparkbrook, Birmingham.*

#### WAKEFIELD POULTRY SHOW.

In reply to "MINUS," I beg to inform him that upwards of twenty-four prizetakers have been paid, and it is not my fault that the other twenty have not been paid at the time appointed.

I have paid about £10 over what I received for entries, as I expected the general Secretary would hand over the amounts due to the poultry exhibitors; but I have not yet received a penny. I have been to the Secretary many times for the amounts, and his reply was that he had not time to attend to it.

I can also inform "MINUS" that no meeting has been called since the Show to let the Committee know how the Society stands. I trust those who have not received their prize-money will apply to Mr. J. Wainwright; he is the proper party. Had it been left to me, every one would have been paid at the time appointed. I took the management of the Poultry Show, because not one of the other members of the Committee understood anything about fowls. As one of the Committee, I took the responsibility to receive all entries, to pen and to return the fowls after the Show. I did all in my power to oblige every exhibitor, and every pen of poultry left Wakefield Station at 8.20 P.M., the day of the Show. I beg to state I shall pay no more of my own money for the above Society; but I have seen Mr. J. Wainwright to-day, and he has promised to pay all next week. Those who are not attended to must apply to him.—JOHN CROSLAND, JUN., *Wakefield.*

#### LICE ON FOWLS—SHOWS NEAR LONDON.

I HAVE some Black-breasted Red Game Cockerels of first-rate breed, hatched the latter end of May, which a short time since showed evident signs of ill-condition, as drooping wings, &c., and on catching them I found them infested with lice, and the nits deposited in large numbers on the feathers, under the throat especially. The birds have a good grass run, and, as I thought, every requisite in food and pure water, being fed on wheat, barley, barleymeal, and potatoes, lettuces and other green food. I have shut them up for a few days, and have let them have plenty of ashes, mixed with road-grit and sulphur, to dust themselves in, and have rubbed a little sulphur in powder in under their throats; and, as they have been growing fast, have added a little hempseed and meat to their former food. They seem to be improving; but as I wish to get some of them ready for the Crystal Palace December Show, have troubled you to know if my feeding and treatment are correct. I cannot make out the cause of their being so affected, and the pullets are not so.

In every Number of your Journal I see interesting accounts of poultry shows held in the north, west, or midland districts—in fact, almost everywhere but in the districts about the metropolis and the home counties. Surely there is great apathy on this point among the poultry-keepers of the latter districts, and as the London market, I should think, can be supplied better from the near counties than those more removed, would not the effect of poultry shows be to give a stimulus in the shape of competition to improvement of breed that would prove a boon both to those who breed for sale and also to amateurs? An article from your pen, if I might suggest it, would cause some stir, I should hope, in private quarters that would give us something more than the Summer and Winter Exhibitions at the Crystal Palace.

Is there any work you can recommend on the breeding and management of Game Fowls especially?—J. J.

[There is no doubt the lice are the cause of illness in your fowls, and they arise from bad condition resulting from the lack of dust. Every bird in creation is fond of a bath—some take it in water, some in dust. Wherever a spring crosses a road, and leaps clear and sparkling over the gravel crosses, you will see sparrows, chaffinches, and such birds washing; where there is a dry, sunny bank, or a bare spot among swedes or potatoes, you will, if you do not see the birds, see the places where plovers, partridges, blackbirds, and others have dusted. Your fowls wanted this, and now it is provided they will get better, but they should have it at liberty. An almost immediate relief is in such cases to drop a little oil under the wings, to put some on the crown of the head and under the throat; but the cure is the dust bath. Discontinue the hempseed, nothing is so bad for plumage, nor is it good food in ordinary cases; give up the meat, it is too heating, and will set them all fighting together. Feed on ground oats mixed with new milk; and give, if they still appear weak, a little stale bread soaked in ale daily.

The south-eastern counties draw a million from Loudon yearly for poultry, but they cannot support a show. The best plan is

to support the Crystal Palace, where every opportunity is given to amateurs both to exhibit and to compare.

We know no hook exclusively devoted to Game fowls.]

## MANCHESTER POULTRY, PIGEON, AND DOG SHOW.

We have been favoured by the receipt of a prize schedule of the Manchester Poultry, Pigeon, and Dog Show, and whether we consider the almost unlimited accommodation the Manchester Zoological Gardens afford for the accommodation of the birds and animals exhibited, or the unprecedented liberality of the prize list, they conclusively tend to strengthen the belief, that the coming Show will be one of the most colossal in its proportions ever yet held in this kingdom. It is stated, that "the Great Hall will accommodate 2,000 pens of poultry without their being placed over each other." Our experience of last year's meeting, proves this matter is not overstated. It may be added also, that independently of the great advantage of all the birds being exhibited on the same level, the light throughout is equally diffused, and in case of severity of weather (the Show falling in the Christmas week), the heating apparatus can be instantly called into requisition. Such are no mean advantages, and the very prompt payment of the prizes last year augurs well for the renewed confidence in the coming event.

The premiums themselves are most liberal, the entrance money (10s. each pen), being added to the winnings of the successful ones. In the leading classes, this augmentation will add most materially to the value of the prizes and their number also. In proof, should thirty-six entries ensue in any one class, the result is, no less than that seven prizes will be awarded, varying from £8 down so low as 10s. But we may speak even more strongly still, should upwards of thirty-six entries arise in any particular class (and we strongly suspect in Game, Cochins, Dorkings, and some other breeds such a result will be inevitable under so strong a temptation to exhibit), than whatever the numerical increase, the prizes will be "increased proportionately." Again, although in case of want of merit, the Judges have the power to withhold premiums, they are also empowered, in event of superior merit, to apportion £2 in poultry, and £1 in Pigeons, even in case, should such arise, of there being but a single entry.

It is very properly enacted that each pen of birds must enjoy a separate package; and that any infringement of this rule will subject the owner to non-competition, his entrance fee being also forfeited. Provision is made, that "no exhibitor, or other person, will be allowed in the room, or to go near to, or in any way, either directly or indirectly, to interfere with the Judges whilst making their awards." We join heartily in the hope this rule will be stringently enforced; for, by referring to the schedule, it appears that the classes for poultry and Pigeons alone embrace no less than 148 classes, in some of which, as before hinted, as many as eight awards, and probably many more will have to be arrived at. The rule will be rigidly carried out that unhealthy birds will not be permitted to compete, and the entrance fees will be also forfeited. It will, undoubtedly, much tend to the comfort of all parties interested if exhibitors will carefully examine the prize lists before making their entries, as, from the unusual number of classes, mistakes are more than generally probable among the negligent; whilst, by Rule XXI., "no alteration whatever can be made in the certificates after they are received by the Secretary."

## WORTLEY AND ARMLEY POULTRY SHOW.

The annual Exhibition of Poultry and Pigeons of the Wortley and Armley Horticultural and Poultry Society, was held in a field kindly lent for the occasion, at Armley. The competition was with one or two exceptions very good.

As might be expected, the class in which was offered a five-guinea cup, kindly presented by the President, produced a good number of entries, and after some hard fighting it was eventually awarded to Miss Beldon's pen of Gold Polands, and very good they were. Duckwing Game and Gold-spangled Hamburgs taking the two money prizes.

In Black-breasted Red Game, otherwise decidedly the best pen, was disqualified, the cock having his legs painted which was fortunately discovered by the Judges, and the attempted fraud exposed. In the class for "Any other variety of Game," there were some good Duckwings. In the *Hamburgh* classes, out of

six prizes Mr. Cannan carried off four, three first and one second. His Golden-spangled and Pencilled were well worthy of note. Mr. Crosland headed the Game *Bantam* list with his well-known pen, but they were rather out of condition having just commenced moulting. This gentleman also showed a good pen of Blacks; and Mr. Holdsworth a very neat one of Whites. *Spanish* were very inferior; but Mr. Newton's two pens of *Cochins* well deserved their honours. We thought the chicken very promising.

The class for *Geese* produced but one pen of Brents, and to them the prize was awarded.

The *Ducks* were not numerous, but there were some very fair specimens.

The show of *Pigeons* was both numerous and good. Miss Hughes and Mr. Silvester being the most successful competitors. Their *Carriers* and *Turbits* being especially good.

The weather was very unfavourable, and we fear the company was not quite as numerous as might have been wished.

GAME (Black-breasted).—First, J. Horne, jun. Second, A. Farrar.

GAME (Any other Variety).—First, R. Turner. Second, A. Farrar. Highly Commended, A. Farrar.

HAMBURGH (Gold-spangled).—First, W. Cannan. Second, G. A. Hepper.

HAMBURGH (Gold-pencilled).—First, W. Cannan. Second, J. E. V. Mussey.

HAMBURGH (Silver-pencilled or Spangled).—First and Second, W. Cannan.

POLAND (Any Variety).—Prize, Miss E. Beldon.

BANTAM (Game).—First, J. Crossland, jun. Second, W. Lawrenson.

BANTAMS (White).—First, E. Holdsworth. Second, A. Farrar.

BANTAMS (Black).—First, J. Crossland, jun. Second, J. E. V. Mussey.

SPANISH.—First, W. Ingram. Second, W. Rain.

COCHIN-CHINA.—First and Second, H. & G. Newton.

GEESE (Any Variety).—Prize, J. E. V. Mussey.

DUCKS (Rouen).—First, W. Iogham. Second, T. Talbot.

DUCKS (Aylesbury).—First, A. Roberts. Second, T. Talbot.

ANY VARIETY.—First (Silver Cup), Miss E. Beldon. Second, R. Turner. Third, W. Cannan. Highly Commended, W. Cannan; Miss E. Beldon; H. Yardley. Commended, E. Smith.

PIGEONS.—*Carriers*.—First, Miss H. Hughes. Second, A. L. Silvester. *Oxys*.—First, Miss H. Hughes. Second, J. Cliff, jun. Commended, Miss E. Beldon. *Turbits*.—First, A. L. Silvester. Second, Miss H. Hughes. Commended, J. Horne, jun. *Barbs*.—First, A. L. Silvester. Second, Miss H. Hughes. Highly Commended, Miss E. Beldon. Commended, H. Yardley. *Tumblers*.—First, Miss E. Beldon. Second, Miss H. Hughes. *Fantails*.—First, J. Wilson. Second, Miss H. Hughes.

The Judges were—Mr. G. Saunders Sainsbury, Devizes, and Mr. J. B. Stead, Leeds.

## PARTHENOGENESIS IN THE HONEY BEE.

My last Ligurian queen for the season was hatched on the 7th September, and was a very dark one; but as there was no longer any chance of another coming to maturity in sufficient time to become impregnated, I allowed her to remain in the hope that she might find a mate among the few Italian drones still remaining in my apiary. She must have commenced egg-laying within the customary period of three weeks, since this day (October 7th), I found drone-brood sealed over. Not being disposed to attempt preserving a drone-breeder through the winter, this circumstance proved her death warrant; and, on a *post mortem* examination, I ascertained that she was undoubtedly still a virgin, her spermatheca being totally destitute of spermatozoa, and containing only a clear and colourless fluid. This is another proof of the correctness of the doctrine of parthenogenesis in the honey bee.—A DEVONSHIRE BEE-KEEPER.

## OUR LETTER BOX.

DOBKING COCK'S COMA DROOPING (J. W.).—A drooping comb is not a disqualification, but it is a great disadvantage in an exhibition pen.

## LONDON MARKETS.—OCTOBER 13.

### POULTRY.

Everything is scarce, and there is a rise in all things save Game. The corn being now cleared everywhere, shooting is become general, and we receive rather more Partridges and Pheasants.

Large Fowls .....	3 6 to 4 0	Ducks .....	2 0 to 2 6
Smaller do .....	2 6 ,, 2 9	Partridges .....	2 0 ,, 2 3
Chickens .....	1 9 ,, 2 0	Rabbits .....	1 4 ,, 1 5
Geese .....	6 0 ,, 6 6	Wild do .....	0 8 ,, 0 9
Grouse .....	4 0 ,, 4 6	Pigeons .....	0 8 ,, 0 9
Pheasants .....	4 0 ,, 0 0		

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	OCTOBER 21—27, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.	Sun Sets.	Moon Rises and Sets	Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	degrees.						
21	Tu	Sun's declin. 10° 43' s.	29.767—29.647	62—38	S.E.	.06	m. h. 36 af 6	m. h. 54 af 4	m. h. 15 4	29	m. s. 15 16	294	
22	W	Mesembryanthemums.	29.758—29.750	62—42	S.	.28	38 6	52 1	35 5	29	15 25	295	
23	Th	Azapanthus albidus.	29.967—29.952	61—42	S.W.	.02	39 6	50 4	sets	●	15 33	296	
24	F	Chrysanthemums.	29.893—29.969	62—54	S.	—	41 6	48 4	5 a 5	1	15 41	297	
25	S	Brugmansia lutea.	30.050—30.040	63—46	S.W.	—	43 6	46 4	51 5	2	15 48	298	
26	Scn	19 SUNDAY AFTER TRINITY.	30.131—30.032	62—35	N.E.	—	45 6	44 4	48 6	3	15 54	299	
27	M	Brugmansia sanguinea.	30.075—30.008	61—42	N.E.	—	47 6	42 4	59 7	4	15 59	300	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 56.6° and 39.5° respectively. The greatest heat, 73°, occurred on the 21st, in 1830; and the lowest cold, 26°, on the 21st, in 1842. During the period 125 days were fine, and on 120 rain fell.

FRENCH FOUNTAINS

AT THE ROYAL HORTICULTURAL SOCIETY'S KENSINGTON GARDENS.



CIRCULAR, signed by the Secretary, of which the following is an extract, has been distributed among the Fellows of the Society by the Council:—

"The subscriptions which have been as yet received are not sufficient to warrant the Council in offering to purchase the fountains—but before the opportunity of securing these absolutely passes away, they wish me to recall the matter to your recollection.

"If each Fellow were only to subscribe one guinea, a sufficient sum would be raised—and as the Council have been recommended

by many of the Fellows to adopt this mode of obtaining the necessary funds, a form is enclosed which you can sign and return to me in case you should feel disposed to contribute.

"I am specially to make you aware that the Council do not in any way press this subscription upon the Fellows. It is essentially a matter for the Fellows' own determination. All that the Council feel called upon to do, is to give those who desire to secure the fountains or bronzes, the opportunity of doing so, and to be the medium of carrying out the wish of the Fellows on the subject, whatever that may be."

We are second to none in our admiration of one, if not of both of the fountains, but however desirable it may be to secure either of them for the decoration of the garden, we think the Council are quite right in remaining passive in regard to this movement, as either of the fountains is far too large for the enclosure, which already is more than fully occupied with artistic designs. With hasins, canals, terraces, slopes, polychromic figures, and other still-life ornamentations, we are of opinion that the garden is sufficiently crowded. But, in addition to that consideration, there is no adequate supply of water for such fountains. At present the meagre display verges on the ridiculous, and to have a sufficient supply and impelled by an appropriate power would require a very large expenditure on hydraulic apparatus. We presume this large expenditure is not included in the subscriptions, but would form an item which the Society would have to furnish, and which we think might be more advantageously expended.

GNAPHALIMUM LANATUM—STELLA AND NEW GERANIUMS.

At last I have received a specimen of the flowers of this most useful edging plant, Gnaphalium lanatum, thanks to Mr. Scott, of the Merriott Nurseries, Crewkerne, Somerset. He says, "I think it is an Antennaria, but the differences between the constituted genera of everlasting slide into one another in very close gra-

dations, something in the way of Chicus and Carduus, that it is difficult to determine them. My eyes are not now so good at finding out a hairy pappus, and a smooth pappus, dorsal awns, and such-like distinctions, as they have been, and I must leave these things to the doctors, and to the Editors of THE JOURNAL OF HORTICULTURE, with their big microscopes, and take the outside of things, and their general resemblance to one another, as my guide."

Very good, nothing was ever more to the purpose for practical men. "The outside of things, and their general resemblance," otherwise called the natural affinities of their looks, are all that practice requires, and when practice is tired of pedantry, this is what it will slide into. Then, if I mistake not, cross-breeders and hybridisers will discover a closer affinity in the outside and resemblance of things, in their way, than in the distinctions of the doctors when they disagree among themselves, as to the value and importance of this or that feature for generic distinctions.

Working upon that text, I have come to the conclusion that this is a true Gnaphalium, that it is an unrecorded, or undescribed species of long standing in our gardens, that it is in close affinity with Gnaphalium lasiocaulon on the one hand, and with G. patulum on the other—that is to say, in consecutive arrangement of species, according to their natural looks, this one should find a place between those two species, but not by the name of lanatum, having no more claims to that feature than many others in the same genus. The flower-head is a compound umbel, but whether it is terminal, or axillary, my specimen is not so complete as to decide.

STELLA GERANIUM.—I am much obliged to Mr. Thomson, of Archerfield, first for putting us on the right scent about planting cuttings of Cerastium tomentosum in place of rooted plants, and secondly, to him and to Mr. Fish, for their moral support in the matter of Stella. The following is the only other notice I have heard of Stella these four years last past. Mr. Scott, of the Merriott Nurseries, writing on the 23rd of last June, said, "I have all your seedlings from the Wellington Road Nursery, and if they please me as well as Crimson Nosegay (Crimson Minimum), and G. Stella, they will do you great credit. When I saw Stella first, I jumped for joy, and said I would rather have been the raiser of Stella, than of all the other bedding Geraniums I know put together." And a gentleman, in an arm-chair in London, wrote to say, "You will be vanity daft when you read what Mr. Fish and Mr. Thomson say about Stella."

Well, they say a daft body is not responsible for his sayings and doings. Therefore, under the recognised privilege of a daft body, I would just back what Mr. Fish says about "our mutual friend," not thinking so much about Stella as it deserves. Stella is now only the fifth best of my better seedlings. Lord Palmerston, one of twins, is one degree better than Stella in rose colour. It proved so this season, on the Rose Mount at the Crystal Palace; and in the new garden at Kensington, Mr. Eyles gave it the place of honour, in the south-west embroidered panel, where, however, it was "caught"

by the sun, so that it would seem to need strong soil to bring it out. *Cybister* or *The Tumbler*, is four degrees above *Stella*. I sent a specimen of it along with *Lord Palmerston* to Mr. Eyles, and he says distinctly, and all his men back him, he never yet saw anything like it. But I was daft enough to bring him up, the other day, enough of it to make a bed next summer, and there will be another bed of it on the Rose Mount at the Crystal Palace. But stop till you see *Ossian*, King of the Fingalians, and then tell me all about *Stella*. *Ossian* was the name of the most faithful friend I ever had, a "Sky" terrier, a present from Lady Middleton, when I left Shrubland Park, and *Ossian* is the name of the second best seedling *Geranium* I ever raised, for I have a better one named *Helen Lindsay*. So that *Stella*, in fact, is now only my fifth best, and it was out of my stud-book two years since. I had not a blade of it since, but I must have it again, and, if possible, from Archerfield, for I think I have now another seedling of that race with which I might improve it—that is, improve the *Stellate* section. The distant climate and fertile soil of the Lothians, I think, would tell favourably on the seedlings.

But, it is through an optical illusion that the *Stellate* race will ultimately become the most favourite bedders, a thing which has often been explained to me over twenty years back, when I was just learning the most difficult of the arts, the art of looking at and seeing the power and effect of colours. To a good eye, a *Compactum*-like truss in a bed is the worst of all the forms, it causes just as much shade as it gives in brightness. If the flowers are large and perfectly round—say, florist-like—that makes the shade still deeper than it is made by the *Compactum* truss, which, of course, destroys the effect of the colour the more. The *Nosegay*-shape lets the light in through the mass of petals, so to speak, which improves the tint considerably, but the *Stellate* form of the petals makes a perfect optical illusion. *Stellate* means a star-shape, the petals stand apart equally all round, the light plays in between the petals equally over a mass or a bed; and you cannot tell how it is unless you knew it, but somehow or other the eye is acted on irresistibly. That is the key to what Mr. Thomson says of *Stella*—"A large bed of it here this season, although a field of bloom lay between the eye and it, arrested the eye immediately the garden was entered." Now, if all the flowers in the "field of bloom" had been of *Stellate* form, my lovely *Stella Geranium* would have been unheeded. It would then be only a unit of a whole instead of a unique in the midst of beauties equally telling, but the effect marred by the mere accident of the shape of the flower and the form of truss, no matter what kind of plant the truss or spike was on.

I shall not live to see it, but the inevitable tendency of cultivating the public eye to the effect and value of colours by means of flower-gardening, must necessarily be to produce that form of flower, and that disposition of the flowers on a plant, and against each other, which will give the most effective sensation of pleasure from looking at them. You can have no idea of the real pleasure it gives a florist to look at a round flower. Since I have been on the Floral Committee I have often experienced extra delight myself, at seeing even the pleasure of hope beaming in the florist's eye when turning round and round the favourite object of his anticipation. What a flood of delight then is yet in store for him in the matter of colour.

But see how doctors disagree. *Paul l'Abbé* and *Mrs. Vaucher* with me are no better than they should be. The *l'Abbé* is the best form of flower in creation, and *Madame* is the best white and the best form to the bargain. I would not plant a bed of either if it was ever so easy; but for pot plants no *Pelargonium* was ever one-half so valuable in my estimation; and while I think of it, allow me to say that *Blackheath Beauty* is, perhaps, the most valuable pot plant we have for early and for late work in-doors.

But be sure and bear in mind, that all this, from the paragraph beginning with *Stella*, has been written under the prediction of that "vanity daft," and that I am not, therefore, to be held responsible for one word of it, all I can say is, that I believe every word of it myself. But I am truly sorry for what I said about *Paul l'Abbé*. Doctor Sankey the best flower-gardener of the florists we have on the Floral Committee, to whom I applied privately to know the best florist's flower among the bedders, said, without hesitation, "*Paul l'Abbé* certainly." Then, I took to *Paul* and made a mess of him. But that was not my fault at all, it was this "everlasting goodness" in cocoa-nut fibre refuse which set up my garden to such a rich pitch that no

*Geranium* can ever again be proved in it as I should like, and it was only yestereen that Mr. Gordon, of the Crystal Palace, seeing how enormously *Paul l'Abbé* put out his arms with me, refused to take it as a gift. But he shall have it yet from what Mr. Thomson says of it. *Madame Vaucher* he has already in the condition which is said to be "as well as can be expected," getting it ready for next season. He said, as Mr. Scott, that he would rather be the raiser of *Helen Lindsay* than of all the bedding *Geraniums* put together, except *Ossian* and *Ratazzi*, the succeder of *Ricasoli* here, as beyond the Alps. But he is a lady's man, and runs after the finest colours as they do, providing they are fast colours, which no amount of sun or rain can impair.

*Christine* was the best of the *Lucia Rosea* breed till last year, now there are two above it, *Mrs. Whitty* in the comparative degree, and *Helen Lindsay* in the superlative degree. You recollect how kindly Mr. Kinghorn sent me *Christine* before it came out, along with his other seedlings for the Experimental Garden; how his man came to my door with the horse and cart to deliver them; how he was astounded at finding a windowsill boxful of it at the time; how Mr. Kinghorn and your humble servant laboured to see if there was a difference between my *Victoria Rose* and his *Christine*, and how we failed; how I cancelled the name and the stock in his favour, and how it was that a monument had been suggested in these pages to commemorate Mr. Kinghorn's best contribution to the flower garden.

Then, the next resolve was to "inoculate" the *Lucia* breed with the crimson and the purple which the original *Nosegay* had infused into other sections of the race, beginning with *Imperial Crimson*. But this had been found an up-hill work. The peculiar soft tint brought in by *Lucia Rosea*, was a pure and undefiled sport of Nature, and resisted for a long time all efforts of inoculation by means of the pollen; the only means, as I take it, for changing and for giving new qualities and new colours to all plants whatever. But, if I were to say in so many plain words, how I got the two colours to mix, the one-half of my readers would say I was daft before they made me so about *Stella*, and the other half of my readers that I was stark mad. So the best thing is to pass over that part, and say the thing is done, and *Mrs. Whitty* is the first instance of it, and you yourself will be the judge in your own instance that the thing is so, for I am amazingly indebted to the authorities at the Crystal Palace, for allowing one of their large circular-beds opposite the railway entrance, to prove this fact next summer.

The bed will be planted with *Mrs. Whitty*, with a broad band of *Christine* all round it, and the edging will be this *Arctotis reptans*, of which you heard so much this season, and which is the newest suggestion.

You will see by these sayings, that in all good gardens, the arrangements for the flower garden for next season are always decided upon before the fall of the year. And knowing all that, if I had not applied for space in time, my product would be sent to one of the annexes, and not one out of a score would go that distance to see, or to be seen.

The superlative in the *Lucia Rosea* strain for this year is *Helen Lindsay*, decidedly the most lady-like flower amongst the races of the bedding branch of the family. It will be out next April or May, and if I should live to see it established in the provinces, the chances are that my head will be turned right round, instead of going daft as for *Stella*.

About *Imperial Crimson*, which Mr. Fish says he can do little good with, and about which he says that with him "it was nothing to what it showed itself at Kensington and the Crystal Palace," the case is this: *Imperial Crimson* was the first plant of the new strain by which we obtained the crimson tint into the new race of *Nosegays* from the oldest *Geranium* we now possess, the *Variagated Geranium*, which Miller describes in his Dictionary as being a chance seedling from the original *Zonale*, or *Horse-shoe* from the Cape. The new race improved at every turn of the cross, and *Stella* was obtained at that stage. Just five years back I discarded *Imperial Crimson* altogether, having had a much better kind of the same stamp, and with the same tint of flower, that kind is *Crimson Minimum*, and is the kind which Mr. Fish had seen at the Crystal Palace, for *Imperial Crimson* was never there, or at Kensington either, for I never thought it worth sending to any of my friends. It was a great step in the right direction at the time, and that was all the good we could expect from the first plant of a new strain.

The best thing Mr. Fish can do with *Imperial Crimson* is to discard it, and get hold of *Crimson Minimum*, which is just as good

for edgings and for small beds as Stella is for large ones. As it happens, I cannot supply Mr. Fish with *Crimson Minimum*, although I am in his debt that way, for I took the last batch of my stock of it up for Mr. Eyles the morning of the Grand International Show, along with one half of my stock of *Cybister*, the other half is gone for a "tumbler" at the Crystal Palace, to vie with *Blondin*.

Now, I have only left me room to tell my last secret. It is this: I said all along that I was only one year before the rest of the breeders, for my best seedlings of one year were out the following season, as is well known to many, and I have heard say that Mr. Banks is only one year in the lead with *Fuchsias*, and so on; but the truth is, Mr. Banks is full three years before any of us in that line, and there is only one man who could come within three years of your humble servant in his strain, and that is my secret, and how it is so is the telling of it. Whoever buys one of my seedlings from me may keep within one year of me in crossing it, but those who buy it of him lose two more years, as, after the hard run at propagation none of the plants is ever worth a rush for crossing for the next two years, and often much more.

D. BEATON.

## ROSES IN AUTUMN.

MESSRS. WOOD & SON, WOODLAND NURSERY, MARESFIELD.

MONDAY, October 6th, was a glorious day—one of those bright and summery ones which on our southern coast chest one into the idea that winter cannot be so nigh as the almanack tells us. The "*L'été de St. Martin*" certainly extends itself to these shores, and much obliged we are to his saintship for compensating us for the "vile north-easters" which frizzle our Rose shoots and congest our lungs in April and May. It was pleasant to sit and whistle along by the sea-coast between Hastings and Pevensey, and see the sunbeams glowing on that glorious sea of which one never tires. It was *not* pleasant to sit at the railway station at Lewes for an hour and a half, although I did manage to liquidate, in fact, a debt I owed to my valued friend the vicar of Caunton. It was pleasant, however, to get "away o'er hill and dale" from the sound of the railway-whistle, to come into bye-roads where the "iron horses" never makes his appearance, to watch the varied hues and tints that were beginning to enrich the foliage—a sort of melancholy joy which tells of winter coming on apace. It was pleasant to be met with a kind and cordial welcome, and to know that a few good hours of an autumnal afternoon were left to one to run over so much of sixty acres as one could master, especially those portions of it devoted to Roses.

Woodlands Nursery is aptly so called, for it lies surrounded on all sides by those "Hursts" which so abound in Sussex, and consequently enjoys good shelter from those terrible winds which with me switch and tear my Roses to pieces. A north-easter is bad enough, but for destruction commend me to a stiff south-wester. There is something so fitful and gusty, it comes so passionately and at the same time without nipping cold, that one feels it to be a cheat that it should treat us so. The lie of the land is very undulating (comprising about sixty acres), and with every variety of soil on a general substratum of sandstone—in one part a stiff clay, in another good strong loam, and then again a good piece of peat for American plants, and even in one part of the grounds white sand. It will be thus seen how advantageous this is for nursery purposes, and that each plant cultivated can have the soil appropriate to it without a necessity for its being made. The nursery has been so long celebrated for its Roses, that one was not surprised to find the great space given to them, and the careful manner in which they are cultivated both in pots and in the open air. One house (the principal one), is 120 feet long and 25 feet wide; and when this is filled as it is with Roses in the spring in full bloom, standards occupying the central space, ample height being given to the house for this purpose, one can imagine what a glorious sight it must be. Other houses are also devoted to them, and a very large number of Teas are grown both in them and in pits.

In talking over the soil for Roses, Mr. Charles Wood said that he felt quite persuaded that it did not answer to grow them in the same soil many years together; and that, consequently, their plan was to shift the Rose-quarter of the garden continually. This, I think, seems now to be pretty generally recognised as true with all flowers. Now, I do not pretend to be a philosopher in the matter of flower-growing, but how is it that in my county

for years and years Hops are grown on the same spot? I know one "garden," on which my grandfather grew Hops fifty years ago, which, to this day, is one of the most productive of the famed Hlop gardens of east Kent, and to tell my uncle, who now has it, that he ought to change the crop would seem to him little short of madness; and yet it seems that in a few years, at least so we are told, gardens become *Verbena-sick*, *Rose-sick*, &c., and require to have the soil changed. "'Tis strange, 't is passing strange." Well, however this may be solved, the plan seems to answer, as may be evidenced by some of the *Curiosities of Rose-growing* which I saw there. Some time ago I had a polite note from Mr. C. Wood, saying he had some extraordinary plants of *Duchess of Norfolk*, which would fully prove how thoroughly justified they were in calling it a good pillar Rose. The history of this Rose, by-the-by, is a curious one. Mons. Margottin, of Bourg-la-Reine, some years ago, in taking Mr. Wood round his garden, said "there is a Rose which we do not think quite full enough to send out, but which we think will come more double in your climate," and gave it to him. Mr. Wood, sen., now a veteran of eighty-two, fancied it; and every year it was propagated, and every year it improved, until, in about six years after they had received it, it had become so fine and of such a vigorous constitution, that they sent it out as *Duchess of Norfolk*, and every season we see it figuring in winning-stands. Well, the plants that I saw, not by ones or twos but by tens, were budded last July twelvemonths on *Celine* stocks, close to the ground; the buds remained dormant, and started this season. They have made a clean, straight shoot of from 10 feet to 12 feet! If that is not a pillar Rose what is? And what fine fellows for tying as pyramids! I have never, in my little Rose-growing experience, seen anything like it, and it only shows what is to be done. Then, again, though perhaps this will not be considered so remarkable, there were *Gloire de Dijon*, budded in July, which had made a clean shoot of 4 feet and 5 feet in length! But the *Duchess* was a beat on them, and, indeed, on anything in its way.

Mr. Wood has found, too, that Teas planted-out in peaty soil make wonderful roots and growth. It has always seemed to me they would answer well in such light stuff, where they could have plenty of encouragement to push their roots. The state of these plants, which had been taken up, potted, and placed in the pits, showed how well it had agreed with them.

There were some remarkably fine standards of the best summer Roses, *Hybrid Bourbons*, *Gallicas*, *Hybrid Chinas*, &c., and these, I was informed, were mainly purchased by Scotch growers, their climate being unfavourable to the second bloom which we expect from *Hybrid Perpetuals*; and so, as they are more vigorous in their growth, they content themselves with summer Roses, and, in truth, some of these are still indispensable. Can we do without *Ohl Kean*, *Charles Lawson*, *Coupe d'Hébé*, and *Boula de Nanteuil* yet in our exhibition stands? No! Let those who have entered the field declare *Hybrid Perpetuals* and *Teas* above all, but in most of them we still find some of this now almost discarded class. We passed *Reine des Violettes* with a smile, remembering how much Mr. Wood had been disappointed in her pretensions; but the fair sex does sometimes do so.

It were needless to go over the very beautiful Roses which were then in bloom of old and well-known varieties; suffice it to say that all the stock was in a beautiful and healthy condition, and sugared well for a good bloom next season.

We had a good chat over the new Roses, and came to very much the same conclusion about them, that there was a vast deal that ought never to have come out, while there were many of decided value. Mr. Wood's plants of them were excellent. *Olivier Delhomme* is a plant of very vigorous habit, the flowers very bright and good, but wonderfully like *Senateur Vaisse*. *Comtesse de Seguer*, a purplish-crimson, is large and double. *Madame Charles Wood* will form, I think, a good show flower, with not quite refinement enough to suit some, but with flowers of great size and substance. *Vicomte Vigier*, another dark crimson Rose, looked well, and *Louise Darzins*, a beautiful white, more robust than *Mademoiselle Bonnair* (which is becoming more and more delicate), is the best of white *Hybrid Perpetuals*.

I did not see but Mr. Wood spoke highly both of Professor Koch and *Nôtre Dame de Fourrieres*, one a rich deep crimson, the other something in the style of *Jeanne d'Arc*, bright rose. We both agreed that amongst the best of the new ones, *François Lacharme* must take a high, if not the very highest place, its bright crimson colour and good build, combining to make it a very attractive Rose. I saw, too, a bloom of a Rose I have not

seen elsewhere—*Souvenir de Lady Eardley*, or *Cardley*, as is wrongly put in some catalogues. It is a brilliant crimson scarlet, extremely rich and velvety, of fine form, with petals of great substance. *Charles Lefebvre* was also of a dazzling crimson scarlet, large and double, of fine form, and is, I think, destined to take a high position in the Roses of this season.

Having had our view of the Roses, the shrubs and other plants with which the nursery is well stocked were visited; and a new piece of land which is about to be taken into cultivation, and a good portion of which will be planted with Briars and Manettis, was inspected. I can imagine what fine maiden plants there will be there. Where are the Briars to come from?

Mr. Wood tells me the woods around there are exhausted, and that they are mainly supplied from the western portion of Kent. What a boon the Manetti has been to us! for although I do not believe so extravagantly in it as some do, there is no doubt it is a first-rate stock, and it has been a most opportune introduction for the Rose-growing world.

Our "out-door amusements" terminated by an inspection of an old Camellia, one which has braved the frost of thirty winters, and is now green and flourishing; and we then had a long chat in-doors over Roses and Rose-growers in France. Lists of the Roses forthcoming this autumn were inspected, and the fact elicited that there are already thirty or forty announced—fewer certainly than last year, but still, perhaps, too many, and as the shades of evening came on, I had to make my way on to Uckfield *en route* to Brighton, and was thus compelled to bring to a close our interesting chat. I shall retain for a long time in my mind the memory of as pleasant a day as I have spent for some time, and of a hospitality and kindness which one now looks upon as almost inseparable from a real lover of flowers, but which I have nowhere experienced more fully than at the plant grounds of the Woodlands Nursery.—D., Deal.

I would use this opportunity in correcting an erratum in my paper on the Hyacinth, arising from a mistake of the printer, in the lists of sorts. The words, "single blue," should have been placed over Charles Dickens, and included those flowers under it, and also Baron Von Tuyl, over which it seems placed in mistake alone.

### THE ARCHERFIELD MUSCAT GRAPE.

I HAVE just read the interesting account of your search for this sort in France, and at once admit that you have excellent reasons for believing that it does not exist there, after finding all the varieties you name merely variations of that peculiar and excellent Grape, Chasselas Musqué. I must, however, candidly confess that your admission of this fact strengthens my opinion that you have not seen the true Muscat de Syrie as exhibited at Lyons in 1860; for how can the description of any one of the sorts named by you tally with that given of the Muscat de Syrie, the berries of which are described as "oval, large, and amber-coloured?" in fact, the terms used by the Congress in describing this Grape are exactly the same as are employed in describing the Muscat of Alexandria, the berries of which are described as oval, large, and amber-coloured. The difference in the two sorts is, that in the former the bunch is described as "serré"—i. e., crowded; and in the latter "très peu serré"—i. e., but little crowded. Now this, as you know, is a very accurate description of the Muscat of Alexandria, and I therefore assume that the Muscat de Syrie is correctly described. The great difference between the two sorts is, however, the time of ripening. The former, according to the report of the Congress, ripens in the south of France the end of September and October, the latter at the same time as the Royal Muscadine, which would be about six weeks before the Muscat of Alexandria.

I place a full reliance on the report of the Congress, for, as you well know, men meet at such places to find out the truth, and to make a true report.

I am not surprised to find that you made fruitless inquiries among the French pomologists at Montpellier, about this Grape, for I have always found such a peculiar "insouciance" (to use their own term) among French amateurs, as to what has taken place even in a neighbour's garden, and they seem in a very short time to forget and think old and out of date every flower and fruit that may have been exhibited a year or two since. It is something new, no matter whether in name only, that attracts their attention.

That there is a large, oval, amber-coloured, early Muscat Grape differing in all respects from the Chasselas Musqué race,

we must take as an established fact, and this sort we must introduce to the Chiswick gardens to be compared with the Archerfield Muscat.

I may remark that the descriptions of the well-known varieties of Grape given in the report from which I have quoted, are remarkably correct, and I may add that my Vines received from France under the name of Muscat du Puy-de-Dôme or Muscat de Patras, differ most remarkably in their foliage and habit from Muscat Eugénien.—T. R.

### AIR-ROOTS ON VINE STEMS.

SOME time ago I observed in THE JOURNAL OF HORTICULTURE some remarks of Mr. Fish on the probable treatment which Vines receive to induce them to produce air-roots along their stems. My object in writing the following is not to give my own opinion, but merely to relate a few instances of where I have seen them most abundant, and the circumstances under which the Vines were placed.

I was some time ago in the habit of visiting a garden, the houses of which were low flat-roofed lean-to's, and their floors from 2 feet to 3 feet below the level of the surrounding ground. In the two early vineries were pits filled with fermenting material in order to produce a constant vapour, and induce the buds to burst more regularly. The Vines were planted in an outside border, and trained one rod to a rafter. They had large dark green foliage, bunches large and well proportioned, but the berries did not colour well, and there were some few instances of their shanking. At every spur of these Vines were large tufts of air-roots hanging like goats' beards, only much stronger, and not less than 6 inches in length. Had there not been a few instances of the berries shanking, the want of colour might have been attributed to the want of light, as the interior of these vineries had a very dark and sombre appearance, owing to the large foliage of the Vines, increased by the enormous quantity of air-roots.

I have sometimes observed these air-roots on Vines, although not to the same extent as the above, where they had been early forced and heavily cropped, and their roots dragging out a miserable existence in a cold, wet, deep border, and the inside temperature ranging from 60° to 70° in the cold short days of January and February. The Vines were syringed twice a-day with tepid water, and occasionally water was sprinkled on the flues and passages, but not to that extent to produce what is called a saturated or over-moist atmosphere.

I have also observed some Vines have a tendency to produce air-roots, while others in the same house, and having precisely the same treatment, have their stems as free from air-roots as a walking-stick, which is a proof that some Vines more than others have a tendency to produce air-roots; but the reason why such should be the case I must leave to older and wiser heads than my own.—T. R.

### ROSES FOR THE SEA-COAST.

E. C. will feel obliged if the Editors will inform her what Roses would be likely to succeed best near the sea on the Cheshire coast. The garden is tolerably sheltered, but the high winds of the spring and autumn must be felt by them.

E. C. wishes for the names of the most hardy Hybrid Perpetuals, and any other suggestion that can be given to insure a good bloom in the autumn.

[In your part of the Cheshire coast you ought not to grow Roses on standards, for two reasons—there are strong gales from the sea, and your soil is too light for the Dog Rose stocks. Such a soil grows Roses by fits and starts, being very moist at times, and too dry in the height of the growing season, causing the leaves to get dry and dark, in blotches, by the end of June. The sea air is not injurious to Roses, for they grow as well in the Hebrides, Stornaway, for instance, as they do about London. What you really require is a selection of free, strong-growing Roses, but not rambling growers, all on their own roots, and we have made the following selection on purpose for this very consideration, whether the Roses are to reside on the coast, and anywhere inland. There is not a dwarf, nor a puny grower in the list, nor yet a Rambler. (Those marked with \* make the longest growths.) 1, Anna Alexief; 2, Anna de Diesbach; 3, Baronne Hallez; \*4, Baronne Prevost; 5, Belle de Bourg-la-Reine; 6, Caroline de Sansal; 7, Comtesse Cecile de Cha-

brillant; 8, Due de Rohan; 9, Duchesse of Norfolk; 10, Empereur de Maroc; 11, Evêque de Nîmes; 12, Géant des Batailles; 13, Général Jacqueminot; \*14, General Washington; 15, Gloire de Santenay; \*16, Jules Margottin; \*17, Lord Raglan; 18, Louis XIV.; 19, Madam Boll; 20, Madame Charles Crapelet; 21, Madame Furtado; 22, Madame Vidot; 23, Sénateur Vaisse; 24, Triomphe de Lyona.

The way to manage this class of first-rate kinds would be to cut them down rather close the first two years, or until you had three, or four, or more strong, healthy shoots from the very bottom, so that they would not readily get hide-bound by any sudden check. After that to be very sparing in the winter pruning, but to thin-out the plants well in summer, after the first bloom is over.]

## THE INTERNATIONAL EXHIBITION OF THE ROYAL HORTICULTURAL SOCIETY.

In resuming our account of this great Exhibition, we must, in the first instance, notice some of the fruit shown in the Miscellaneous Class. To Messrs. Lane & Son's magnificent pot Vines, loaded with large and handsome bunches, we have already alluded; but there were several other exhibitions which for want of space we were under the necessity of passing over. From Mr. Meredith, of Garston, there came a collection of twelve bunches of finely-grown Grapes of different varieties, for which he received a first prize. Among them were included a splendid bunch of Muscat Hamburg, Black Barbarossa also very fine, and excellent bunches of Kempsey Alicante, Lady Downe's Seedling, Black Prince, and Nixon's Seedling. M. Chantrier, of Paris, had some remarkably fine Pears, most of which were of much larger size and higher colour than the same kinds grown in this country; and his fruits of Beurré Clairgeau, and Beurré d'Arenberg in particular, were magnificent. He well deserved the equal first prize which was given him, and a similar award was also made to Mr. Young, gardener, to W. H. Stone, Esq., Havant, for a basket containing ten handsomely-grown Pines, a number which but few gardeners in this country could cut at one time.

Mr. Moore, Redland Lodge, Bristol, had also a basket containing six Queens. R. Webb, Esq., of Culham House, Reading, sent several kinds of Nut, some being of his own raising, such as Daviana, raised from the Cosford, Emperor, Webb's Cob Filbert, an improved form of Cob, and Close Hudd, said to be very prolific, growing in clusters of eight or more. In addition to these the Cosford, White Spanish, and Scarlet Filbert were also shown by the same gentleman, the collection receiving a third prize.

Mr. Snow, gardener to Countess Cowper, Wrest Park, to show the comparative hardness of his Muscat Hamburg, exhibited a bunch grown on a pot Vine, in a late vinery without fire heat, and it was well coloured, and, as far as could be judged from appearance, quite ripe. Good exhibitions of Grapes also came from Mr. Tillery and Mr. Bwyne, some excellent Morello Cherries from Mr. Tillyard, and Damsons from Mr. Hall, gardener to Captain Tyrrell, Ealing.

A fruit rarely seen at horticultural exhibitions was exhibited by Mr. Flower, of Stratford-on-Avon, being *Musa Cavendishii*, which was so successfully grown at Chatsworth some years ago, and at some other places, but which is seldom now seen. The fruit-spike was well furnished with the Banana-like fruits, but these were far from ripe.

F. J. Graham, Esq., of Cranford, exhibited Graham's Bergamot, a variety which is supposed to have sprung from the Winter Nelis. It is said to be very prolific, bearing in clusters of twenty and upwards in favourable seasons, and to be rich in flavour, ripening in the beginning of October. In shape it is like the Autumn Bergamot, but longer; and the skin is dark green and russeted, becoming of a pale cinnamon when ripe. It is much heavier than the Autumn Bergamot, two fruits weighing more than six of the latter. It received a first-class certificate.

A seedling Apple, very like the Golden Noble, came from Mr. Reed, of Sydenham Hill; and from Mr. Jesse Thomas, six unnamed seedlings, all of which are said to be great bearers.

The Derby Local Committee forwarded a numerous collection of Apples and Pears, including many of the newer and less-known kinds, as well as some probably of local origin. They were generally fair specimens for the climate in which they were

grown; Beurré de Capiaumont and Louise Bonne of Jersey were of good size; Duchesse d'Angoulême, not so good Autumn Bergamot was small, but highly coloured; and to Gansel's Bergamot, the same remark is equally applicable. Both Blenheim and Ribston Pippin were good. It would be very desirable if the other Local Committees of the Society would on future occasions follow the example set them by that at Derby; for the leading varieties being collected from all parts of the country, the adaptabilities of each, as regards climate, could then be determined, as well as the differences in appearance and flavour which occur in certain kinds when grown in different soils and localities.

From Mr. G. Lee, of Clevedon, Somersetshire, there came several good specimens of Apples, among which were some fine Alexanders, and about forty kinds of Pears, mostly of large size. We particularly noticed some very large and well-grown fruit of Calabasse Grosse, Chaptal (an excellent stewing Pear in use at the same time as the Catillac), and some very large King Edward's Pears. Captain R. Trevor Clarke had a Queen Pine Apple grown near Weedon in a heated border in the open air, being the fruit of a premature sucker turned out early in June; and he has found that with plenty of heating material beneath them, plants so treated make roots and suckers freely. The Pine in question was remarkably heavy for its size, probably weighing about 3 lbs., but of course it was only partially coloured.

Of foreign fruit there was also a large display, the most extensive collection coming from Burdin, Maggioro, & Co., of Turin, who contributed 322 kinds of Grapes, 170 of Pears, and 91 of Apples. The Grapes were chiefly those adapted to vineyard culture, and of small size, and they did not appear to present anything superior to what we already possess. Among the Pears we observed good fruit of several of the new Belgian kinds; on the other hand there were such as Messire Jean, Blanquet d'Hiver, and others which, at least in this country, are worthless.

M. Grégoire Nelis, of Jodoigne, had a numerous collection of Pears, including many new seedlings of his own raising, among which some are likely to prove acquisitions; as yet, however, there are only a few named, the rest being distinguished by numbers. We happened to be present when some of them were tasted, and found that one variety, marked as 17, and which, in outward appearance, bore considerable resemblance to Marie Louise, was considered very good, possessing an abundance of juice; another, 27, was also very juicy and refreshing. Of other varieties, Colmar d'Arenberg was of large size; Calabasse Grosse, likewise large; Uvedale's St. Germain, also of good size, and more yellow than in English fruit; Duchesse d'Angoulême, fine; Beurré Clairgeau, small, and only slightly tinged with red next the sun, whilst many of the English fruit of that variety which were exhibited were not only much larger, but of higher colour; Bergamotte Louvain was a large fine-looking Pear resembling the Gilgil, and bronzy red next the sun; Joséphine Bouvier was a very large fruit of a greenish-yellow colour, and much russeted near the base, but apparently not ripe. We also noticed a large Pear like Calabasse Grosse, but larger; Duchesse d'Orleans appeared to be also a promising sort.

The Horticultural Society of Namur contributed upwards of 200 kinds of Pears, and more than 80 sorts of Apples. Among the latter, Belle du Bois appeared the same as another large Apple under the name of Bedfordshire Foundling; Reioette Grise was very fine; Court-Pendu Plat and Barcelona Pearmain were also good. Of the Pears, Colmar d'Arenberg was very large; Fondante de Noël was remarkable for having a showy bright red cheek; Beurré Diel, under the name of Beurré Incomparable, was of good size, and so was Van Mons-Léon-le-Clerc, Doyenné Comice d'Angers being also very large. The whole of this collection, however, having been previously exhibited at Namur, had suffered considerably from that cause as well as in the carriage.

M. Borchers, of the Royal Gardens, Herrenhausen, Hanover, exhibited 173 sorts of Apples, and 78 of Pears, the whole of the fruit beautifully coloured; indeed, many of the varieties were those cultivated for their beautiful appearance—such as Agatappel rother, Marienapfel schöner, which was yellow in the shade and intense crimson on the sunny side; and Reioette rothe Maus, with a beautiful dark crimson cheek. The Apples, 109 in number, from M. Konzelman, of Wurtemberg, were also very showy, including fruit of many of the best varieties grown in this country. Extensive collections of Apples were also exhibited by M. Müller, Straubourg; M. Jahn, Meiningen; and C. Van

de Putte, Middleburg, who had also 75 varieties of Pears, among which were Beurré Clairgeau, very handsome; Passe Colmar, very small; and Alexandre Lambré, large. Spanish Bon Chrétien was shown as Beau Présent d'Artois, Catillac as Grate Mogul; and another name, Lob den Cours, we may state, to save learned research and profound speculations, was meant for Shobden Court.

Sweden brought forward a very good exhibition of fruit and vegetables, considering the northern latitudes in which they were produced. Among the Apples we observed Red Winter Calville and the Red Astrachan, rather smaller than when grown here; and Alexander and Gravenstein were of good size; and an Apple unnamed was the true Golden Pippin, and another the Court of Wick. The Pears were generally small, not apparently attaining the same degree of perfection as the Apple. We noticed the Swan's Egg and Autumn Bergamot in their number, and a branch of a kind called Monille Bouche, with eighteen fruit in a foot in length. The fruit bore a striking resemblance to and was probably identical with the Achan which is so common in Scotland, where it is considered excellent though found to be worthless farther south. Bonne Rouge was a small Gansel's Bergamot. Jefferson and Green Gage Plums of good size were also shown, as well as some very good well-ripened Oranges, and Black Hamburg and Royal Muscadine Grapes, both bunches and berries being of tolerable size. Of Potatoes there were 92 sorts, the tubers being generally small, but in some cases they were as large as ordinary Potatoes of English growth. The Carrots from Stockholm were, both red and white, of fair size, the Early Short Horn being the best; and some tolerable Musselburgh Leeks were exhibited. The Kohl Rabi, from Stockholm, was not only large but solid; but what struck us most was some good roots of the true Red Castlenaudary Beet, grown in Lapland, in lat. N. 64° 59'; the Kohl Rabi from the same inhospitable climate was of fair size, but the Carrota small.

Norway contributed fruit as well as vegetables from as far north as latitude 63° N.; and this will not be so much a matter of surprise when it is considered, that though the sun may not be so powerful as farther south, he shines for a much longer time in summer days, whilst the gulf stream passing along the coast prevents the temperature falling so low in spring as might be supposed. The fruit consisted of Gravenstein, Ribston Pippin, Requette du Canada, and some other Apples, and Autumn Bergamot Pears. Of course the fruit was small, but it appeared perfect.

Among the vegetables there were very good blood-red Onions, some excellent red Beet, Kohl Rabi, Swedish and Globe Turnips, pretty fair Altrincham Carrots, and Parsnips. A case of well-grown cobs of Maize, containing several very ornamental varieties, was also shown by Dr. Schübler, of Christiania.

Denmark sent Seckle, Flemish Beauty, Easter Beurré, and some other Pears, and a few Apples, among which were the Gravenstein and Borsdorffer, which seem to succeed well, and to be the favourite kinds in the north of Europe; sixty kinds of Potatoes, some very nice White Belgian, and Short Horn Carrots, Celeriac, Yellow Malta, and Yellow Finland Turnips, together with a sort called the Long Yellow Borsfield, almost exactly the shape of a Carrot, and for which without seeing the leaves, it might easily be mistaken. Some roots of the Large-rooted Parsley were very large, and the Blood-red and Spanish Onions were excellent.

Hamburg and Altona exhibited some very fine Apples like the Nelson Codlin; good Chaumontel, Louise Bonne of Jersey, and Duchesse d'Angoulême Pears. The Alexander and Prinzen Apples were very fine. Dutch Mignonne was shown as Requette d'Or. The Vegetables consisted of excellent Onions, Carrots, Cabbage, Beet, and Mangold Wurtzel, Kohl Rabi, upwards of eighty sorts of Potatoes, a good collection of ornamental Gourds, and a few eatable ones.

Victoria, Tasmania, and British Guiana, sent the models of fruits exhibited in the International Exhibition, the two former also contributing their excellent samples of cereal produce.

Of the remaining portion of the Exhibition, the Gourds, from their endless diversity in size, form, and colour, were that which excited the most general interest on the part of the public. It would, however, be a Herculean task to describe the various modifications which were exhibited. Some were as much as a man could lift, others were no larger than a small green Gooseberry, with a prickly appearance; some were smooth, others caruncled all over; some resembled bottle, others tubes, and others, again, serpents. Then there were Pear-shaped and

Apple-shaped varieties, sorts like Oranges, and sorts like Turnips, self-coloured and striped kinds, orange, yellow, and green, and mixtures of all three.

The largest eatable Gourd was the Mammoth, from Mr. Fryer, Chatteris, which weighed 176 lbs., and was an extraordinary and well-grown example of the kind; one from Mr. Rowe, gardener to Mrs. Nicholl, Watford, weighed 120 lbs., and another 103 lbs.; whilst the Potiron Jaune from the Society's Garden, was about two pounds lighter. Messrs. Veitch had the heaviest Gourd of foreign growth, a handsome Mammoth, weighing 154 lbs.

It must, however, be remembered, that large as these weights appear, much heavier have been grown in this country, one having been produced some years at Sutcombe, in Devonshire, weighing 245 lbs.; whilst in favourable seasons 120 lbs. is not uncommon. Making allowance for the unfavourable character of the past summer, it cannot but be concluded that the weights attained were highly creditable for the first competition which has as yet taken place in this tribe.

The finest collections of Gourds eatable when ripe, came from Mr. E. Stuart, Nice, in the foreign class, and Mr. Cattell, of Westerham, in the English; the latter having about 140 kinds. M. Limclette, of Namur, had likewise a beautiful collection, among which we noticed some excellent Pâtissons of various kinds; but the Bottle varieties we should suppose were intended to belong to some other class, at least we should be sorry to eat them at any time. Several other kinds came from the same exhibitor, such as Cucurbita leucantha longifera, the Syphon, and the Powder Flask—a large green mottled variety related to the Bottle kinds, and only eaten when young. The Cyprus Gourd, a large yellow and green kind, is said to be very good. The green and white Spanish Pumpkins are also large and excellent kinds. The Turban Gourds, though sometimes eaten, may be regarded as ornamental rather than useful varieties.

The most extensive collection of ornamental kinds was that from Mr. Cramb, gardener to the Earl of Ducie, Tortworth Court, and it included about 150 sorts. Messrs. Veitch had a hundred or more, among which were a great variety of pear-shaped and apple-shaped varieties, Turbans, Turk's Caps, Fireball (a large dark green and red kind, 10 inches or a foot in diameter), and Argora (dark green striped with white and mottled with light green). Mr. Fleming, of Cliveden, had Potiron Jaune of good size, and about 70 other sorts; one of which, called Nugget, was all over warts, its exterior presenting somewhat of the appearance of a cob of Indian corn. Extensive collections likewise came from Mr. Tillery, of Welbeck, and Mr. Pragnell, Sherborne Castle; whilst Mr. E. Stuart, of Nice, had a fine specimen of Cucurbita leucantha upwards of 4 feet in length, and of the Wax Gourd, Benincasa cerifera, the green surface of which is covered with a waxy bloom, a long Snake Gourd, and some others. In the Class for six ornamental varieties Mr. Stuart was first with an orange and yellow-striped sort of the Turban breed; an oval dark green kind striped with lighter green, and four others; but the whole having no names attached, it would be needless to describe them. Mr. A. Ingram, of Reading, showed Mammoth, Turban, Valparaiso, an Improved Mammoth, and pear-shaped kinds; and good exhibitions also came from Mr. Higgs, Mr. Tillery, and some others. The best and the most really useful collection of Gourds was that from the Society's garden, which included more than 150 kinds, all of which were legibly labelled with their names, a point too generally neglected by the other exhibitors, and to which attention should in all cases be made imperative, and particularly in exhibitions like this where foreigners, who cannot be supposed to be conversant with our productions, come to see and learn.

There was a very good show of roots and vegetables, which were generally creditable, without, however, presenting anything remarkable. The Potatoes in particular were very good, and appeared free from disease. The largest collection came from Mr. Farquhar, gardener to Colonel Gordon, Fyol Castle, Aberdeenshire; it comprised 118 sorts, and would doubtless have received an award had it arrived in time. We may observe that from exposure to light the Potatoes exhibited rapidly greened—a hint to those keeping Potatoes to seclude them from the light—Messrs. Ivery & Son, of Dorking, had some excellent roots of Dioscorea batatas from 12 inches to 16 inches in length. We also noticed an Egg Plant, from Mr. Standish, the fruit of which was about 5 inches long and 4 inches in diameter, violet purple and yellowish-white, but not ripe. It was brought from Pekin by Mr. Fortune; and when subjected to cultivation for size will no doubt produce much larger fruit.

We must not conclude our account without noticing Messrs. Sutton's stall, to the general appearance of which we have previously alluded. Besides Gourds, of which there was an excellent show, the various roots were remarkably fine, particularly the Mangold and the Turnips. Of the former there were fine roots of the Orange Globe, Long Yellow, and Red Intermediate. Of the Turnips, Gray Stone, Dale's Hybrid, White Globe, and Sutton's Green Top Hybrid appear among the best. Of Swedes, the Champion is very globular, solid, and sweet; and the Kohl Rabi, both purple and green, was also remarkably fine. Onions, both Reading and Blood-red, were equally good; and among Parsnips, one called "The Student," raised from the wild Parsnip by Professor Buckman, is said to be of fine flavour. Of Potatoes upwards of a score of varieties were shown, and of these Early Racehorse is said to be a very early kind, and Daw's Matchless to be very productive. About 150 specimens of ornamental and useful Grasses were exhibited, and 60 kinds of seed, among which were some very fine samples of *Anthoxanthum odoratum*, *Festucas*, *Cynosurus*, and *Clovers*. Two large Cabbages of a kind called Robinson's Champion, from Mr. Robinson, of Shaw House, Melbourne, Derbyshire, found a place here. One of these was 56 inches or 57 inches round and perfectly solid.

In closing our remarks on this Exhibition, we cannot but express a hope that similar international displays, which are calculated alike for the advancement of British and foreign horticulture, may be held at least once in three years; and the experience gained on this occasion will, doubtless, enable the Society to render such shows even more interesting and instructive than that which has just been closed. We have only to add, that the arrangements of Mr. Eyles were admirable.

### HELICHRYSUMS.

I PURCHASED seed of these in spring from a celebrated London establishment, and they are truly beautiful, some of them very large, and quite as double as a Pompon Chrysanthemum; the only fault is their unsightly habit of growth. The general run of them are much too tall: cannot they be dwarfed? Scarcely anything is impossible in the hands of our skilful hybridisers. By careful sowing of seed from the dwarfest and most freely flowering kinds from year to year something might be effected in this way. For a late-autumn bed we have scarcely anything to equal them in the way of annuals. For bouquet purposes in winter they are invaluable, as well as for making table bouquets when bloom is an object. I only wonder they are not more extensively grown. Give me a kind distinct in colour, about 8 inches high, good habit, and a profuse bloomer, and I, for one, will employ it for bedding purposes.—JOHN EDLINGTON, *Crom Castle*.

[Quite true, and as you have put your hand to the plough, you can draw the furrows so straight, you are just the most likely man between London and Crom Castle to do that which you want the hybridisers to do for you. But hybridising being the crossing of distinct species the one with the other, will never do the smallest good with these Everlastings. You must do them by cross-breeding in-and-in. Recollect to gather two or three large bunches of cut flowers, just before they open, of every batch of your seedlings; dry them in the shade, and use them for table and drawing-room decoration in the winter, when fresh flowers are few and difficult to procure.]

### ESTABLISHING AN EVERGREEN HEDGE.

I HAVE in my garden a worn-out hedge of Holly, Laurel, and Bay. Some of the shrubs are dead, and others worn out. I propose to grub this up, and beg to ask your advice about planting another of Yew, or Arbor Vitæ, about 80 feet long and 5 feet high. Which will be the best and grow quickest? Will the ground require much preparation? If three-foot-high plants are used will they soon grow up? How many ought I to have for the length of 80 feet?—A SUBSCRIBER.

[For good appearance, or for shelter, or as a blind, Arbor Vitæ is as good a hedge as any, and is the cheapest, and the easiest obtained of all our hedge plants; but it is not so good as Holly and Yew against cattle. Inside a garden it is the least hurtful hedge to anything near it, and it would grow luxuriantly in soil that would starve a Thorn hedge, and in your

case it will be the best succession to the old Hollies, Laurels, and Bays. The roots of Laurels, however, are as bad as any poison, if any of them are left in the ground. Therefore, take good heed that every morsel of the Laurel roots, at all events, and all the other roots, if you can, are taken out, and that will be a sufficient preparation for the new hedge of Arbor Vitæ; but you should plant it in fresh surface soil, and should not use plants under 3 feet high; but 4 feet high is the right size to make a five-foot-high hedge in two years, or at the very farthest in three years. At 3 feet high the plants should stand apart 18 inches from centre to centre, and 4 feet high the plants should be 1 foot 9 inches centre from centre.]

### REMINISCENCES OF DRUMLANRIG PARK AND GARDENS.

FEW noblemen, either in England or Scotland, have contributed more to the success of gardening than the noble house of Buccleuch and Queensberry. Dalkeith Palace and Drumlanrig Castle have been long celebrated as two of the principal seats of first-class gardening in this country; the former especially for its fruit and forcing departments; the latter for its varied landscape and extensive flower gardens; while each of them at the present day appears to have an unlimited supply of all that a gardener requires. All energetic gardeners who estimate their profession aright—not to speak of enthusiastic amateurs, who have an uncontrollable delight and pleasure in seeing the art elevated to the highest degree—lose no opportunity of visiting and inspecting all such places, with the view of estimating and comparing what to adopt, and what to avoid. And there is as much to be learned the one way as the other, in so far as they are more immediately concerned. But it has a tendency to do a great deal more than this, it quickens the perceptions, strengthens the intellect, and imparts a stability to the character and conclusions of a man which is at all times to be admired. Such a person is no victim to prejudice in his own opinions and practice, but, on the contrary, is ever ready and open to conviction, if pressed home clearly to his mind.

It was in one of these beautiful autumnal days of September, remarkable as being one of the finest months of the whole season, when Sol rose in a hazy, humid-like atmosphere, and gathering strength in his onward course dispersed the misty clouds into space, and shone forth in all his regal splendour, that the writer, in company with another companion, dropped in, *vid* Thorhill, to see Drumlanrig Gardens.

We could not help admiring the clean appearance of this picturesque village in the general landscape, very much more enhanced by having broad streets, and a straight line of Limes on either side the cross-roads, of considerable length, planted like the Boulevards, Paris. Crossing the river Nith, we enter by a simple gateway into, and along, a spacious drive exceedingly well kept, with broad grass margins and Thorn hedges, defining the boundary of the woods on the rising ground to the left, and of the splendid pasture, where numerous cattle were browsing, to the right. Onwards we speed admiring the variety of scenery all along the fertile valley in the foreground, in the lowest part of which the Nith meanders, and away in the far background the diversity of hill and dale now rugged and pointed, indicative of barren slopes, and again clad in patches of golden hue, where the hand and head of the agriculturist had been busily engaged reclaiming. We pass, what we learned was the home farm, and a few minutes more we sight the kitchen garden on the right in a hollow square, and on the left a spacious Gothic building, high up on the rising ground, with a lovely steep grassy bank receding therefrom to the spot where we alighted. We were quite as pleased as surprised to find that this was the head gardener's residence, and is only another proof, in fact one of the most convincing, of the value which the noble owner attaches to the head of this department, and to the profession generally.

Finding that Mr. McIntosh had gone to the flower garden, we directed our course thither, passing through pleasure grounds in the highest order of keeping, planted with a goodly number of deciduous trees and evergreen bushes, and the spacious walk so designed as to command now and again extensive views of the surrounding country. There is, seemingly, a great want in this extensive demesne; at least, in so far as came under our own observation, of aged trees. The greater part of those noble representatives of the forest are diminutive in size, and, therefore, lack that venerable and stately appearance which a com-

mination of them always present in the true English landscape. In fact, we are not sure if this part of Dumfriesshire is altogether suited for maintaining that vigour requisite towards promoting a green old age in forest specimens, and the reason why it may be argued so, is, that there appeared to be a superabundance of lichen, that most insidious parasite, overgrowing the trunks and even branchlets of many of the best examples in these pleasure grounds. This remark, however, does not apply to the evergreens, which are luxuriating in the greatest profusion wherever they appear.

After having travelled a good half mile from the kitchen gardens, and noting with an eye of satisfaction the beautiful and broken ranges of hills lying in the far background for three-parts of a circle, to be seen from mere than one stand-point in the route, we dip into a leafy glen, and come upon numerous bushes profusely clad with scarlet berries, giving a character of individuality and gorgeousness which singled them out as one of the most important features of flower-garden decoration we ever saw. This is a ladies' bush out and out, for the titled ladies of the Castle besides using these clusters of berries for all sorts of indoor decoration, deck their hair with the fruit of *Berberis vulgaris*, for this is the identical bush which tradition sets down as being grown in quantities in the hedgerows of England some centuries ago, but banished owing to the foolish, we should say, notion at that time, of "its presence being injurious to the growth of corn."

Another half mile brings us within the precincts of the dress flower garden, and confronts us with the castellated mansion. To do justice to these and to the large kitchen and forcing gardens, besides other adjuncts in connection with this princely establishment, would fill a respectable-sized volume. We shall be content at present in dealing with them in an abstract way, jotting down the general features of the establishment, and detailing anything which particularly took our fancy.

At first sight in coming within the area of the flower garden proper, we anticipated from the impressions conveyed to our mind by those who had gone before us, that it would be of much greater extent; although, be it understood, that it is much larger than any other one that ever came within the range of our observations. Nay more, be it credited, that from the rising character of the ground the series of terraces that necessarily pervade the whole design from the altitude of the ground on which the Castle is built, it is very much larger than it actually appears from the level where we first took our estimate. Again, the landscape gardener from the very nature of the architectural design of this Græco-Gothic building, was compelled to adopt as much of the true English landscape as possible, to correspond with the bronial nature of the residence. It is one of that sort of massive square buildings, having four turrets at right angles, which must be characterised more for beauty of outline and symmetry in all its principal parts, than for any claim to what architects would call æsthetic grandeur. Its position is commanding. The terraces that recede from it are all that could be desired in design and finish, and the flower garden in the blocks below could not positively be seen to better advantage, whether as regards the disposition and form of the beds, or the material with which they are composed.

Taking one's stand then on the highest of the series of terraces immediately contiguous to the south front of the Castle, the scene is one of great beauty, and testifies with far greater power than any verbiage, however powerful, what has been and can be achieved by the landscape gardener, in exchanging natural for artistic beauty, and at the same time blending and rendering the one subsidiary to the other's wants without destroying the reformed landscape.

A broad terrace of grass and a twenty-four-foot gravel-walk run parallel to one another for nearly a quarter of a mile along this front, and both on the east and west side is a chain-border centred with yellow *Calceolarias* and Flower of the Day Geranium, and the outer margin of the design planted with Miss Trotter Verbena. A counterpart of this is on the east side with the margin planted with "Lady Victoria Scott." Both were densely bloomed, much better so than we have seen them elsewhere this season. As we saw them they looked remarkably artistic, owing to the white-sanded walks being nearly on a level with the flowers. The whole of the series of terraced flower gardens were densely in bloom, and standing as we were some 20 feet above the highest of them, and as much more above the lowest, they required to be so to give them a decided effect. The designs were various, and the materials with which they were

filled were as varied. Here was a panel of native Heath, like an immense oblong piece of embroidery, set into grass and relieved with silver white sand. Close beside it is a very chaste design with an elliptic centre, and four circles cross-cornerways surrounded with a handsome curb stone, and filled with yellow, scarlet, variegated, and blue, as represented by *Calceolarias*, Geraniums both plain and variegated, Verbenas in scarlet and purple, and *Lobelias*, intended for speciosa, from seed but not true to name. Farther down again we have designs in scrolls and almost every conceivable form all as full of flower as any one could wish. *Gazania*-beds were as full of flower as their compeers, and as such make most effective beds. Verbenas *Tweediana* and Lord Raglan, were each conspicuous among their fellows, so was Purple King, worthy of its name. *Perilla* looked exceedingly well, so did Flower of the Day. Mangles' Variegated and Trentham Scarlet Geraniums maintain their superiority among a host of incomers. There was no tint of blue equal to *Nemophila insignis*, and no golden yellow equal to *Leptosiphon aureus* for a blaze; neither was there any *Pentstemon* so very effective in masses as it was grown here, as *Tynninghami*. Then, commingled with these in the lower grassy parterre are clumps of *Rhododendrons*, and all sorts of American shrubs, bordered with *Cotoneaster*, *Yews*, &c., all disposed so as to have a good effect; while the banks sloping upwards to the high ground on the west side is one mass of Laurels cut to run on the same slope as the grassy terraces, and terminating in the woods which form an amphitheatre-like sweep all round the north-west.

We cannot enter into details about the Horse-Chestnut avenue and the rosery, the greenhouse, and pits all contiguous thereto. Nor can we even descant upon the great variety of rustic houses that is to be seen in going round. We cannot even touch upon the carriage drives that diverge from the mansion; nor look into the rocky and rookery. One word we have to say before leaving for the kitchen gardens. There is a complete absence of statuary, there are no fountains, and the only representation of the kind is a few seats of Peterhead granite. It would be impossible to suppose a place in a higher order of keeping. It was a pleasure too, to see his Grace taking a lively interest in the disposition of some fine *Arbor Vitas* which Mr. McIntosh was transplanting.

The kitchen garden lies very low, so low in fact, that when the Nith overflows its banks the drains get completely choked up. Between the garden wall and the drive already noticed, is a mixed herbaceous flower garden containing an assortment of many choice plants, and interspersed with *Dahlias*, *Hollyhocks*, and such like. Here the *Roses* were blooming magnificently, the foliage being in the very best of health, and large, fine-formed blooms from these glorious Hybrid Perpetuals, which find so much favour. Here are, also, the finest groups of *Carnations* that the writer ever saw. For health and vigour, both of blooms and of young grass, they are very remarkable. We were amused with seeing the circular mounds round the layers all covered with river stones, and on asking the reason, Mr. McIntosh informed us that the birds were so troublesome with scraping down the mounds, that he used it as a precautionary and preventive measure, and he found that it was not only effective in this respect, but from their being good conductors of both heat and moisture, the plants luxuriated much better. *Gladioluses* were also in fine feather, and *Brenchleyensis*, in groups, were very effective, so was also that gorgeous decorative plant, *Tritoma uvaria*.

Entering within the walls we confronted a range of forcing-houses, with the borders in front of them planted with several varieties of variegated Geraniums, all in fine foliage and profuse bloom. *Bijou* was, undoubtedly, one of the best, then *Countess of Warwick*, Flower of Spring, and Silver Queen, the latter positively a gem of the first water, having elegant foliage, and a fine light shade of rose flowers. Among Verbenas, where numerous varieties were on trial, we noted as the very finest scarlet having a large truss and distinct eye, *Foxhunter*, positively grand, only rather sprawling in habit, I am afraid. Then there was *Firefly*, also a first-rate one, with a less vigorous habit, and less every way. *Ariosto Improved* is the best of the new shades of purple, and will make an effective bed. There was a very good dwarf *Calceolaria* named *Canariensis*.

We had then a peep into the Pine-houses which are extensive. Pines were extra fine, a whole house of them containing not less than eighty fruit was all at the ripening-point. Sixteen had been cut and presented away the day previous to our visit, and

there could not be less than fifty to cut. Many of them would weigh 4 lbs., and all were nearly uniform in size. These were Queens. The latter and Smooth Cayennes are chiefly grown in this establishment. Another house, scarcely a fortnight behind these noted, also contained fine fruit. There were some very fine samples of the Hurst House variety swelling-off large fruit. In a word the whole of the Pines were in excellent health.

Cucumbers and Melons had each a house for themselves, bore fine crops and large individual samples. Among the former we noted Henderson's Champion, Turner's Favourite, Robinson's Black Spine, Kenyon's Favourite, Munro's Rabley, an exceedingly beautiful variety and very large; and Spary's Prize, which Mr. McIntosh has grown here and elsewhere for a period of thirty-eight years.

Then there was a house devoted to Figs, and a good plant of *Psidium Cattleianum* in fine fruit. Another house, some 30 feet or 40 feet long, was completely filled with *Passiflora edulis* hanging as thick as what would be considered a good crop of Peaches, with its rich oval-shaped fruit—quite a sight of itself. Then there were several houses of Grapes, some 100 feet long in all, corresponding with the same length of Peaches in the principal range. In this range also is an Orchid and fine-foliage-house containing some good examples of *Caladiums*, &c.; and among Orchids we noted a very fine variety of *Zygopetalum Mackayi* having very much richer and denser spotting than the common variety; also, good plants of *Dendrobium formosum*, and several other good ornamental Orchids. Then there were housefuls of *Achimenes* in bloom, and a whole house of *Gesnera splendens*, all grown for Castle decoration. To give some idea of the whole of the glass accommodation, we may state that the principal range is about 380 feet long, with shed and other accommodation at the back for garden purposes the same length. Then a broad gravel walk separates this from the next low range of pits some 170 feet long, for Pines and bedding-out plants. Then a range 210 feet long, with Melons, Cucumbers, Pines, &c. Next, comes another sixty-foot house, at back wall for Vines, and adjoining this a one-hundred-and-twenty-foot range for foliage and other decorative plants, and one nearly as long for bedding stock. Had the plan of these fruit and plant houses been all laid down at once, it would have been so arranged as to have a much better effect externally. We had not time to go round the kitchen garden, but we do say that the whole of this immense establishment is in faultless order as to keeping, and the wonder is that such a great variety of subjects is so masterly handled in a practical point of view. We were highly gratified with our day's excursion, and do say to all lovers of gardening who have it in their power, Go and see Drumlanrig.—JAS. ANDERSON, *Meadow Bank, Uddingstone.*

### CULTURE OF ROSE DE MEAUX FOR MARKET.

I HAVE about half an acre of the old Rose de Meaux which I grow for flowers for market, and I find that when they have been planted down two or three years the vigorous suckers they throw up in the summer die about one-third down from the top, which gives the trees a most miserable appearance all the winter. Now, what I wish to know is, Would it injure the trees to cut them down now? The leaves have entirely fallen, and the tops of the trees are beginning to die away. I have treated a piece in that way in the spring and with good results; but while the trees remain healthy I never cut them, as it cuts away so much bloom. I ascribe their dying to the extreme lightness of the soil here. I give them cowdung every autumn when they are dug, and should like to cut them down to a foot of the ground before I do it. They grow about 2 feet to 2½ feet with us.—A MARKET-GARDENER.

[You treat your Rose de Meaux entirely on the wrong principle for supplying the market with cut Roses. In the first place, it is the dwarfest and the weakest-growing Rose of the old race that is now good for anything. In the second place, it is always grown on its own roots, or at least ninety-nine times out of a hundred, and just as often it is propagated on the wrong principle for supplying the market with cut Roses—that is, it is taken up, divided, and replanted, which is equivalent to planting none but suckers, which make ten times more suckers in their turn than need be, far more than if the plants had been raised from proper layers.

Then, you prune at the wrong season for Rose de Meaux, and you prune it on the wrong principle, and under a very wrong though very old idea. Rose de Meaux and all like it, ought, most certainly, to be pruned at the very end of October, and not later in any one year. Then you do not prune the shoots down to but just one-half of the length they require to be cut to for a mass of bloom.

The effect of that wrong system is this—the effort to produce flowers, and the quantities of cut bloom, and the sprigs and stalks with them for market use, is like what we call “sponging.” The last year's wood of this Rose is so sponged by the end of the blooming season, that very little sap goes up for making the midsummer shoot; but suckers come up tall instead, and they having not sufficient time to ripen get frosted-off.

That is exactly your case, and the case of many hundreds. In your extra light soil at Fulham, what you should do with Rose de Meaux is this. Have your stock in three parts, in three successions, one part to be transplanted into the best ground the beginning of every November, and to be close pruned, and in March the ground to be mulched, and nothing is better than the cocoa-nut fibre stuff, then all your stock would be renovated every third year, and so on every year.]

### ORCHIDACEOUS PLANTS.\*

THE second part of this very beautiful and trustworthy work is just published, and is fully equal in every respect to the first part. It contains *Trichopilia crispa marginata*, *Lælia gigantea*, *Odontoglossum nævium majus*, and *Cattleya Warneri*. We wish we could transfer a copy of the exquisite portrait of this last-named Orchid to our pages. Its specific name is well bestowed in honour of Mr. Warner, and he may justly be gratified by being commemorated in association with a flower so pre-eminent among its fellows.

“This,” says Mr. Warner, “is one of the most beautiful of the many *Cattleyas* of the *labiata* section with which our gardens abound. It was first bloomed by ourselves, and was shown in 1860 at the Royal Botanic Society's exhibition in the Regent's Park, on which occasion a silver medal was awarded to it. We have no information as to its introduction, but believe it to have been obtained from Brazil. Our plant, which has now flowered with us three years in succession, has sometimes had more than twenty flowers expanded at one time.” It blooms in “June and July, which makes it very valuable as an exhibition plant.” The directions for the cultivation of this, and, indeed, for every Orchid portrayed, are copious, and such as every Orchid-cultivator may safely follow.

### PLANT FROM NAZARETH.

I SHALL be much obliged if you will tell me the name of the enclosed plant? It was found growing on the walls at Nazareth, and the little green shoots in the summer become covered with those silvery leaves. It makes a very pretty basket-plant out of doors in the summer, but I fear it is not hardy enough to stand our winters.—H. S. A.

[It is *Paronychia arabica*, a native, not only of Palestine, but of Arabia and Egypt. It is a very pretty, interesting, and peculiar-looking plant. If you could spare us a rooted piece of it we should be obliged.]

### THE ALOE FAMILY.

THE family of the Aloes—one of the largest groups of succulent plants—is now so seldom met with in cultivation, that its members fairly rank among what may be called neglected plants. Yet they comprise species of considerable beauty, added to an aspect so strikingly exotic, that their absence from any general collection of greenhouse plants is to be regretted. We propose to explain the leading features of their cultivation, in the hope that the absence of all difficulty in their management, may, in conjunction with the reasons already stated, aid in reviving the taste of amateur cultivators for a selection of them.

\* *Select Orchidaceous Plants.* By R. Warner, F.R.H.S., and E. S. Williams. L. Reeve & Co., London.

First—of propagation. The majority of these plants are prolific of suckers or side shoots, from the base of the plants, which, if taken off any time, during either spring or summer, somewhat dried before planting, and then put into moderate-sized pots, well drained, and filled with sandy loam, or loam mixed with a third part of pounded bricks, will root readily in a few weeks if the soil is just kept moderately damp—neither so wet as to rot the base of the sucker, nor so dry as to exhaust its juices. The pots containing these suckers or cuttings may be set in any part of the greenhouse, on a shelf or stage, or in a window where they will have the full sun; and from the time they are planted, such suckers will present all the appearance of mature plants, on a reduced scale.

In many cases these side shoots, or suckers, may be taken off with roots attached, and then require only to be potted in pots suitable to their size, and at once form established plants. Some of the species, however, do not naturally produce a supply of suckers or side shoots, except in rare instances—some very rarely, or never. Whenever, in the case of such species, suckers or side shoots are produced, advantage should be taken of the opportunity to propagate them, by planting them as already noticed. But when it is required to propagate any kind which obstinately refuses to furnish materials for propagation, the only alternative is to destroy the centre or heart of the plant, when side shoots will be produced, and these, when large enough, must be treated as cuttings.

The after-culture of these plants is as easy as their propagation. The principal features of their treatment may be pointed out under the heads Soil, Watering, and Situation.

The proper situation for them is the greenhouse—that is to say, while they are just protected from frost on the one hand, they do not require more than a temperate degree of heat on the other, as far as artificial heating is concerned. We find them to do well and flower very abundantly, in a small greenhouse having a south-west aspect, the lights of which are never opened for the purpose of "giving air," except, perhaps, in the hottest days of summer; and to which fire heat is only applied with the view of just keeping out the frost. The species which are of suitable size will do well in a sunny window, and may be kept permanently inside, from one year's end to another, without suffering from their confinement, care being taken to remove them if necessary beyond the reach of frost, or, if a slight frost should catch them, to thaw them gradually by the application of the coldest water, before the sun has had an opportunity of breaking their icy chains. The small sorts do admirably in a Wardian case; and any or all the species might be successfully grown in one of those Wardian cases "of a larger growth," which we hope soon to see interesting many an amateur who cannot bestow sufficient time and attention on a greenhouse of the ordinary construction.

As to soil, the Aloes can have no better compost than pure yellow loam, of a free and open texture, intermixed with about a fourth part of pounded bricks broken up quite small, the dust as well as the small lumpy pieces being added to the loam, and the whole intimately blended. All the species which attain a moderate size should have pots in proportion, not only on account of their producing roots freely, but also because their thick fleshy leaves sometimes render the plants awkwardly top-heavy, if they are in too small pots. The pots must, however, be thoroughly drained upon the most efficient plan; and, providing this is done, and the kind of soil above recommended is used, there need be no fear of employing pots of too large a size

for the larger sorts. As with the majority of greenhouse plants, potting may be done any time from early spring onwards through the summer; it is best not done too late in the season, though it may be done at any time if due care is afterwards exercised in the application of water. The small sorts never need large pots.

As to watering, the general rule is to apply water just before the plant reaches that condition in which it would begin to droop or shrivel. In all cases, therefore, it must be less frequently given in winter than in summer, on account of the difference in the amount of evaporation going on at these two periods. Certainly Aloes and other succulent plants require less water within a given period at any season than most other plants, on account of the slower process by which moisture passes away from them. In summer they may need watering once in two days—seldom, if ever, daily; in winter they may not need any attention of this kind for a month, or even two months, at a time. The only danger, however, is that of giving too much in winter; and it may, therefore, be taken as a safe rule to wait for indications of shrivelling in the lower leaves before water is applied at that season. With proper soil, potting, and moderate care, they will not be liable to be over-watered at any other season.

We shall now enumerate a limited selection of distinct kinds which are worth growing, either for their exotic aspect, the curiosity or beauty of their foliage, or for the showiness of their flowers. The flower-stems of most of the larger Aloes form simple upright racemes, which are clothed with drooping tube-like flowers, comparatively large; and these, when highly coloured, are very ornamental:—

**RHIPODENDRON.**—*R. plicatile* has a forked stem, the leaves arranged in two rows, and the tubular red flowers straight.

**PACHIDENDRON.**—*P. africanum*, 8 feet, red; *P. ferox*, 6 feet, yellowish; *P. supralæve*, 5 feet, orange, are some of the larger single-stemmed forms of Aloe, with straight flowers.

**ALOE.**—*A. purpurascens* is a tall forked-stemmed species with reddish flowers; *A. vulgaris*, 12 feet, yellow; *A. lineata*, 5 feet, scarlet; *A. prolifera*, 2 feet, orange; *A. saponaria*, 4 feet, red; *A. suberecta*, 3 feet, scarlet; *A. variegata*, 3 feet, pink; *A. albo-cincta*, 3 feet, has its orange flowers in a branched or corymbose head. These also have the flowers straight.

**GASTERIA.**—*G. nigricans*, 2 feet, red; *G. subcarinata*, 2 feet, orange; *G. verrucosa*, 2 feet, red; *G. maculata*, 2 feet, scarlet. The flowers of these are tubular, curved, and more or less swollen; and they are mostly tipped with green.

**APICRA.**—Small plants, with greenish-white flowers, small, and somewhat two-lipped; they are more curious than showy. *A. spiralis*, *A. pentagona*, *A. imbricata*, are interesting-looking plants.

**HAWORTHIA.**—Small plants similar to the Apicras, and destitute of showy flowers, these being greenish-white. *H.*

*translucens*, quite transparent; *H. stroviensis*; *H. planifolia*; *H. margaritifera*; *H. retusa*; *H. reticulata*, are interesting species.

With the above, or a similar collection, the Aloe-house would be kept gay and interesting from early spring quite through the summer. The Haworthias and Apicras are especially suitable, from their diminutive size and curious structure, for the smaller Wardian cases, usually seen placed in windows.

Some of the species of Aloe are interesting as furnishing the drug Aloes employed in medicine, and which seems to be obtained from several of the kinds having large juicy leaves. Three kinds are prepared; the best by draining the leaves, the next by pressure, and the third or worst quality by boiling.—*M.*—(*Gardeners' Magazine of Botany.*)



*Aloe picta.*

IXORAS.

THIS is exclusively a tropical genus, and almost exclusively from tropical Asia, only one being known as a native of elsewhere, *Ixora odorata* being found in Madagascar. So Asiatic in its residence, the genus has appropriately received an Asiatic name, *Ixora* being a Malabar idiom, to which the flowers of *Ixora stricta* are offered by the natives. This species is the first that was introduced to Europe, in the year 1690, being described and figured by Rheede in his "Hortus Malabaricus" under the native name *Schettii*.

Two of the more recently-introduced species we now place in our columns.

**IXORA GRIFFITHII** is known to many gardeners by the more descriptive name of *hydrangeaeformis*, for both in its heads of flowers and its foliage it has considerable likeness to the *Hydrangea*. It was discovered by Mr. Griffiths at Mergui, and introduced in the year 1845 by Messrs. Low, of the Clapton Nursery. It is a large branching shrub, the branches terete, rich brown. Leaves large, oblong-ovate, acuminate, somewhat cuneate at the base, tapering into a short stout petiole, penninerved, with numerous transverse veinlets, glabrous, as is every part of the plant. Stipulea broad, short, acute. Cyme large, broad, nearly flat at the top, compound, with a great number of salmon coloured (or sometimes yellow and scarlet) flowers, with a pair of leafy bracts at its base. Calyx very small, with four short blunt teeth. Corolla salver-shaped, salmon colour (or at first orange yellow, then red orange); the tube long, slender; the limb of four rotundate, very obtuse, spreading lobes. Anthers sessile, inserted at the mouth of the tube, and lying horizontally between the lobes. Style a little longer than the tube; stigma bifid.

**IXORA JAVANICA** has been called *Pavetta javanica*, but there is no doubt that it is a true *Ixora*. It is portrayed and described in the "Botanical Magazine," t. 4586, and is very different from the *I. javanica* of Paxton's "Magazine of Botany," xiv. 265. The species we are now considering was imported from Java by Messrs. Rollisson, of Tooting, and bloomed first at their nursery in March, 1851.

It is entirely glabrous; branches round, and the young ones coral-coloured; leaves from 4 inches to 6 inches long, pointed, oblong-ovate, leafstalk short; stipules stem-clasping at their base, terminating abruptly in a spinous point; corymbs at ends of the branches, large, peduncle long and coral coloured; calyx nearly turbinate, limb erect and 4-lobed; tube of corolla red, 1½ inch long, its limb orange red, an inch across, lobes egg-shaped; anthers linear, very deciduous; style long as corolla; stigma thickened, bifid.

Of all the newer introductions into this beautiful family, the above occupy no secondary place, though we still give the palm to the old favourite of our youth, the *Ixora coccinea*. The several species as yet found require a high tropical temperature,

but are somewhat different in their habit; some being of thin upright growth, and others of a more bushy character. All are improved by frequent stopping when young, and tying the lower shoots out to the sides of the pot to give them a wide base at bottom. With these preliminaries, to meet various inquiries, I will advert a little to their propagation and general culture.

The propagating is generally done by cuttings. The best time is about the middle of March or the middle of June. By the first time plants may be potted-off, and established in small pots before winter. The best cuttings are short stubby shoots about 3 inches to 4 inches long, getting hard at their base, though the upper part should not be so hard. Those clipped off with a heel close to the older stem are best. Cut clean at the base with a sharp knife, remove the lower leaves, and either take away the second tier of leaves from the base, or shorten them a little. A four-inch pot will hold a number of cuttings. Fill it better than half full of drainage, with a layer of pebbles and small charcoal on the surface. On this place to within 1 inch of the top a mixture of equal parts of heath soil, sand, and charcoal in little bits, and three-quarters of an inch of silver sand over all, water, and allow the pots to

drain. Then insert the cuttings, filling up the dibble holes with sand and water again. When the tops are dry, place the pot, plunged in a sweet hotbed, about 15 inches from the glass, cover with a bell-glass or hand-light; shade only a little in very bright days, preferring to dew the foliage or the soil inside the glass on such days to keeping the cuttings dark; and give a little air at night to prevent damping. When the cuttings are striking, maintain a moist atmosphere, and a temperature by day from 70° to 90°, by night from 65° to 70°, and bottom heat from 85° to 90°.

*After-treatment.*—As soon as the cuttings are well struck, pot-off into small 60's; when filled with roots place in large 60's or 54's, in which they will stand the first winter, and be kept growing slowly in a temperature not below 65°. In spring nip the shoots so as to make them bushy, and when fresh shoots are breaking shift into a larger pot, and keep growing freely all summer in a stove heat. If the plants are strong, they may bloom the next year—that is, the third season from the cuttings; but for strong plants they will require from three to four years to bloom well. The following will be the general treatment according to the size of the plants:—In March, sponge

and wash the plants as a matter of precaution. Tie-out the side shoots, and plunge the pots at least half-way in a hotbed. By June the plants will want another pot—say from a four or five to a six or seven-inch, or from an eight to a ten-inch, according to size. Any shoots threatening to steal strength from the others should also be stopped, to give two or three shoots instead of



*Ixora Griffithii.*



*Ixora javanica.*

one. A high temperature, a moist atmosphere, and plenty of the syringe must now be used to cause free growth, and keep the plants clean. If fly, or thrip, or bug appear, there must be smoking and sponging at once.

This treatment should continue, with a little shade in very bright sun until September. The pots should then be raised out of the hotbed, the plants placed nearer the glass, and in full light, and though syringing may be resorted to at times, it should gradually be discontinued, and water at the roots also lessened, but never so as to cause the plants to flag. The object is to ripen the shoots formed. As October and November come the water must be lessened, and the temperature fall then, and on to February, to 60° and 55°, the roots just kept healthy and no more, and care taken of the leaves by syringing and sponging on a fine bright day. The rest is thus given at the dull season, as the flowers are much more pale when produced in winter. About March, or earlier, the plants are moved into a higher temperature by degrees, and at first the pots are partially, and ultimately three-parts, plunged in a sweet hotbed, with openings below the pot to secure drainage. The temperature may be gradually raised to 75° and 80° with air, and, of course, waterings at the root will be more needed as the temperature rises, and the syringe must be pretty well used before the bloom-trusses show. Then a drier atmosphere should be given, and the plants be lifted out of the bed as the flowers open, and kept cooler and drier to preserve the bloom.

With established plants the same course must be continued year after year if grown on the continuous system—that is, blooming every year; there being, in addition to shoots blooming now, other shoots that will bloom in the following year. For this purpose, as soon as the flowering is over, cut back these flowering shoots with all the remains of bloom; syringe and wash the plants, and place in a moist heat to encourage growth; then harden that growth in September and October, rest in winter, and start again in spring and summer in an increased temperature.

*Soil.*—The best is rich heath mould, and fibry sandy loam nearly equal parts, and a tenth part of bits of charcoal will do no harm. When the heath soil is poor, add a small portion of leaf mould. We have seen fine specimens grown in three-parts fibry loam, and one of silver sand, and one of leaf mould, sweet and aerated before being used.

*Watering.*—Pure rain water is best: a good supply at roots and overhead is needed when the plant is growing. Clear weak manure water will also be of service from the time the flower-trusses show until done flowering, and you wish the wood to grow until September. From thence use no manure water, and lessen the quantity of the common until the following summer.

*Pruning and Resting* have been referred to.

*Hotbeds.*—Few plants when growing rejoice more in the fumes from sweet decomposing organic matter. Dung and leaves do well. Tan is more cleanly. The best of all are dung and leaves below, and a foot or more of sweet tan on the surface. Whatever plunged in, care should be taken that the pots or roots are *not too hot*, that the bed is perfectly sweet, and that no worms can get into the pot. There are various modes for preventing this.

*Drainage* must be well attended to; no plants suffer sooner from being placed in a marsh.

*Insects.*—These are numerous, but will be little trouble if the plants are well grown in summer as advised. If kept in too low a temperature they are sure to be seized with thrips, bugs, and scale, and all other similar enemies. Smoking for fly must be resorted to whenever it appears. For the others nothing is better than tobacco water or size water, and thoroughly washing the plants with the syringe afterwards. When shut up in a moist atmosphere of 80° to 90° on a summer afternoon, well syringed, and the tan-bed stirred-up, there are few insects, or men either, that could long put up with the treatment.

I would particularly allude to this high temperature and moist atmosphere in summer as essential to success, as I have had several complaints that the *Ixoras* cannot be managed in a warm greenhouse temperature, about 50° in winter, and very airy in summer. It is waste of time attempting such plants under such circumstances. I have given them up for a time because I have not enough heat for them. Those who can command a dryish atmosphere of from 55° to 65° in winter, and a fermenting-bed in spring and summer, securing a bottom heat of from 80° to 85° and 90°, and a top temperature of from 70° to 85°, and 5° to

10° more in sunshine, with abundance of atmospheric moisture, will, no doubt, succeed with these lovely plants, which are well deserving all such attention.—R. FISH.

## SMALL BIRDS.

I AM glad to see that those who contend for the thinning of the number of these little thieves have such a powerful ally as your correspondent, J. Robson, whose letter in your last Number, if observation and clear argument go for aught, will, I think, carry conviction to many of his being right. I have often urged myself that a proprietor of a field of Cabbages, or such like plants, is no fair champion of small-bird protection, inasmuch as his experience only tends one way, and that in his favour.

Now, I have only a moderate garden, but I also keep fowls; and the moment they are fed a complete swarm of these little nuisances descend upon the corn to an extent that has often nearly starved my very young chickens. In fact, I always have to wait until the corn is picked up by my fowls to cheat these depredators. I can also bear melancholy testimony to their destructive propensities in the Gooseberry-stem line; while, as for caterpillars, I do not believe their so-called destroyers have troubled themselves at all about them. The advocates for their preservation state that they only pick out the diseased buds; but, if so, the remedy must be similar to that of cutting off one's head to cure the toothache; for my Gooseberry bushes bear little else but leaves through the exertions of these nuisances.

Having shot a number of sparrows, and in nearly every instance, on dissection, discovered nothing in their crops but my corn, I have come to the conclusion that where corn and young shoots abound, the sparrows leave the caterpillars to the gardener's care altogether. Your correspondent's remarks about the balance of birds are, I think, indisputable.—FOREST HILL.

[It is quite true that sparrows will eat the food intended for chickens; but it may be given to the chickens in the outhouse, or under a coop so covered that the sparrows cannot commit a felony. If they were excluded from the chicken food hunger would make them more sedulous after caterpillars, and thus all would go well. Besides, sparrows require caterpillars for their young ones, for which corn and other chicken provender is unsuitable.]

BEING a constant reader of THE JOURNAL OF HORTICULTURE, I have taken particular notice of what has been written about small birds, some even saying that the fruit crops are all depending on them. I, for one, beg leave to corroborate all that Mr. Robson says against them, and beg to prove that he has not overstrained the evil they do here. In the first place, if they are not kept in check, we shall not be able to get any fruit of several sorts. They begin here with the Pear tree fruit-buds as soon as the leaf falls, and these are all gone by Christmas. (By the way, I cannot make out one writer, who says, after all the buds were picked off, he had the best crop on that tree.) Then they begin on the Gooseberries and Currants, and finish with the Plums. Then, as soon as the Cherries are beginning to colour, away they all go, and so on all the summer as the fruit ripens—Strawberries, Raspberries, Currants, Gooseberries, and lastly, the Morello Cherries.

But the greatest grievance is yet to be told. I wonder what the small-bird protectors would say if they saw a wall 200 yards long and 14 feet high of all the finest kinds of Pears, and all a fair average crop, and two-thirds of them spoiled by the small birds? They pick a small hole near the stalk long before the Pears are ripe, and then these fall off half-rotten. All the standards they serve the same, and Apples likewise.

The humane will say, "Why, net all your trees." Now, this is no small cost to net a whole garden, standards and all. Then I find any kind of fruit is never so good netted, not even Strawberries. We want all the sun and air to the fruit we can get without shading with nets. The humane have made out a great plea in their favour by keeping down the caterpillars. I agree the sparrows eat a few; but about a farmyard, where there is always plenty of sparrows, the farmer's Gooseberry bushes are always first attacked by the caterpillar, which proves they do not save his bushes. Two dressings of hellebore powder will do more than all the small birds.

We must keep down the birds, or it is of no use planting fruit trees of any sort here. Blackbirds, bullfinches, willow biters, comits, and many of the sparrows, must be kept in check; and

the robin redbreast is very destructive among small fruits. I shall be glad if Mr. Robson can find out the best way of keeping in check all these fruit-destroyers, and give his experience to the public.—G. M., *Lincoln*.

### MARKET-GARDENING IN WEST CORNWALL.

THE market-gardening district of west Cornwall comprises portions of the following parishes on the shore of Mount's Bay:—St. Paul, Madron, Penzance, Gulval, Ludgvan, and Marazion. In length this tract extends about five miles, while in breadth it varies from half a mile to two miles. Beyond these limits, however, within the last few years, on the east in the parish of Perran-uthnoe, and on the west in the Deanery of Buryan, small patches of ground, sheltered by the cliffs and with a warm southern aspect, have been employed for the cultivation of early vegetables. These, however, are the exceptions, and the district may be thus generally bounded. In breadth, however, it should be observed, several circumstances affect its extent. To the west in St. Paul the cliffs approach close to the sea, and it is only the more sheltered portions of their sides that are available. In Madron, the adjoining parish, a more level formation of the ground permits the gardener to carry on his work for some two miles inland, and the same in Gulval and Ludgvan. But in these two last-named parishes a strip of marsh land, only partially drained, intervenes between the beach and the gradually-rising ground in the cultivation of the market-gardener. In Marazion the cliffs, again approaching the sea, narrow, and, with the partial exception of Perran-uthnoe before mentioned, bound these limits.

The soil of this district is of varied character, its central portion consisting of a rich loam of considerable depth, formed by the decomposition of the subjacent greenstone rock. On the western side it gradually merges into the granite, forming at this point of juncture a belt of soil of more than usual fertility. When this change of strata is complete, and the soil rests entirely on the granite, or, as it is locally termed, the "growan," its fertility varies according to the character of that rock, and the amount of felspar which enters into its composition. Should this mineral predominate, disintegration then freely takes place, and the result is a light clay, which by the intermixture of decayed vegetable matter forms a loam capable of producing large crops of roots, especially of Potatoes, and of Cabbage and Broccoli.

Towards the eastern portion of this district, resting also on greenstone and other trappean rocks, the soil receives a considerable mixture of sand, rendering it light without, however, apparently diminishing its fertility, though slightly varying the character of its produce, which, in addition to Potatoes and Broccoli, consists also of Turnips and Carrots, both of admirable quality, enhanced in value by the very early period at which they become fit for the market.

The Scilly Islands are our competitors, the character of the soil generally resembling that now described, while their sea-girt position secures them in a still more remarkable degree from the ravages of frost.

I should now refer to the circumstances which render this small tract of land so especially suited for vegetable culture.

Of its soil I have already spoken, but that of itself would not account for the extent and profit with which the market-gardener has carried on his business, for in this respect many other parts of England would hold out to him at least equal encouragement. It is true that his position on the sea-shore has enabled him to use the sand and seaweed which every gale from the south throws up in large quantities; and, indeed, in former years these were his great reliance. Latterly, however, as we shall see when manures are spoken of, they have in a great measure been superseded by guano, rags, and other fertilisers.

To the climate, beyond all doubt, the success of his labours must be attributed; the even temperature of Mount's Bay, the result of the warm flood of the gulf stream, supplying him with the most favourable conditions under which his work can be carried on. In winter severe cold is rarely known before Christmas, and although in the early months of the year he shares the common lot of the English farmer in his experience of both frost and snow, a very few days are usually the limit of his trial. When he does thus suffer it is commonly in April, or even in May, when his Potato crops are advancing towards maturity, when in other parts they are usually still beneath the soil. Wind,

however, and especially that from the north-west, is an enemy that, with respect to his main crop, the early Potato, he must carefully guard against; and this is one of the causes that prevent the extension of the gardening district on the higher and more exposed lands.

As regards the convenience of markets, the completion of the Cornish lines to Penzance has of course greatly increased the trade. One delay in transit, however, still exists in the break of gauge at Truro, necessitating a loss of time, which, with such perishable goods, frequently becomes of serious consequences. How rapidly the business has of late years extended will be seen from the fact that twenty years since one small steamer from Hoyle, a port on the Bristol Channel, six miles from Penzance, conveyed everything that west Cornwall had to send eastward, which was not carried by the sailing coaster or by coach. The cost of railway carriage is amply repaid by the higher value of the earlier crops; but of those that follow a considerable portion is still sent by water to Bristol, and is there divided—a part going on to London, while the rest seeks the northern markets of Birmingham, Manchester, and Liverpool, now among our best customers. If we may judge from recently advancing rentals, a still further development of this trade is at hand.

The facility of rapid steam communication being shared by other countries, Portugal and other parts of the south of Europe are found in some degree in successful competition; but the great cost in transit of the heavy crops of Potatoes, and especially of Broccoli, secure for west Cornwall a pre-eminence for the main supply which she seems likely to retain.

Having thus shown that the climate of this district is the main cause to which must be assigned a success in vegetable culture, I will in the next paper explain the mode in which the market-gardener's labours are conducted.—W.

(To be continued.)

### ENTOMOLOGICAL SOCIETY'S MEETING.

THE September Meeting of the Entomological Society was held on the 1st of that month, the chair being occupied by J. Lubbock, Esq., F.R.S., Vice-President of the Society. Amongst the donations received since the last meeting were the publications of the Royal Society of Munich and the Society of Arts, together with a copy of the fine work on the insects of Mozambique collected by Herr Peters, published by the Prussian Government, presented by J. W. Dunning, Esq., Secretary.

Mr. F. Bond exhibited a specimen of the Oleander Sphinx (*S. Nerii*), taken in a garden at Hastings on the 2nd of August last; also a species of *Tinea* new to Britain (although previously taken in Ireland), regarded as *T. confusella* by Mr. Bond, but which Mr. Stainton considered to be the *T. nigripunctella*. The latter gentleman exhibited living specimens of *Zelleria hepariella*, showing its singular attitude in repose—resting on the four anterior legs, the two hind ones being elevated at the sides of the body, and the head downwards like an *Argyresthia*. The insect had repeatedly been referred to the genus *Gracillaria*, although its real relationships had been pointed out, and a new genus (*Zelleria*), formed for its reception. It had, in fact, been described as *Gracillaria rufipennella*; also as *G. Haighii* by Mr. Gregson (*Zool.* 5295); and as *G. Taxella* by Herrick Schäfer. The specimens exhibited were taken on Yew trees on Mickleham Down. Mr. Stainton also exhibited a list of thirty-six entomologists resident in Canada, showing that the science was making progress in that part of the world.

A letter was read from Miss Farington, of Wood Hall, near Preaton, requesting information as to the habits of an insect that had occurred in prodigious numbers in an old grocer's shop in Preaton. It had not been observed previously to the present year; but it now infested the furniture, beds, &c., to a great extent, and was stated to eat holes through the clothes of the inhabitants. The insect proved to be the domestic *Ptinus hololeucus*, which is said to have been imported from Russia about twenty years ago in a cargo of leather.

General Sir J. B. Hearsey exhibited various fine insects from India and China, including a gigantic species of Gadfly, a cotton insect (*Aphis* sp.), &c.

Mr. F. Bond exhibited a species of Tortriadae taken on Poplars near London in June, which had been regarded as a new species and described by Dr. Knagga under the name of *Spilonota Doubledaii*, but which proved to be the *Pædisca oppressana* of Treitschke, and of Stephens' and Doubleday's catalogues.

Mr. G. R. Waterhouse exhibited seven new British species of Staphylinidæ (Rove Beetles), of small size, which had been previously described by Erichson, Kraatz, Mulsant, &c.

The Rev. Hamlet Clark read descriptions of four new species of Water Beetles, one a native of Spain, and three new to the British Fauna—namely, *Hydroporus severus* from Stowmarket, *H. derelictus* from the Orkneys, and *H. relatus* from Bradgate Park, Leicestershire. He also announced *Hydroporus 5-lineatus* of Zetterstedt as a species also new to this country.

Professor Schaum, of Berlin, read the description of a magnificent species of Scaritidæ, recently received from Laos in Cambogis, collected by the late Mr. Mouhot under the name of *Scaritarchus midas*. Only a few specimens of this insect had been captured, which had been sold at the price of £5 each.

The Secretary read a series of proposed alterations in the by-laws, the chief of which had for its object the annual election of the Curator by the Society at large, instead of his appointment by a permanent one made by the Council as heretofore.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

MANURES to be wheeled out of the framing-ground on to the vacant spaces, to be afterwards dug-in. *Beet*, take up the roots carefully, the tops to be twisted-off above the crowns; to be stored away in any dry place free from frost, in sand. *Broccoli*, the Cape varieties which are now heading to be secured from frost. *Lettuce*, give air at every favourable opportunity, more especially to the young plants. The Cabbage varieties intended for winter use will not require it so freely. *Parsnips*, it is sometimes more convenient to have them taken up and stored in the root-cellar, but digging them up as wanted is generally preferred for flavour. *Rhubarb*, clear away the decayed leaves, and cover the crowns of the roots with old tan or any sort of loose litter. *Scorzonera* and *Salsafy* may now be taken up and preserved as are other culinary roots.

### FLOWER GARDEN.

If it is found that the stock of any useful bedding-out plant is insufficient, not a day should be lost in getting-in cuttings. In the case of such things as *Ageratums*, *Heliotropes*, dwarf *Lobelias*, &c., it is useless wintering young stock, as these grow so freely in heat and are so easily propagated from soft cuttings, that a few good-sized old plants which require but little room and attention in winter, will furnish a very large quantity of plants by bedding-out time. Hardy creepers to be examined at this season, and all superfluous shoots removed. All stakes and ties to be examined and secured from the stormy weather of winter. Lay turf; prevent the accumulation of leaves on borders and walks. In situations where peat mould is scarce, its substitute, leaves and sand, may, at this season, be gathered into a hole in any out-of-the-way place to decompose. Proceed diligently with planting trees and shrubs in the pleasure ground and flower garden. Keep the lawn neatly mown at this season, as on this depends, in a great measure, the neatness of it through the next summer.

### FRUIT GARDEN.

Pay every attention to getting the wood of Peaches and Apricots well ripened by exposure, shortening, &c. Proceed with the planting of fruit trees; spread the roots out carefully, and close the soil about them with the hand. Never shake the tree up and down, as it disarranges the roots very much. Root-prune when the trees are growing very luxuriantly, or take them entirely up and replant them. Gather any remaining fruits—such as Quinces, Medlars, Walnuts, &c. Commence pruning as soon as the fall of the leaves tells of the diminished action of the sap. Put in cuttings of choice Gooseberries and Currants, and make fresh plantations of Raspberries.

### STOVE.

When the sun shines out clearly, give air to maintain the plants in a hardened and ripened state, and take care not to increase the temperature with a moist atmosphere, or you will start the plants into growth, which, at this season, would be quite ruinous. The plants under such treatment must, of necessity, be constitutionally injured; the sap cannot, at this season, for the want of light, be properly elaborated, and, consequently, the shoots come weak and spongy, and are liable to damp-off. The art of cultivating exotic plants lies more in studying the

seasons of excitement and rest than is generally imagined. Shading will not now, under any circumstances, be required.

### GREENHOUSE AND CONSERVATORY.

It is sometimes necessary to employ a fire occasionally at this period of the year, as much to produce an active circulation of air, and to remove all superabundant moisture, as to make up for the deficiency of solar heat. However, assistance of this kind must be applied with caution, so as not to interfere with the system previously recommended of gradually reducing the temperature to correspond with the natural decline of the season. Examine Heaths and hard-wooded plants, and when they are found to be dry water thoroughly, so as to moisten the whole of the ball; also, look sharply after mildew, and dress the plot with sulphur directly the enemy is perceived. Get Azaleas tied into form as soon as can be done. Look carefully after red spider on *Bossias*, *Chorozemos*, &c., to be got rid of by laying the affected plant on its side, and well washing the underside of the leaves with the syringe, applying the water with as much force as the foliage will bear. Repot strong-growing *Pelargoniums*; plants that are fairly established, can hardly be too freely exposed to air, or kept too cool. Also, keep *Cinerarias* cool and moist, and attend to repotting such as require it.

### PITS AND FRAMES.

Abundance of air and light to be admitted to these structures. If any of the lights be dirty, take them off, and wash them thoroughly without delay. Be careful in giving plants water, to apply it only to those that require it. Remove all mouldy and decaying leaves, and keep the interior as dry as possible. *Verbenas*, and all early-struck cuttings to have air at night to keep them hardy, but the lights must not be suffered to be off for fear of wet or frost. Watering to be done in the morning, and then as sparingly as is consistent with the safety of the plant.

W. KEANE.

## DOINGS OF THE LAST WEEK.

THESE have, to a great extent, been a repetition of the previous week's works.

### KITCHEN GARDEN.

In addition to slug-hunting and throwing lime and ashes over newly-planted things, some *Sea-kale* and *Asparagus* have been cleared of their leaves and stems to prepare them for forcing. When the stems begin to decay about the end of the month, it is a good plan to raise the roots intended to be first forced and keep them covered in a shed for two or three weeks. They seem to come away more regular and strong when placed in heat, after thus receiving a complete stoppage to growth and a short rest beforehand. Gathered also a lot of *Asparagus*-pods to be kept until spring for sowing, as, where much is wanted for forcing, there must be a sowing every year. *Asparagus*, *Sea-kale*, *Mushrooms*, and *Dwarf Kidney Beans* are four things we always consider to be improved by a little forcing; and where *Sea-kale* is sown every year, or the roots planted, there is no necessity for having mounds of manure over it out of doors, as placing the roots in soil moderately moist, and where darkness and a temperature of from 50° to 55° can be maintained, will furnish it in good condition. The same temperature just suits the *Mushroom-house*—I mean atmospheric temperature; if much higher the *Mushrooms* come leggy. A friend writes us to say, that "you give much too high a temperature for the bed when spawning—about 80°, and that 60° would be better." We only speak as we find. On spawning, were our bed only 60° we would put some fresh droppings on the surface to raise it a little higher. The heat will decline again after that; but as soon as the spawn is freely working the heat will rise again to 75° and 80°. When we refresh an exhausted bed with watering we always use water fully 80°, except in the summer season, when common water is hot enough. We should be glad to know, however, the experience of others as to the beds being cool at spawning time. After fairly set running the heat of the house will give enough of heat to the spawn. Took up portions of *Beet*, *Carrots*, *Scorzonera*, as after this time the worms are apt to seize them. *Artichokes* are still bearing well and are useful. *Jerusalem Artichokes* are with us now little used, so we appropriate an out-of-the-way place for them, and let them stand for years, getting a few roots when wanted. When much used they should be taken up and planted as carefully as *Potatoes*, every year, and then in good deep soil they will yield a good crop.

Pulled some of the best leaves from *Tobacco plants*, and hung them up in open sheds. We fear the tobacco of commerce, shag or otherwise, is getting as much mixed up as cigars; as, when used for destroying insects, it seems to have little of the same effect it had formerly, and much of what is sold as tobacco paper is dangerous to use. Turned-up all empty ground that could be spared to receive the benefits of aëration, but of this as yet we have but little.

## FRUIT GARDEN.

Continued pruning small fruit bushes as they could be got at. Would go over all Pears and Apples (dwarfs) that we could get at, as it is more pleasant doing it now than in cold winter and spring. Gathered most of the hardy fruit, as if not quite ripe the late sorts suffer quite as much by having a touch of frost. Our shelves for fruit are close, but we prefer them open-sparged, as stated some time ago, for fine late kinds. Besides the shelves, it is desirable to use dry, clean jars, and small barrels, well covered, but the fruit not packed in anything. *Walnuts*, *Chestnuts*, and *Filberts* well cleaned and moderately dried, keep well in new garden-pots, covered with clean paper, and a green sod put over the surface. We had the first hint of this from squirrel-preserves, their stores collected in autumn, when found in spring, were generally quite fresh and plump. In addition to them, we believe that a cool, dry cellar would be an excellent place for keeping all late Apples and Pears. Change of temperature is always injurious for keeping fruit. When a higher temperature is necessary to give flavour, the fruit can be moved for a few days to a suitable place. Turned round or lifted all *fruit trees en pots*, and the fruit being gathered. Dwarf Pear and Apple trees rather luxuriant, will have their roots pruned as soon as possible. Those that have borne profusely and made little growth, will have a mulching of something rich, which will keep the roots catering for the most of the winter. Young trees of Peaches, Apricots, Plums, &c., intended to be potted, should now be obtained from the nursery and potted at once, using rather small pots for the size of roots, spreading the roots out nicely, and potting as hard as possible, using soil in a medium state, neither dust dry, nor marsh wet. Any plants of last year in rather small pots may also be repotted, but not giving a large shift, and potting firm. If the leaves hang on after potting, or repotting, so much the better, and a slight sprinkling over the shoots and leaves on a sunny day, will tend to swell the buds, and set the roots running into the fresh soil. The securing this will be one great element of success next season, and this is the reason why planting in the end of this month is likely to be more successful than at any other time, as the roots get the benefit of the heat stored up in the soil.

## FLOWER GARDEN.

Notwithstanding the heavy rains, this is still too good to be meddled with, as nothing yet shows any signs of cold, except the tops of the *Perilla* in exposed places. I am rather surprised to hear that some gardens warmer even than this, were dismantled ten days ago, and the most favoured plants all pitted, and the beds sown with annuals, or made ready for bulbs. When I used to do things thus quickly, I never could please myself. Were I again to do these matters largely, I would take a sheltered border, or a piece naturally sheltered, such as between the rows of Raspberries and Currants, throw the ground into little ridges moderately firm, and there I would, in the end of September or the beginning of October, sow flower seeds rather thickly of *Nemophilas*, of kinds; *Collisias*, of kinds; *Enocheras*, of kinds; *Candytufts*; *Virginian Stocks*, of colours; *Saponaria calabrica*, *Silene pendula*, and others, and as they got up scatter a little ashes and lime about them. If very severe weather came, I would do just as I used to do, lay a few evergreen branches over them, or stick a few beside them, and if these were spruce or yew, vermin would not care for touching them. This would give an opportunity of clearing the bedding plants away properly, digging and levelling, and even previously exposing the beds to the air, and then before the plants got more than an inch or two in height, they could be moved in largish patches, never feel the moving, and grow with a regularity which they rarely do when sown in beds. Take a lesson from the accomplished gardener at Chiveden, add various-coloured Heartsease and spring bulbs, and how nice a spring garden any one might have, and everything get justice.

We have had several inquiries on this subject from those who wish to combine annuals, bulbs, and bedding plants, by just daubing the latter in among the former, and then the former

among the latter, with no regular digging of beds, &c., and telling me that such and such great gardeners do so and that successfully. Well, I cannot help it. We presume that our inquirers are quite as distrustful of their own greatness in gardening as I myself am, and, perhaps, more so; but I must say that I have little faith in anything that overrides system and work. I have seen such plans often followed, and the result satisfied some people; but to me, in general, the poor plants kept crying all the season to their neighbours to shake hands with them, which they resolutely refused to do, each standing stiffly alone in its dignity, if not its glory. All very well if the object had been for every plant to stand by itself as a solitary specimen, but rather out of place when the object was a mass of colour, and not leaves and flowers, alternating with good breadths of bare soil, as a contrast.

Again: we are obliged to a correspondent for telling us we were rather hazy in a short paragraph about *bulbs* last week. Our friend, aware of the importance of the bulbs having the chance of growing before the flower-beds are ready, does not see how he can do better than *pot* them, and cover them over, and then plunge pots and all together in the beds. Well, we have no fault to find, though a vast number of pots would be required if much was to be done; but still there would be an advantage in moving them in spring if the leaves were not matured by the time for planting the bedding plants. I have found, however, that bulbs planted in the free soil lift also pretty freely, and ripen their foliage when transferred to another place. The plan referred to was as a substitute for this potting, and perhaps we were not clear enough about the raised bed, which seems so hazy to our correspondent. Well, then, supposing it should be getting on towards Christmas before the flower-beds are just right for receiving bulbs. We wish to give these pretty well as much advantage in growth as if they were planted-out at once. Now, the raised bed—say 6 inches above the surrounding soil, and say for convenience 4 feet wide, is solely to secure drainage. Some 6 inches of rough rubble over that would do no harm, so as to let the rain pass away freely. Now, the position of this bed is of little consequence, it will do as well on a north border as anywhere else. On this raised bed we would place about 3 inches or 4 inches of roughish leaf mould, mixed with an equal amount of rough sandy loam, many of the pieces being from the size of Peas to Walnuts, and mixed together with lime—say a spadeful to a couple of barrowloads, to kill all worms, &c. This we would pat down, and place half an inch of sand all over, and on that we would set the bulbs; such things as Snowdrops close together, in rows 2 inches apart row from row; Crocus, not so thick in the row; Tulips, from 1 inch to 2 inches between the bulbs; Narcissus, large, 3 inches; Hyacinths, much the same; and cover all over with 3 inches or 4 inches of leaf mould or ashes. When these are wanted for the beds they will rise with good roots and balls, and will at once push away kindly into the well-turned pulverised soil—in fact, we often, from necessity, resorted to this plan of preparing, when we ultimately bloomed the bulbs in glasses, pots, vases, &c.

As the cold, wet nights are coming, Auriculas, Polyanthus, &c., should be got into frames where rains can be excluded and plenty of air given. Neapolitan Violets should be raised and transferred to the winter's bed, every runner being taken away; Chrysanthemums secured and top-dressed; climbers in conservatories and greenhouses regulated, the glass all washed and cleaned, and stages and shelves scoured, to prepare for getting in all the winter residents. We find that though climbers look beautiful in such masses in summer, much time is necessary to trim and regulate them for the winter, so that the plants in pots may receive their due amount of light.—R. F.

## TRADE LISTS RECEIVED.

André Leroy, Angers (Maine et Loire).—*Supplement au Catalogue de l'hiver*. 1860.

Thomas Rivers & Son, Sawbridgeworth.—*A Descriptive Catalogue of Fruit Trees (by Thomas Rivers)*. October, 1862. An admirable catalogue.—*A Descriptive Catalogue of Roses by Thomas Rivers*, 1862. A complete list of all the best kinds, with accurate descriptions, and numerous valuable remarks concerning them.

W. J. Nicholson, Eggescliffe, near Yarm.—*A Catalogue of Strawberries, Plants of which are Cultivated for Sale*. A descriptive catalogue of almost every known variety of Strawberry.

## TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

TO OUR FRIENDLY CRITICS.—One, not an "Ignoramus" though assuming that protecting signature, declares that "not one man in 10,000 would walk ten yards to look at anything on the seashore;" but what about the women-folk? Is Leech wrong in his sketch of the fair marine-shore searchers? "Ellen Gray" we excuse, if only because of her name, for saying—"I wish you would not urge people to keep bees; my uncle has bought Ligurians, and they sting worse than the old sort." One Scotch gentleman complains that we rejected his notes upon "Golf," and says it is quite as amusing as keeping canaries; whilst a second North Briton wishes us to publish three separate papers at a penny each! We are obliged for all this watchfulness over our interests, and we beg for its continuance; but what our opinions on the suggestions may be, following the example of Lord Palmerston on American suggestions, we will not reveal at present.

NECTARINES SHRIVELLING (*A Young Gardener*).—Perhaps your Nectarines were ripe when they commenced shrivelling, or the house might just be rather dry. Some kinds are more apt to shrivel than others when about ripe. Others are more apt to drop, and save themselves the trouble of shrivelling. We have noticed Nectarines, otherwise all right, begin to shrivel when, after several dull, cool days, a very sunny warm day has succeeded. A slight shade, or a sprinkle over the leaves with the syringe, would have kept them right, using the syringe chiefly on the lower side of the foliage or trellis.

CLIMBER ROSE AND OTHER CLIMBERS FOR AN ARBOUR (*S. P.*).—The quickest climbing Rose is not sufficiently good for such an arbour as yours; you must have a better, and less haste about it. Gloire de Dijon seems just a Rose made on purpose for your arbour. It will soon cover it, however, and be green more months than most Roses; and as for blooming, there is no end to it from the first day of the Rose season until the winter is fairly down upon us. There never was a better colour or a sweeter Rose for an arbour. And the Japan Honey-needle must be the second plant. This also is almost an evergreen, a very fast grower, and as to flowers there is no end to them; but it is for their most grateful fragrance they are so highly prized.

PIT-CONSTRUCTING (*An Old Subscriber, The Oaks*).—What you seem to require is a combination of pit with house. The length, 42 feet, we presume faces the south; the width to be 11 feet. You may sink 18 inches or 2 feet in the ground, or have the floor level with the surface. The first would be warmest but dampest, width 11 feet, height of back wall 7 feet, front 4 feet, hip-roof 2½ feet, in which back air can be given, or in openings in the back wall. The roof might be all fixed, and ventilators placed in the front wall, a flue would go along the centre on a level with the floor, a tiled or brick floor could form the top of the flue; a pit would be placed on each side, and for Cucumbers and Melons mature, sweet and hot, could be placed in the bottom, and soil on the top. In winter, a spar trellis could go across for plants, and the space beneath could be useful for roots. The walls could be built 4½ inches thick, or single brick on bed, and strengthened with 9-inch pliers every 4 feet. No steam could go through such walls, and manure, however rank, placed against them would throw much heat inside. But for the appearance no regular lining would be needed; but, if neatness were an object, the house might be sunk 18 inches or more. In such a case, however, there should be no ventilators in the front wall. We are sure that this you could make use of your manure in giving heat; and if you had cross drains, below the bed from the flue, every 6 feet, we do not see what you could not do with such a house. We would make at least one-third the length of the flue brick on bed, the rest brick on edge, with strong covers. The advantage of such a house, with or without lining is, that you can get inside and do what is wanted in all weathers.

OLD STONE WALLS (*A Subscriber*).—We do not know of anything to fill up the holes in such old walls unless by fresh pointing them with the best lime and sand mortar, or covering with a layer of Portland cement. We have seen a thick coat of gas tar and lime used, but it smells bad for some months, and is apt to injure the trees if they cannot be tied out of the way. In either of these cases, it would be advisable either to trellis the wall or stud it with nails, so as to make no holes afterwards.

FANCY GERANIUMS (*A Subscriber*).—All the kinds you name will make pretty window plants, but they will do little good planted-out in summer. The only way in which they will do moderately out of doors, is to put them into 48-sized pots in March or April, and plunge the pots out of doors in the beginning of June. They might stand outside on a windowsill after the 20th of May. If you chiefly want Geraniums for beds in summer, you had better exchange for such kinds as Lady Mary Fox, Sionia, Ronge et Noir, Diadematum, &c., and the plain and variegated Scarlet, Pluks, &c.

REPOTTING A PEACH AND VINE (*J. M. K.*).—They will not suffer much if done at once, but it should have been done in September. If potted now, you must ram the soil as hard as possible. If the case is particular, we would prefer top-dressing to all, and letting the roots go beyond the pots next season.

MANURING SPRING CROPS (*Z. A., Dartmouth*).—Your queries were answered in our last Number, page 561. Applying the manure in the spring need not prevent ridging the ground in the autumn.

HOT-WATER PIPES (*A Man of Kent*).—The rise from the boiler to where the pipe turns off horizontally is of little consequence, provided there is a rise in the flow-pipe. Suppose you go perpendicularly 2 feet, to the beginning of the horizontal pipe, then rise to the end of the flow-pipe a foot more, place an air-pipe at that end, and let the return-pipe come back similarly gradually to the bottom of the boiler. For such an arrangement, you would require a supply-cistern higher than the highest part of the pipes, communicating with the bottom of the boiler, and always kept full.

TANK-HEATING (*An Amateur Gardener*).—We have said so much on tanks, that really we have nothing fresh to offer. Were we going to heat your houses—one for Pines and Grapes, and the other for winter Cucumbers, &c., and late Grapes, we would have a bed—say 6 feet wide, in the centre of each house, and below that bed we would have three four-inch pipes for bottom heat, and three round the fronts and ends for top heat. To heat these independently of each other, we would have the boiler fixed at the back at the centre, the flow-pipe taken to an open cistern, and four pipes joined to it besides, furnished with plugs or valves, one pair to connect the flow of bottom and top in one house, and the other pair to supply the same office in the other house. By such means bottom and top heat in either department could be given at pleasure. You have evidently, however, set your mind on a tank, but expect too much from the fire from your boiler; so much, indeed, that we should expect to get your Cucumbers and Dwarf Kidney Beans destroyed by an explosion some cold severe night in January. Here, for simplicity's sake, and as bricks and lime seem no object, though lime will be of little use for the tank, we would recommend you to have a tank in both houses, and to depend on that for your chief mode of heating; though we have no objection to your running the fire also through part of a house, if so disposed, if built strong. Well, then, for the purposes designed, we would have the tank fully 6 feet wide, outside measure, and from 8 inches to 9 inches deep, in order that the sides may act as a heating medium to the atmosphere of the house. Six inches would be quite deep enough, and from 4 inches to 6 inches of water will be quite enough, or less; the sides will be quite as well heated, though the water does not rise higher than 3 inches. We would build the tank thus:—Ram the floor thoroughly, so as not to sink; place on it a layer of bricks, brick on bed, the best lime being used; another layer, placed in the best cement, and a layer of thin tiles over that, also cemented. This will form the base of your tank. Build the side walls on that, also in cement; run a division down the middle, except at the farther end, where an opening must be left for the flow. The skeleton is now complete, and must be finished with at least half an inch of cement placed carefully all round the side walls, and along the bottom. The better the cement is, the purer the sand, and the quicker the workman, and the more skill in applying the cement, the better will the tank stand. The next thing to insure success is, to have the boiler-top sunk several feet (the more from three to eight or ten the better) below the floor of the tank. A T-piece should be fixed on the flow, and the same on the return; and after getting a yard from the boiler, a lead pipe will do as well for connecting it with the tank as anything else. These flows may have a tap, or a plug, so as to let heat on at pleasure. The flow will go on at one end, and the return be connected with the other. Now, if we left openings in such a tank, it would be for examining it at pleasure, and shutting close up when we wanted a dry atmosphere. The tank, as a whole, we would wish to be securely covered with slate or other material. So much for the tank. The bed formed over it, for holding earth, &c., or plunging materials, might be made with brick ends and sides, or merely with a wooden box set on the sides of the tank. In either case, a little arrangement will be necessary to place the heat completely under control. On the covering of the tank then, be it slate or iron, we would have at least a foot of rough rubble, terminating with a layer of fine washed gravel, to prevent earth, &c., getting among the rough brickbats or rubble. Now, independently of the sides of the tank being exposed for top heat, a couple of slides on each side of the pit, on the same level as the clinkers, would enable you to let out heat from the bottom when there was too much, and to confine it when there was scarcely enough. By building the tank close to the ground, or about a foot above it, there will be more room for Pines and Grapes, and the stems of Cucumbers, &c. There are just several more matters to be alluded to. First: the Vines will do well enough at the back of the Pine-house. If the plants are strong in pots, and you wish them to fruit the first year, we would widen the holes in the bottom of the pots, and plunge the pots in the border. If not intended to fruit, then we would plant-out and spread-out the roots. The border with top-dressing will do well, though only 3 feet wide; if 2½ feet deep, a layer of a foot of rubble below that, and drainage secured. If the stems can be taken out after the fruit is cut, and the wood ripened, all the better. Again: in the Cucumber-house andinery, it will be advisable to turn the Vines out in the end of autumn, but they should be protected in winter. Had you a double front, they would be secure between the two, and be kept dry. We have no doubt such a plan will answer, and hope we have done a little to meet your case.—R. F.

SIR JOSEPH FANTON'S GLAZED HOUSES (*An Irish Subscriber*).—We have had no experience of these, but we think we can understand them thoroughly. The objection against them where early forcing especially is concerned is, that the ventilation between the sashes opens from top to bottom; but this could be easily remedied, though at the expense of simplicity, by having these ventilators in two or three pieces. The chief recommendations are, comparative cheapness and complete moveability of the houses at any time. If you ask us would we resort to that system in building permanent houses, we unhesitatingly say, No. For such a case as yours, to combine alike economy and suitability, we would have large squares of glass and fixed roofs, with ventilation in front and back. If lean-to's, and the walls to be built, we would have the ventilation in the back wall near the top, and the same in front, be it wood or brick. We could not tell which is the best boiler. We find they are all best as best managed, and we would engage to work every kind of boiler well that is advertised in our pages; though, if we would give an opinion, we would say that the simpler they are the better. The great thing is to have a large surface exposed to the fire for the small quantity of water the boiler contains. As to arrangement of pipes, you will find much in answer to correspondents to-day; and if you tell us what you definitely desire, we will give you our opinion on the matter. Did you want to heat the houses—say two, independently of each other, you had better place your boiler in the centre. Did you wish to make three or four or six divisions, you had better place the boiler at one end, take a flow and return from end to end, and have connections for these with each house, to be turned on or off at pleasure. If you want more definite information, refer to the page and volume.

**DIOSCOREA BATATAE (M.).**—Leave them in the ground, and give the another year's trial—the tubers increase in size by so doing; but if you did not trench the ground very deep at the time of planting, there will be no useful tubers. Some good specimens of these have just been exhibited at the Root Show of the Royal Horticultural Society.

**TOM THUMB LEAVES (Anne, Gloucester).**—Your case is a familiar one. A small caterpillar called the leaf-miner attacks them when they are just unfolding from the bud. When we see a leaf so mined we pinch-off the top joint, and look over all the plants and do the same. Sometimes these Geraniums come up with peckered and discoloured leaves, which is far more difficult to subdue than the miner, as every shoot so affected must be cut back to an old leaf. The cause of this disease we do not know.

**PROTECTION FOR WALL TREES (Old Deer).**—As you cannot have glass, we think you will find what you inquire about woollen netting in our advertisements. The frigid demo would also answer well, but it would require to be moved oftener. If you did not dislike the trouble of moving it, we think that for your cold position stout calico or sheeting would be best of all. The woollen netting would need little moving, but we have seen it of no use when of one-inch mesh. The chief requirements with a moveable cover like frigid demo, bunting, or calico, are to put it on early, as soon as the buds show signs of swelling, to keep it on so as to retard the buds, and more especially in a sunny day, in order that the soil may get heated rather than the wall, moving it aside in a cold, dull day; and even when the flower opens, sheltering a little in the middle of the day when there is bright sun, and covering at night, and even in the day when there is a chilly east wind. A great amount of light goes through the calico, and there will be sure to be air enough. A good, cheap material is a want.

**HEATING A PIT (H. B., Victoria Park).**—With or without a screen we have no faith in any stove that does not have a funnel to carry off the smoke and gases made by the combustion of the fuel. In a late volume there was a good deal on stoves and flues by Mr. Fish. A small iron stove with a funnel would answer with care; but there would be trouble in managing it, as you must open a light to get to it. The simplest and the best thing for you, would be a small brick or Arnot's stove, built inside in the middle of the pit, and close to the back wall—say 2 feet 4 inches square, outside measure. This would leave space enough for a grating to be placed about 2 inches from the floor, a fire-box inside, surrounded with fire lumps 8 inches or 9 inches square, height of stove 3½ feet to 4 feet, covered at the top with a thick Welsh tile, or better still, with an iron plate half an inch thick. Nine inches below the plate should be the outlet-funnel for smoke. Of course we presume that as much of the back wall will be removed as will enable you to get at the feeding furnace-door and ashpit-door outside. These should be about the size of the fire-box, 8 inches to 9 inches, and made to fit close. In lighting, leave the ashpit-door open until the fire has got hold, then shut up, or, if necessary, leave just a little air. If the ashpit-door is well managed there will be little use for a damper. Coke broken should be used. We have no doubt this would keep out frost with but little trouble, and would cost less than a small flue round the front and one end, which would be better still.

**MANAGEMENT OF FERN CASES (Osmunda).**—If you will buy our No. 517, first series, you will there find directions for the greenhouse culture of Ferns, and those directions are applicable to Fern cases. At the close of the present year we shall publish a very fully illustrated work on the subject.

**MADAME VAUCHER GERANIUM (M. D. P.).**—The flowers are certainly not those of Madame Vaucher; they are rather from one of a recent race of continental make, and decidedly ugly. No English lady would tolerate such milk-and-water colours; one half pale bluish, the other half a pale watery pink.

**SAVING CROCEUSES FROM MICE (A. P.).**—Nothing is more certain than that a whole border of Croceuses might be planted in a border by the side of a barn full of mice, and be exempt from their botanical propensities; and not only Croceuses, but seeds and roots of all kinds. The mode of preserving them is to keep fresh soot in a bag or barrel, free from air and moisture, and to sprinkle the whole surface of the ground with it after planting or sowing; and as soon as rain, dew, or damp renders the soot unfit to fly about like Scotch snuff, to renew it on the instant. This operates in two ways—the smell of the soot conceals that of the bulbs of the Croceuses, and the mice are thus put on the wrong scent; but mice have the curiosity of cats, and will go and examine any new arrangement made in their usual runs, and, of course, a fresh-made border would take the whole barnful out the first night to see what it all meant. Then they must walk over it to find that out, and at every breathing the soot is inhaled into their throats and nostrils, and away they all scamper just as if a tom cat had that moment come round the corner of the barn. The only secret is to keep the soot on fresh and fresh, like the old woman's salt, till the mice are thoroughly convinced it is done on purpose.

**MUSCAT GRAPES (P.).**—The Tynningham Muscat and Muscat Eschollata are both forms of Muscat of Alexandria, and may be obtained from any respectable nurseryman under these names. By many they are considered distinct forms, and by some as synonyms of Muscat of Alexandria; and until all Muscates are grown together in the same house, and subjected to the same treatment, there always will be a doubt on the subject.

**FLOWER-GARDEN PLAN (F. H. A.).**—This consists of three concentric circles—1, Scarlet Geranium; 2, Yellow Calceolaria; 3, Perilla; all done to a shade. From the outer circle 3, seven loop-beds spring at equal distances all round like rays of a star, to be planted with different kinds of Verbenas, also all good. F. H. A. asks if it is better to have the three circles on the level, or raised in three steps, as it were? The answer is this. If all the beds are seen from a higher level, raising the circles will improve the general effect; but if they must be seen from their own level, they should not be raised, because one half of the figure or garden can only be seen from any one point. Did you not notice how the effect of the great centre figure in the new garden of the Royal Horticultural Society is completely ruined by the raised vase-like bed in the centre of it?

**GUANO (M. F.).**—Lime water would in some respects injure, and in no way improve the guano.

**GLADIOLUSES (—).**—We have just issued the very list you now apply for. Read our reports on the Gladiolus exhibitions, and you will see all you want plainly laid down; but follow "D., Deal's" names as the most useful. In the spring—say next February, put us in mind again if you find any difficulty, and we will publish lists.

**RED CLAY SOIL (W. H. B.).**—No treatment will so effectually and permanently render it a good, friable, flower-garden soil as paring and burning the top spit of the entire garden, and digging in the ashes.

**ROSES (E. M. M.).**—We have asked Mr. Beaton to throw some light upon the subject.

**CATERPILLARS ON CABRAGES (A Subscriber).**—There is no remedy so good as hand-picking. Attention to this for two or three successive days saves the crop of this year and those of future years.

**PLANTS FOR COVERING GATE-PIERS (A Subscriber).**—*Ceanothus divaricatus* would soon cover the massive pillars, and be about the best plant we have for such a place.

**IXIAS, CYCLAMENS, &c. (B. B. T.).**—We are certain you cannot succeed in what you propose. Give up the idea entirely, till you have experience in growing Ixias, Sparaxises, and Cyclamens in pots. Get a bulb catalogue, and select the kinds according to the prices you would like. Every one of all the kinds of fancy bulbs like these is as good as any other, and have nothing to do with Cyclamens for the system you want to adopt.

**PHLOX DRUMMONDI (Cecilia).**—To be in early bloom it must be sown at the end of February in heat, and treated like the blue *Lobellias* in all respects. It will propagate from cuttings as freely as any bedding plant; but it is now six weeks too late for those who need instruction how to treat it. It is difficult, even for professed gardeners, to take up old plants of Phlox Drummondii and keep them over the winter. You must trust to seedlings as above.

**BED OF DELPHINIUM FORMOSUM (Idem).**—You must buy twelve good plants of Delphinium formosum, and make twelve more plants by dividing your four old ones, and when the bed is ready, between this and the new year, plant them all out about a foot or 15 inches both ways, and sow your seed of it next March or April to come in the year following.

**CUTTINGS (Idem).**—It is over now for all sorts of bedding cuttings for amateurs who need instruction. Tom Thumb Nasturtiums are the easiest of all cuttings to root; but you had better trust to seeds at all times, as they come true enough that way, and save the bother of keeping them over the winter.

**PRUNING HOLLIES (A Subscriber).**—This is not a good time to prune Hollies. The whole month of April is the best time to prune Hollies, and the next best time to prune them is May, or June, or July.

**IVY-LEAVED GERANIUM (S. R.).**—Yours is not the common Ivy-leaved Geranium, but the next to it—the variegated variety of Pelargonium petalatum. It was scarce till within the last ten years, and it has failed to be of any use in flower-bedding, on account of the weakness of its constitution. It was named by Mr. Aiton, gardener to George III., and is the twentieth plant that was figured in the first going-off of the "Botanical Magazine."

**A FIX ABOUT VARIFOATED MINT (M. F.).**—In the first place it was not the best plan to have the variegated Mint planted out in pots. Now, the balls must be left just as they are till the end of next March, in some light compost, anywhere out in the garden. Unearth the balls at the beginning of April, put them one by one on some hard dry bottom, and knock them to pieces just as you would do a lump of chalk, and every morsel of the broken fragments will make a ribbon-row plant, if you only make a drill as for a row of Mignonette, and sow the pieces in the drill, and cover as you would seeds.

**NAMES OF FRUITS (J. B., Subscriber).**—Pears: 1, Beurré de Capiaumont; 2, Beurré Rance; 3, Marie Louise; 4, Red Doyenné; 5, Welbeck Bergamot; 7, Duchesse d'Angoulême; 8, Fondante d'Automne; 10, Winter Nellis; 12, Bergamotte de Stryker; 16, Beurré Diel. Apples: 5, Kerry Pippin; 6, Yellow Ingestrie; 28, Lemon Pippin. We happen to know the above by glancing our eyes over them; but how can a correspondent expect us to give up the time required to examine forty Apples and twenty-two Pears? (J. B. Phelps).—1, Blenheim Pippin; 2, Summer Pearmain; 3, Sack and Sizar; 4, Franklin's Golden Pippin. (M. Matfield Green).—Apples: 1, Hughes' Golden Pippin; 3, Beauty of Kent; 5, Summer Strawberry; 6, Christie's Pippin; 7, Round Winter Nonseh; 9, Old Russet; 10, Hicks' Pippin; 12, Golden Knob; 13, King of Pippins; 15, Winter Greening. Pears: 1, Beurré Bose; 2, Marie Louise; 2, Winter Nellis; 4, Bergamotte de Hollande. The others we do not recognise. (D. Binney).—1, Blenheim Pippin; 2, Brown Kenting; 3, Summer Pearmain; 4, Braddick's Nonpariel; 5, Winter Greening or French Crab; 6, Nancy.

**NAMES OF PLANTS (Agricola).**—*Gymnogramma ochracea* and *G. tartarea*. The other specimen is imperfect. (J. Foster).—Not *Lastrea cristata*, but *L. Filix-mas var. incisa*, a very common Fern. (M. D.).—*Celsia betonicifolia*. (D. R. Aston).—1, *Pleopeltis, alias Drynaria ixioideis*; 2, *Sagenia, alias Aspidium macrophylla*; 3, *Cyrtomium falcatum*; 4, *Woodwardia radicans*; 5, *Athyrium Filix-femina*; 6, a form of *Lastrea dilatata*—apparently *grandidens*; 7, *Athyrium Filix-femina crispum*. We cannot go any further this time. (W. B. Marlow).—1, *Pteris scrubulata*; 2, a narrow form of *Polystichum aculeatum*; 3 and 4, two imperfect *Selaginellas*; if No. 3 has a bluish metallic hue on the upper surface, which appears to be the case from some traces on the fragment sent, it is *S. uncinata*. (H. B.).—1, *Zygopeltis Ma kari*; 2, *Adiantum oblongata*; 3, *Veronica arguta*. (H.).—1, *Lastrea Sieboldii*; 2, *Belopone pubescens*; 3, *Pteris serrulata*; 4, *Blechnum brsilense*. The Pansy is no doubt the variety called *Magpie*. The shrub may be an Olive, and may not; there is nothing whereby to determine.

**POULTRY, BEE, and HOUSEHOLD CHRONICLE.**

**POULTRY SHOWS.**

OCTOBER 23th. COLLINGHAM. Sec., W. C. Oates, Esq., Besthorpe, near Newark.  
 OCTOBER 28th and 29th. CALNE. Secs., A. Heath and F. Baily. Entries close October 15th.  
 DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. Sec., John B. Lythall, 14, Temple Street, Birmingham.  
 DECEMBER 9th, 10th, 11th, and 12th. CRYSTAL PALACE. (Poultry, Pigeons, and Rabbits.) Entries close November 8th. Sec., W. Houghton.

DECEMBER 16th and 17th. LORD TREDEGAR'S, Newport, Monmouthshire.  
Sec., Mr. J. G. Pallig, Newport.

DECEMBER 29th, 30th, and 31st. MANCHESTER.

JANUARY 1st, 2nd, and 3rd. GLASGOW. (Pigeons and Canaries.) Sec.,  
Mr. T. Buchanan. Entries close December 22nd.

## KILLING AND PREPARATION OF FOWLS.

(Translations from M. Jacqué's work on Poultry continued.)\*

It is not by a massacre we should end the career of the beautiful animals we have given ourselves so much trouble to rear, and that have come to us so often when they have heard our friendly voice. These animals should die nobly, and I have a great respect for the *intention* of the Jews, who cause them to be immolated by a sacrificator. The fact of dooming to death a being so admirably constituted and so full of life, has something in it so terrible, and answers to such a cruel necessity, that the act should be accomplished with dignity, and with a scrupulous conscience—that is to say, by employing the means and utensils most certain to abridge the horrible agony of these poor beings. What atrocious and useless sufferings! What indifference, and I should dare to say, what contempt for all these destructions!

I know nothing more ridiculous than sentimentality; but the humane idea which has guided the founders of the Society for the Protection of Animals is, in my opinion, nobler and more religious than many great and pompous conceptions.

In order to come to our subject, we will say, then, humanity demands that every precaution be taken to avoid submitting to preliminary tortures the unfortunate fowls devoted to death, not to tie them in bundles like vegetables that are sent to market, nor to allow them to be teased by children, &c.; finally, not to adopt the reasoning of cruel and ignorant idiots—it is *only to kill!* as if, before killing, one should torment.

Humanity demands besides, that the instruments destined to cause death should be even and sharpened, so as to act rapidly and certainly, and that the persons who kill should be instructed by competent teachers. We dare to hope that the day will come when such persons only who have studied under practised veterinaries will have a right to kill these beings that die by thousands every day to help to support our existence; and that we shall no longer see on the market places the horrible spectacle of an old woman killing an unfortunate fowl by inches with a knife which, having neither handle nor edge, refuses to cut the throat.

Let us listen to the precepts on this subject given by Messrs. Allibert and Mariot-Didieux, both veterinaries. M. Allibert writes thus—

"Like cattle, fattened fowls should not be killed till they have fasted about twenty-four hours, which allows the crop and intestines to become empty. The extraction of the latter is easier in consequence. Lean, or half-fattened fowls, are killed by cutting the venous conduits near the head, and then holding the bird suspended by the feet; this facilitates the bleeding, and makes the flesh whiter. Choice fowls, however, require more care, and are killed with a sharp, pointed knife, or the fine blade of a pair of scissors, which is thrust through the palate to the brain; then the large vessels inside the throat are cut without injury to the skin; the animal is then suspended by the feet, in order that all the blood may run away, and its beak is then washed.

"As soon as it is dead all the intestines should be withdrawn without making any opening, but drawn carefully out and cut off at their origin close to the gizzard. The liver and gizzard should remain in the abdomen. This operation is indispensable; for, if the intestines remained some time in the bird after death, the smell and even the taste of stercoral substances would invade the meat, would render it detestable, and facilitate its decomposition. The vacuum caused by withdrawing the intestines is filled up with balls of paper, which are put in at the natural opening, through which the intestines have been withdrawn; this keeps up the size and shape of the fowl.

"Fowls should be picked while they are hot. In this operation the greatest care should be taken to avoid tearing the skin, which spoils the appearance and injures the sale; after being picked, the fowl is put in cold water if the weather is hot, in order to become thoroughly cold; if that be not necessary, it is washed, wiped, and wrapped in a cloth. The poultry women of La Bresse sew-up their choice fowls in a fine cloth, taking care to maintain the oval form; then they soak the linen in milk, in order to give more whiteness and softness to the skin.

\* We translate literally, without binding our own opinions. In many parts we prefer our own methods.

"These choice products should not be packed-up till they are thoroughly cold; each fowl should be wrapped in whitey-brown paper, and they are generally packed in hampers."

We will now see what M. Mariot-Didieux says—

### "BLEEDING TO DEATH.

"Much of the poultry brought to divers markets is killed a long way off. That killed by bleeding is cleaner, more saleable, and keeps longer than any other. The operation is generally performed with scissors which have two pointed blades, each *very* sharp. It is at the back of the mouth, behind the palate, that the operator will sever the two carotid arteries. When all the blood has run away, the clots which may remain on the beak and at the back of the mouth should be removed, and the parts where they have been washed with vinegar. This arterial bleeding empties the body of blood without any outward trace. Nearly all the fowls in the Paris market are killed in a different manner. Their throats are cut at the base of the head. The red wound, bloody and ill-looking, is not only a disagreeable object, but brought in contact with the air putrefaction ensues; then it acquires a nasty smell, and often a buyer declines it for that reason alone. Killed as we advise, the animal is cleaner, more saleable, and it keeps longer. This is very important if it has to be sent far."

## MANCHESTER SHOW.

I HAVE just received a prize list of the Manchester Show of Poultry, Dogs, and Pigeons, and quite agree with the favourable remarks respecting its extreme liberality, as detailed in your Tuesday's publication. But there is one item on which I, with many others, should wish to be enlightened. I find it stated in the printed regulations, that exhibitors can forward stock for competition so late as ten P.M., on the 27th of December next; and again the rules specify, "That the Exhibition will be opened to the public generally at eleven o'clock on the morning of the 29th of December."

For the arbitrators with so comprehensive a prize list, however diligent those parties may be, to properly complete their decisions prior to the early hour on the Monday thus appointed, is necessarily impossible; more particularly as that essential duty cannot be commenced on the Saturday at all, from the fact of the exhibitors being privileged to send in their contributions until so late an hour.

Now, it surely cannot be in contemplation to judge the poultry and dogs, either wholly or in part, on the intervening Sabbath, for if this improbable contingency is the actual arrangement, many exhibitors equally with myself must decline sending at all to Manchester for this sufficient reason. But, perchance, the explanation that may yet be offered will clear away what I really trust may prove an erroneous first impression, though, after all, it will be interesting to every exhibitor to know *when* the adjudications will be actually made.—INQUIRER.

[We shall be glad to hear officially upon this point, because we know several parties who will not exhibit at Manchester if the Sabbath is to be thus misemployed.—EDS.]

## MIXING VARIETIES IN ONE CLASS.

I NOTICE in your Journal a communication from Mr. Hewitt, of Birmingham, which I hope will receive the attention it deserves from committees and managers of poultry shows whose prize lists for the coming season have not yet been published. My own experience of upwards of twenty years in connection with poultry of every kind, and the opportunities I have had of ascertaining the opinions of many of our leading amateurs, convinces me that if committees desire to secure a large number of entries (and it has always appeared to me that this is one of the chief elements in a successful show), they cannot possibly adopt a more certain method of obtaining this result than by issuing a prize list so classified that exhibitors of each variety may enter in a class of their own.

I could mention no end of instances which have come under my notice, in which entries have been withheld which would otherwise have been sent had there been facilities afforded for the owners to exhibit their favourites in classes where they would not have to compete for one or two prizes with birds of other varieties; and I am certain the choice of the majority of our fanciers would be in favour of moderate prizes and an extended

classification, rather than high prizes and a limited classification. Upon this conviction I have myself acted in reference to the schedule of the Taunton and Somerset Association, and though our revived Society has held but two exhibitions, our list has received universal commendation; and though our prizes are not so high as some other associations can boast, yet at our show this year we had an increase of forty-three entries over that of last year, and every class with the exception of two (and there were forty-six for poultry alone) was well filled.

I notice in the Glasgow list there are but twenty-five classes, scarcely more than half of ours; yet the total money value offered in prizes amounts to nearly double ours.

I desire also to endorse Mr. Hewitt's expressed opinion as to the impossibility of so awarding prizes as to satisfy exhibitors when two or three prizes have to be distributed amongst as many or more varieties or breeds; and I trust that, attention having been called to a point of so much importance as this confessedly is to amateurs at large, it will receive that consideration it merits from all who desire to promote the welfare of poultry exhibitions throughout the kingdom.—CHAS. BALLANCE, 5, Mount Terrace, Taunton.

### MONMOUTH AGRICULTURAL SOCIETY'S POULTRY SHOW.

THIS took place on the 8th instant. The number of birds was not large, but they were generally good specimens. The Judges were Mr. John Hughes, and Mr. James Eiss. Their awards were as follows:—

GEESSE.—First, A. Jones, Priory Farm. Second, Mrs. Gunter, Argoed. *Goatsings*.—Prize, Mrs. Gunter, Penalt.

DUCKS.—First, R. H. Nicholas, Malpas (Aylesbury). Second, C. Elliott, Tretire (Ronen). *Ducklings*.—Prize, J. Pearce, Wyesham (Aylesbury).

TURKEYS.—Prize, W. Williams, Pilstone. *Poultis*.—Prize, W. Williams.

SPANISH.—First, Mrs. E. Pearce, Wyesham. Second, J. Pearce, Wyesham.

*Chickens*.—Prize, J. Pearce.

DORKINGS.—First, Mrs. A. Jones, Priory Farm. Second, F. T. Parker, Rockfield. Commended, R. H. Nicholas, Malpas. *Chickens*.—Prize, F. T. Parker.

COCHIN-CHINA.—First and Second, R. H. Nicholas, Malpas. *Chickens*.—R. H. Nicholas.

HAMBURGHS (Gold or Silver-pencilled).—First, J. Cloud, Monmouth (Silver). Second, H. M. Clifford, Llantillo (Gold).

POLANDS (Gold or Silver-pencilled).—Prize, Mrs. Bagnall, Monmouth (Gold).

GAME.—First, J. Jones, Llwynygaer. Second, J. Cloud, Monmouth. *Chickens*.—Prize, J. Jones.

BANTAMS.—First, Mrs. G. Everett, Gibraltar Cottage (Silver-laced). Second, J. King, Dixton. Commended, R. H. Nicholas (Japanese Silks).

*Chickens*.—Prize, J. King, Dixton.

ANY OTHER VARIETY.—First, R. H. Nicholas, Malpas (Sultans). Second, R. H. Nicholas (Black Hamburgs). *Chickens*.—Prize, R. H. Nicholas (Japanese).

GUINEA FOWLS.—Prize, F. T. Parker, Rockfield. *Poultis*.—Prize, A. Jones, Priory Farm.

PIGEONS.—*Carriers*.—Prize, R. H. Nicholas, Malpas (Belgium Carriers). *Fantails*.—Prize, R. H. Nicholas.

### THE POULTRY PENS AT NEWCASTLE AND MELTON-MOWBRAY.

ON looking over your Journal of the 7th inst., I am greatly annoyed on perceiving that you make use of my name in a very unjust and injurious manner. I allude to your comments on Newcastle and Melton-Mowbray Agricultural Shows, wherein you give the Committees credit for perfection in all their arrangements, and then proceed to detail circumstances in which I am connected, wherein you draw the inference that all their arrangements were ruined by my mismanagement. As such a statement is totally at variance with the truth, I will give you the plain facts of the case, and trust that in common fairness you will give the same publicity to my explanation as you have done to the charges against me.

As regards the insufficiency in number of pens at Newcastle, you are quite correct; but the fault was with the Secretary entirely. He wrote to me complaining that I had not sent the number of pens ordered; but I forwarded him his own letter wherein he gave the order, and he wrote to me acknowledging the fault (I send herewith a copy of his letter). I think I have cleared myself as regards Newcastle Show.

Respecting the Melton-Mowbray Show, you state the terms of agreement, in which you are quite correct; but the cause of the misunderstanding was with the Secretary entirely, on his giving the order for pens. The agreement was that they should

be fixed on Thursday, and, according to their own schedule (a copy of which I enclose), the poultry were to be penned by 9 o'clock on Friday morning; but the Secretary acknowledges that he wrote to the exhibitors requesting them to send their birds a day earlier than originally named, and he forgot to communicate the alteration to me: consequently, when my man arrived on Thursday morning the pens were already fixed; and as to the surplus pens which you state were lying about, that was on account of the Secretary ordering considerably more than they required, and not because they were mis-sent there instead of Newcastle, as you infer. You state that no one on my behalf had reached Melton when the Exhibition opened; but you are quite mistaken, and I beg to refer you to the Secretary for proof. If my statements are not sufficiently explicit, I am prepared to give any further explanation you may require.—JAMES TURNER, *Wire Works, Sheffield*.

[We most willingly insert Mr. Turner's explanation, which fully exonerates him from blame, and shifts the mistakes to the respective Secretaries of the Shows. We are glad that it is so, because the convenience of being able to hire such pens is great, and we should be sorry if any neglect or carelessness on the part of the lender had interfered with their employment.—EDS.]

### BEEES AND BEE-HIVES

#### IN THE INTERNATIONAL EXHIBITION.

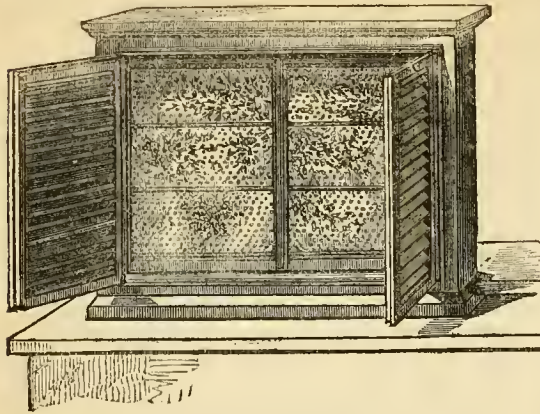
TO those apiarians who have already visited the Exhibition with the express intention of seeing all that is there displayed in connection with their favourite pursuit, it may appear superfluous to state that English contributions to apian science are placed on the west side of the eastern annex; but to the casual visitor who may be disposed merely to cast half an eye on the bees and bee-hives, this information can scarcely be deemed unnecessary, since we find many among our own friends who have visited the Exhibition repeatedly, and totally failed to discover that there was anything at all in it relating to our industrious little favourites. To those, therefore, and such as those, we may repeat that on the west side of the eastern annex, amongst agricultural and horticultural machinery and implements, may be found by such as seek for it carefully all that English apiarians have deemed it necessary to exhibit in connection with bees and bee-keeping.

FENN, R., *Rectory, Woodstock, No. 2112*.—On first entering the eastern annex from its north end we meet with a handsome glass case, exhibited by an old and esteemed correspondent, containing two straw hives of a large and useful size (from which, however, we should like to discard the cross sticks), one with a well-filled super, and the other protected by a milk-pan surmounted by a weighty ornament in carved stone, to prevent its being dislodged by the wind. Here are also the "breakfast honey-glass" filled with the most tempting and delicious-looking honeycomb, small glass super, "self-floating feeder," together with run honey and old and new wax, with their various products of mead, vinegar, waterproof dubbing, furniture cream, &c. Of all these we shall give fuller particulars in a future Number.

MARRIOTT, J., *Gracechurch Street, No. 2150*, has a stock of common black bees at work in a bell-glass, carefully shaded from the light by a chamois leather cover, apparently flourishing very well, and presenting a miniature scene of bustle amidst the ceaseless activity on a far larger scale of "The World's Fair." There are also hives of various descriptions, including those termed "improved cottage," two rotary observatory unicomb-hives, neatly got up in mahogany, &c. This is an interesting and well-furnished stall, quite deserving the "honourable mention" which it obtained.

NEIGHBOUR, G., & SONS, 149, *Regent Street, and 127, Holborn, No. 2157*, have a very handsome and complete stall, on ascending the steps of which we found a flourishing stock of Ligurians, apparently not at all a-hamed of the public position which they occupied, and working vigorously in the full light of day. The queen, one of the largest and finest-coloured we have met with, was perambulating the combs and receiving the homage of her subjects, stopping frequently to deposit an egg in every empty cell. The hive itself was a "Woodbury Unicomb," handsomely got up in mahogany, invented as its name implies, by our valued correspondent, "A DEVONSHIRE BEE-KEEPER," the construction of which will be most readily understood by an

inspection of the annexed engraving. Its distinctive features are the adaptation of the moveable-bar system to unicombs-hives, by



which any colony in an apiary of "Woodbury-hives" can be placed in the unicombs-hive in a few minutes, and the use of "outside venetians," or "sun blinds," as they are called, instead of the usual impervious shutters. By this contrivance light is never excluded, so that when the hive is opened for inspection, all its inmates continue their avocations with their accustomed regularity, and a quiet and orderly scene is presented to the spectator, instead of the hubbub and confusion which ensues in ordinary unicombs-hives. On the left-hand side of the unicombs hangs a beautifully-executed drawing of a Ligurian queen bee magnified, together with the queen worker and drone of *Apis Ligustica*, of the natural size. Immediately under the drawing is placed a square glass super containing nearly 40 lbs. of the finest honeycomb. On the right of the unicombs-hive is another super of the same description, containing nearly 30 lbs. of the purest honey. These supers are, undoubtedly, by far the finest in the Exhibition, and are the first worked in England by Ligurian bees, being from the apiary of "A DEVONSHIRE BEE-KEEPER." In addition to these, the most striking objects, are shown Neighbour's improved single box and cottage-hives, Taylor's bar-hives, Woodbury frame and bar-hives, the new bottle-feeder, and bee apparatus of every description. It will be apparent from the foregoing, that Messrs. Neighbours' stall is well worth inspection, although the various novelties it contains appear to have met with but scant appreciation by the Jury, who merely awarded to them that "honourable mention" so lavishly accorded to far less deserving objects.

TEGETMEIER, W. B., *Muswell Hill*, No. 2192.—Passing through the doorway and the court into Ormson's conservatory, we find therein one of Mr. Tegetmeier's frame-hives which that gentleman has already fully described in our pages. It has the Stewarton bars and slides, and the old wide frames, at distances (eight in 13½ inches) recommended by Dr. Bevan and Mr. Golding, but considered too wide apart by German and some of our English apiarians.

LOVEY, E., *Ponsnooth, Perranwharf, Cornwall*, No. 2147, shows a stock-box and super neatly made in oak, the latter having bars with side pieces and slides Dr. Bevan's distance apart. The slides are strips of wood rounded at the edges, about three-quarters of an inch wide, by a quarter of an inch thick, and are pushed in and out through slot holes cut in the sides of the box. We think these slides very liable to become immovably fixed by propolis when in use, and that no stock of bees can prosper very long in a dwelling of such limited dimensions as 10½ inches square by 7½ inches deep. There is also a flat-topped straw hive with glasses, which calls for no particular remark. The Jury, in some whimsical freak of caprice, awarded this gentleman the highest honour which they have accorded to British apiarian exhibitors—viz., "honourable mention," for what reason we are utterly at a loss to discover.

HUGHES, HENRY, *Loughborough*, No. 2133, exhibits a flat-topped straw hive with wooden octagonal case and dome-shaped zinc roof, also a small bar-super and feeder, none of which appeared to us in any way remarkable.

BOOTHMAN, JAS., *Gisburn, near Skipton, Yorkshire*, No. 2093, contributes a glazed case containing a moveable comb-hive, honey-extracting machine, and wax-refining apparatus. Of this

moveable comb-hive we can only say that it is highly ingenious—so ingenious, in fact, and so full of mechanical contrivances, that many of them pass our simple comprehension. Every comb is supported by an elaborate metal framework, and the entire hive forms quite a complex piece of machinery. There is a separate glazed receptacle fitted to receive one of the combs, and intended, we believe, to answer the purpose of a unicombs-hive. The honey-extractor consists of a machine for crushing combs on the principle of a sausage-making machine, and a screw-press to place them in afterwards for the purpose of extracting the honey which they contain. The wax-refiner is a cylindrical copper vessel in which works a piston of double gauze wire. The combs being placed under the piston with a sufficiency of water, the whole is put on the fire; and as the piston sinks the wax rises to the top, whence it can be removed in a solid state when cold.

(To be continued.)

### HONEY HARVEST ON THE MOORS.

CAN you tell the name of the enclosed plant, and whether bees get honey or pollen from the flowers, as they frequent them very much about this part, south Durham? [It is *Centaurea nigra*, Black Knapweed, or Matfellon. We conclude that they get honey from it.] As most of your bee-keepers will have brought their hives home from the moors, I should like to hear what success they have had, as in this part they have done very badly, the heaviest out of fourteen of mine, is only 26 lbs. nett, whilst some have only made 7 lbs. and 8 lbs., and it is the general complaint that they have done very little at the moors this season, and several have died.—A. W.

[We shall be glad if some of our correspondents will reply to this query, as to the success of the honey harvest on the moors.]

### OUR LETTER BOX.

TRIMMING AND PAINTING FOWLS (*Exhibitor*).—In some instances the fowls so treated have a card stating the fact, and their consequent disqualification attached to their pen. We agree with you in thinking it ought to be done always, "as a warning to exhibitors and as a protection to purchasers."

WEIGHT OF A GAME BANTAM COCK (*T. C. H.*).—There is no proper or fair weight for a Game Bantam Cock. White legs are as good and as pure as any others. We believe we may say it is an established fact.

HYBRID BETWEEN BANTAM HEN AND PHEASANT (*Idem*).—It will not breed. We have had many, and although there was sufficient difference of size and appearance to indicate sexes, they were only imaginary. You will not succeed if the bird is really a hybrid.

ILLNESS OF EAST INDIAN DUCKS (*G. C.*).—We have no doubt the water or something in it disagrees with the Ducks. Confine them entirely in an old pigstye or outhouse. Feed on oats put into a shallow vessel, with plenty of gravel and a turf of grass, the whole covered with water. Separate the sound from the unsound birds.

MOths IN BEE-HIVES (*Colney Hatch*).—Moths may easily be extirpated in bar or frame-hives by lifting out the combs, and cutting out the infected parts. With common hives we know of no remedy if the bees are not able to take care of themselves; and, to enable them to do this, every precaution should be taken to keep the stocks vigorous and well populated. Are you quite sure as to the true cause of all this mischief? Moths do not eat honey, nor do they kill bees except indirectly by damaging their combs. Our impression is that the had honey-season is in fault, and that the bees, being weakened by starvation, cannot make head against their enemies, the moths, as they would do if in a prosperous condition. Immediate and liberal feeding is in this case the only possible remedy, and offers the only chance of escaping a fatal catastrophe.

CANARIES DYING (*P. S. B.*).—The disorder among your birds, characterized by baldness, weakness, swelling and blueness of the belly, is "surfeit," caused by gross feeding and bad food. Let their food consist of canary seed and a moderate supply of green meat, and anoint the bald places with perfectly fresh hog's lard.

EGG-PLANT FRUITS (*C. S.*).—Parboil them, cut them in slices, dip them in butter, season with pepper and salt, fry of a light brown colour. You can only keep your Australian birds from pecking the woodwork of the cage by covering it with tin.

### LONDON MARKETS.—OCTOBER 20.

#### POULTRY.

We have still short markets. The supply is, however, better than it was. Trade is very dull.

Large Fowls .....	3 0 to 3 6	Ducks .....	2 0 to 2 6
Smaller do .....	2 0 ,, 2 6	Partridges .....	2 0 ,, 2 3
Chickens .....	1 6 ,, 1 9	Rabbits .....	1 4 ,, 1 5
Geese .....	6 0 ,, 6 6	Wild do .....	0 8 ,, 0 9
Grouse .....	3 6 ,, 4 0	Pigeons .....	0 8 ,, 0 9
Pheasants .....	4 0 ,, 4 6		

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	OCT. 28—NOV. 3, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.		Moon Rises and Sets		Moon's Age.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	m. h.	m. h.	m. h.	m. h.			
28	Tu	ST. SIMON AND ST. JUDE.	30.065—30.032	57—36	N.E.	—	48 af 6	40 af 4	16 9	5	16 4	301	
29	W	Brugmansia suaveolens.	30.003—29.929	56—40	N.E.	—	50 6	38 4	33 10	7	16 8	302	
30	Th	Echites bispinosa.	29.920—29.887	61—37	N.E.	—	52 6	36 4	32 11	7	16 11	303	
31	F	Hibiscus multifidus.	29.830—29.508	58—39	S.W.	.12.	54 6	34 4	morn.	8	16 14	304	
1	S	ALL SAINTS.	29.339—29.214	51—23	W.	.11	vi	iv	8 m 1	9	16 16	305	
2	SUN	20 SUNDAY AFTER TRINITY.	29.445—29.238	48—29	N.W.	.13	57 6	30 4	20 2	10	16 17	306	
3	M	Andersonia sprengeloides.	29.886—29.671	51—19	N.W.	.02	59 6	29 4	32 3	11	16 17	307	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 54.2° and 37.3° respectively. The greatest heat, 67°, occurred on the 28th, in 1830, and 31st, 1854; and the lowest cold, 22°, on the 2nd, in 1860. During the period 122 days were fine, and on 123 rain fell.

DISTRESS AMONG THE WORKINGMEN BOTANISTS OF LANCASHIRE.



Ask from our readers to aid these truly worthy men. No sentence shall flow from our pen to enforce this appeal; we will merely state the unvarnished facts, for no urging will be required for the opening of many purses to afford aid to such men nobly struggling against unmerited adversity.

Information reached us that these workingmen naturalists were striving to avoid the necessity of receiving parochial relief, but that their noble striving was ineffectual, though they submitted to extraordinary privations. We wrote to Mr. Hague, gardener to the noble-minded Mr. Mason, whose liberality is reported in another of our columns, suggesting that those naturalists might at this season sell specimens of Mosses, and this is Mr. Hague's reply:—

"I am under great obligations to you and must thank you for the kind suggestion you made on behalf of John Whitehead, and other Lancashire botanists. I have seen Whitehead and others since you wrote to me, and showed him your note. He did not like to fix a price, but we ultimately agreed that he and others would send out, correctly named, any of the Mosses found in this neighbourhood, of which there are about 150 species.

"They will send them at the same price as Wilson advertises them—viz., one guinea per hundred, or 3s. per dozen.

"J. Whitehead and Roger Schofield have duplicates by them of over two hundred species, and have specimens of nearly four hundred.

"Whitehead has earned about 4s. per week for a long time, out of which, with some little savings, he had to keep his mother and two sisters. His stock is done, and he now has been compelled to apply for relief. He is, without exception, the best muscologist we have in this district, and a very steady man. He is prevented from following out his researches, although he has plenty of time on hand, through want of a little help.

"Schofield has a wife and five little children, and I am sorry to say that he, like the others that have been so long without work, has been obliged to accept parish relief; but what they there receive does not allow them to leave the town to seek for specimens. In fact, they are nearly barefooted, and Whitehead

told me he had been out last week collecting, and his shoes being done he got wet feet.

"These cases that I name to you are no impostors or drunkards, they are all willing for you to publish their names, and seemed glad that I had taken the course I have done.

"The address of John Whitehead is Fetland Street, Dukinfield, Cheshire; of Roger Schofield, Church Street, Dukinfield.

"Some of the others who have not made Mosses their principal study are equally deserving, and it is a grief to such men that the parish and relief committees' allowance does not permit them to leave home for a longer time than a few hours at once, for they cannot afford food that they can carry out with them, save dry bread.

"I am well known to the Mayor and most of the Aldermen and Councillors of Ashton-under-Lyne, and if any of your readers felt inclined to send these poor men some portion of their plenty, the Mayor of the borough would gladly receive it and distribute it at different periods to them; or, as the Mayor is so busy with the general distress, it might be taxing that gentleman's time too much, and it would be better to send to Edward Hobson, Esq., Proprietor of the *Ashton and Stayleybridge Reporter*, who is an old friend to botany; or to Mr. Nathaniel Howard, Agent, Stamford Street, Ashton-under-Lyne.

"It is hard to begin begging for one's friends, but there are few here who have not had to make great sacrifices in this time of unparalleled distress. Hoping I have not said too much for you, I remain, &c.—JOHN HAGUE, 36, Mount Street, Ashton-under-Lyne."

FRENCH FOUNTAINS

AT THE ROYAL HORTICULTURAL SOCIETY'S KENSINGTON GARDEN.

DESPITE what was said last week about these fountains being too big for the size of the garden, and for the garden itself being already fully occupied with artistic designs, the Editors "see no reason why you," or I, or any one else who is of a different opinion, "should not advocate," without fee, every form of opinion which may be brought to bear on the subject.

Now, what I want, and what I longed for from the first day I saw the red-painted fiery horses from France, the horse marines of Neptune, was to get full hold of the biggest of them, and let the little ones go where they list.

If we had the two fountains for nothing we could not allow them to remain as they are, because they are not a match pair, and if we bought one of them at the good bargain they are offered at, we could not use the other one in any part of the garden if we had it for nothing.

But, lest there should be any doubt on the point, the first thing I did before putting down my name for one guinea was to ascertain if the Council meant to keep the two fountains as they are, provided we, the Fellows,

bought them; and I was assured that the Council men only to be the means of doing just what the Fellows require of them in this instance, and I thought that a wise plan and a happy resolve, and I subscribed at once and with the greatest pleasure.

I attended every public meeting of the Society on the subject of the new garden, and I learned everything I know about it from the explanations of that Prince Albert the Good, whom we all miss with so much regret, and I was within four feet of him all the while he was addressing his inaugural speech at the opening of the new garden—the last speech he ever made on the subject in public, and I shall never forget the impression which the vast grasp of his scientific acquirements made upon me, nor cease to urge and advocate what was so dear to his heart—"the attempt at least," as he humbly expressed it, "to reunite the science and art of gardening to the sister arts of architecture, sculpture, and painting. This union existed in the best periods of art, when the same feelings pervaded and the same principles regulated them all; and if the misuse and misapplication of these principles in latter times have forced again upon us the simple study and imitation of Nature, individual arts have suffered by their disjunction, and the time seems now arrived when they may once more combine without the danger of being cramped by pedantic and arbitrary rules of taste."

The italics are my own, on purpose to enable me to put on record that I am in possession of a large amount of private judgment on this garden, which is founded on that "cramped," that "pedantic," and those "arbitrary rules of taste" which "the misuse and misapplication" of our day and the age of our fathers have left us as a legacy.

As far as I have read, the mind of no critic on this garden has yet grasped either the design or the end in view—the "union" which existed in the best periods of art; but we may be allowed to hope with the founder of the reformed "union," "that it will at no distant day form the inner court of a vast quadrangle of public buildings, rendered easily accessible by the broad roads which will surround them—buildings where science and art may find space for development, and that air and light which are elsewhere well nigh banished from this overgrown metropolis."

These were not "cramped," but enlarged principles, those of the Royal Founder of this garden, as expressed by himself before the thousands of the highest intellects of our free and father land, who congregated and crowded on the upper terraces on the opening day—I never shall forget it. If you had seen the marvellous expression of his usually serene countenance when he said that "unrivalled opportunities are here offered for the display of works of art," you could no more forget it than your humble servant, nor believe that the labour of love for the "display of works of art" had yet even begun in the garden.

Taken as a whole, I, on the contrary, take our garden as like a large unfurnished house "to let." The whole of the lower terrace is "just as bald and bare as a cat's face," as I heard Sir Charles Barry once say of a building. The place of entrance by the council-room block is most unfortunate for effect, it mars the first impression entirely; but owing to the position of the grounds, and the ultimate design of the "vast quadrangle," the entrance could not be better than where it is.

The next thing is this "unrivalled opportunity" of placing the biggest of the French fountains on the site now covered with the Sardinian group. That place was, in the original, the site for sustaining a bold impression on first entering the garden until you came up square with it, and with the axis of the "inner quadrangle," where you could turn and receive the full impression. It was a grand idea for getting over an unavoidable misfortune, and it will be a grand opportunity lost if we are so "cramped by pedantic and arbitrary rules" that we must let it slip between our fingers for the mere fleebite of the charity-standard of one guinea a-piece; and then the money not being wanted till the time of the annual subscription, nothing more is required but to sign the printed circular returned, and leave the rest to the ladies, and, my word for it, they will not fail on their part—they never do.

When I wanted something extra to be done or undone about the garden, the first thing I did was to get the lady on my side, or to decide against me, before I said aught about it to the governor. Ladies decide by instinct on the instant, whereas men have to arrive at conclusions by means of reasoning. Then if the lady said Nay, so did I, for it was all up then, certain; but if otherwise what followed is just the receipt which I have never yet known to fail, and which might be of use in a few instances on this occasion.

There are only two periods in the four and twenty hours when a man will bring out his purse without some reasoning about it—just when he has arrived at that point after dinner from which he can see, clear as a fountain, that there is no place like home after all. The other varies with people's different degrees of condition in life. Some go to bed early, some late, and some not till some others are up next morning; so that one is never sure of the exact time, but so it is, and so we must abide by it.

Then as to the sufficiency of the supply of water, I made it a particular point to see and understand that part of the play when they were laying the water on. The case is this: So much water is borrowed from the west-side supply to the cascade over the canal, in a glazed pipe of a certain diameter, for a mere temporary purpose; but let there be two supply-pipes of larger bore, one from the west and one from the east side, and four times the amount which is now in use for the two fountains would be available for the one with little or no expense at all. The fact is, there is sufficient water, and ample power to put double the present quantity in motion; and believe me, when the memorial of the Exhibition of 1851, the result of private subscriptions, is put up and finished, which it will soon be now, we shall all of us see how much the want of balance for the bottom of the garden will be apparent, and we shall never forgive ourselves and one another if we lose the opportunity of restoring that balance and give up so good a bargain. Let us therefore pray with the Prince, the founder of the scheme, that the efforts of the Council "may meet with public approbation! May that approbation give them all the support required, not only further to ornament these gardens, but also to carry out, even on a larger scale than during the last forty-eight years, the useful objects for which we are incorporated." D. BEATON.

[Knowing that Mr. Beaton differs from us as to the fountains in question, we gave him free permission to advocate his opinion, for we only covet a correct decision. He has proved, as usual, a good and subtle advocate. His words, like the supply of water he promises, are copious; and he applies his words with a power which is lacking at present at the gardens for applying water to a lofty fountain. We now leave the subject to the judgment of the Fellows.—Eds.]

### ARCHERFIELD EARLY MUSCAT.

THERE must certainly be some mistake about the Grapes that Mr. Rivers mentions in his last week's communication. He says, "My Vines, received from France under the name of Muscat du Puy-de-Dôme, or Muscat de Patras, differ most remarkably in their foliage and habit from Muscat Eugénien." We have always believed and asserted that these two are synonymous, as no doubt they are; and our object now in recurring to the subject is to prevent the circulation of what may in time become a pomological error, if Mr. Rivers' statement goes uncontradicted. No doubt Mr. Rivers seems to have two sorts under these two names; but to show that the names are really synonymous, the following is the origin of the nomenclature:—Count Odart, who is the greatest authority in France with regard to Vines, received a Grape from Clermont (the chief town of the department of Puy-de-Dôme), under the name of *Chasselas Musqué*. This he conceived was not a *Chasselas Musqué*, because its leaves were not waved or cockled, and the leafstalks were green and not tinged with red. He therefore changed the name first to Muscat Précoce du Puy-de-Dôme, and afterwards, conceiving still that he saw shades of difference both in the leaves and the flavour, he again changed it to Muscat Eugézien, a word borrowed from Pliny, and which signifies the union of all good qualities. It will be seen, therefore, that the author of these two names applied them to the same Grape; and, as we have seen that Grape in the collection of Count Odart, we can assure Mr. Rivers that it bears no resemblance whatever to Archerfield Early Muscat, but is a round Grape, and merely a form of *Chasselas Musqué*.—H.

### JUDGING GRAPES.

THE rules that regulate the awards made to Grapes seem to vary so much in different parts of the country, that it would be well if some general understanding could be come to as to what constituted a perfect bunch of Grapes. This would prevent much disappointment to individuals, and would be a standard

to which judges could appeal when called over the coals, as they often are, for their supposed misdeeds in this matter.

As the primary object in growing Grapes is to please the palate, I would suggest, by way of opening the discussion, that flavour should count two points, size of bunch one, size of berry one, colour one, perfection of bloom one, firmness of flesh one, thinness of skin half a point, perfect thinning half a point. By perfect thinning, I mean that every berry should maintain its natural position when the bunch is laid horizontally, at the same time that every berry should have space enough to swell to its full size, without being jammed by its neighbours. Thus, it would take eight points to form a perfect bunch of Grapes.

That some fixed rule for judging Grapes should be arrived at must be evident to all who have, as I often have, seen the largest bunch get the prize at one exhibition, the best coloured at another, and the best flavoured at a third, irrespective of all other points of excellence. I believe the most prevalent error in judging Black Hamburgh Grapes is the paramount importance attached to colour. In nine cases out of ten, the blackest Hamburgh Grapes are neither the best flavoured nor the thinnest skinned. There is a slightly brown shade of colour in the Hamburgh that nearly always accompanies a thin skin, large berry, firm flesh, and fine flavour; yet I have seen all these qualities go for nought when opposed to a jet black colour, though in the latter case the skin was thick, the flavour second-rate, and the berry watery. Can this be the right way of judging Grapes?—*WM. THOMSON, Dalkeith Park.*

### ROSES THE FIRST TWO YEARS.

ONLY think of a gentleman in holy orders letting the cat out of the bag just at the time I was arranging my own thoughts on how to put "D., Deal," on the right course for growing Roses with all the vigour and freshness of leaf and bloom peculiar to the Hursts of Sussex—but so it is; and that clergyman and Mr. Wood together gave the best chapter of the season about Rose-growing in the very last Number of this Journal. I was going to hint to him something of the way which they have just pointed out to a lady who resides on the coast of Cheshire—that is to say, to give up the practice of having Roses on dry sticks of standards altogether along the coast, to grow Hybrid Perpetuals only, and to have nothing to do with fancy stocks. There is no stock for a Rose equal to its own stem and roots.

It is all fair, however, to make fair use of all means which go to cheapen the supply for the million; and as far as stocks can do so, no one could object to it on a sound bottom. Barring that, except where the soil is proved to suit this or that stock or Manetti, no stocks should ever be indulged in for the general stock of Roses. The grand fault in Roses on their own roots is to be found in the greed of us gardeners. We are too fast, and the more speed the less the distance we get over. That is without the shadow of a doubt the whole secret, from the stunted starving Vine to the black blistering leaves on the crippled Rose, and nothing is more clear than how it is so.

When a Rose, or a Vine, or a Houeysnuckle is first planted, the great aim is to get a certain space filled with the branches thereof as quickly as possible. You will not meet with one man out of fifty who has the heart to cut back such a plant to the last eye next the ground the first season; and yet there are very few plants indeed out of fifty kinds of plants in common use which would not be benefited, for the rest of their course, by being cut down after the first growth to the last link between the shoots and the roots.

If you think it over in your own mind, you will clearly see that leaving three joints or buds on the stump is exactly equivalent to a belief that the roots are not to have more capacity than they had last year. At the last fall the shoot was just in proportion to the then state of the roots and no more: therefore the portion of the stump between your cut and the issue of the roots is not capable of allowing more sap, or more strength, to pass up this season to the new branches than would pass up last autumn, no matter how much the roots may have extended. Then the balance between the roots and the branches is gone the first season, you arrest the progress both ways—that of the roots and that of the branches. What, then, can be the condition of the conducting powers of a shoot or shoots, which are cut a foot or 18 inches above the ground the first season? for it is during the first two seasons the mischief is done.

Then, if you clearly understand that it is possible, by bad

management, to make a young shoot on its own roots as hide-bound as one on a stunted stock, how much more, therefore, it must be so where a foreign stock is sulking at the same time under it, from the want of the balance of head and roots. The young Rose on its own roots (I mean Hybrid Perpetuals), is the most easy to manage of all the plants in the garden, as you can prune it long or short at least three times during the growing season, in order to improve the passages of the sap, and have them enlarged in proportion to the increased length and strength of the shoots.

I pruned fifty young Roses this summer to the very bottom bud at the end of June. They are two years old from cuttings, and were planted last Christmas or later; and I have shoots now on them from 4 feet to 8 feet and 9 feet in length, and of equal bottom proportion. The strongest of these I shall leave at full length till after the first bloom next season, but the weak shoots shall be cut to one bud.—*D. BEATON.*

### ROOT-PRUNING AN OLD PEAR TREE.

I WISH for your opinion as to the safety of root-pruning a large old Crassane Pear tree on the gable end of a cottage facing the south-west. My landlord is afraid of "experiments," but I think your opinion would satisfy both of us. The tree is, perhaps, forty years old, about 20 feet in height, well grown, and perfectly healthy apparently, but for many years it has borne no fruit (this year it had only two or three clusters of blossoms). Is it likely that the roots have penetrated into a sewer which runs within 20 feet or 30 feet of the stem? and would this account for over-luxuriance and unfruitfulness?—*JANE MORICE.*

[It is rather a ticklish subject meddling with Pear trees of that age and size, in the way of root-pruning them. Very probably the roots are luxuriating in the sewer, and if that were stopped it might tend to make the tree fruitful. From failures and successes with such trees, we have even more faith in taking them up than in partial root-pruning. In a tree of such a size, if a strong tap root should be missed, the tree may remain unfruitful and half starved into the bargain. There could be no harm in examining the sewer, and cutting some of the larger roots; but we would have more faith in commencing 12 feet or 15 feet from the tree, taking out the roots to within 4 feet of the stem, undermining it so as to cut all tap roots, then fill up, and lay the roots in fresh soil, rather rich near the top, and keeping the roots within 9 inches of the surface. Such care is not requisite with young trees, pyramids, &c. Even if this tree were so treated, we would expect it to be two years before it told the result.]

### CARROT CROP FAILING—CELERY FLY.

FOR the last two years I have entirely lost my crop of Carrots from, apparently, a grub. Many in this neighbourhood have been equally unfortunate, and I am told it has been the case in many others. My gardener says he is assured that the destructive insects are, in fact, young wireworms, and no other. I can scarcely think so, though I believe they are four years coming to their full growth in the ground, after the eggs are deposited by what are popularly called daddy longlegs. Last year the Carrots were in ground which had been, perhaps, too highly manured; this year in a piece which had been at rest several years, dressed only with lime in the winter, and certainly they were more entirely destroyed than in 1861. The loss is great in its way, and I should be glad to see your opinion of the insect and your advice for the future. When the Carrots were dug-up and burned in July, the ground was dressed with equal parts of salt and soot, and I have upon it now a splendid crop of Broccoli, &c.

Another grievance in my garden, and all others about here, for the last year and this, is the Celery fly. A great deal was lost last year, mine among others, from not being aware in time that the caterpillars destroyed the hearts as well as the tops. I have had the leaves of mine this autumn constantly picked-off and burned; but, though the crop is safe, I think it is small and injured.—*II. A. S.*

[The high manuring was against your Carrot crop, and so was the fresh soil if there was grass on the surface, which we almost presume, as it had been at rest several years. Soil for Carrots cannot be too well stirred in winter, so as to expose it to all the frosts that come. If wireworms, grubs, &c., are appre-

hended, it is a good thing to sprinkle the soil at times with ammoniacal gas water, or to sprinkle the ground very sparingly with gas lime, making a bushel go over about five poles. This, mixed with the earth in frequent ridgings, will lose its virulence before spring, and will either kill or disperse a host of enemies. In old gardens, we have seen extraordinary crops produced by a good dressing of lime and peat, mixing it thoroughly with the soil. We have no doubt, however, but that you know all these matters yourself; but of late we always choose a poor piece of soil for Carrots, and if manure is given at all it is given at the bottom of the trench, and the ground above, if possible, kept ridged all the winter, and turned in the time of frost, so that most of it shall be frozen through.

The Celery grub has been more common of late. The eggs are deposited in summer between the two skins of the leaves, and there the grub feeds securely in a safe house. There is no remedy but picking the leaves off and burning them. A line run along the rows of Celery well smothered with tar, and kept in a moist state, will either catch the fly or help to keep it off by the smell. The grubs when full grown leave the leaves of the Celery and get down to the roots; and though we never knew them do much damage, there they remain in a chrysalis state through the winter, and start as beautiful flies in their work of propagating their kind as the warm days come in. The fly should then be scared out of gardens just as boys are set to knock down butterflies.]

### THE INTERNATIONAL EXHIBITION OF THE ROYAL HORTICULTURAL SOCIETY.

ALTHOUGH both the English and foreign collections of fruits which were exhibited at Kensington have been long since cleared away, a very interesting collection has recently arrived from Nova Scotia, which is well deserving of notice. Before proceeding to do so, however, a few remarks on the geographical position and climate of that colony may not be unacceptable.

Nova Scotia, which forms a portion of the main continent of America, lies between lat. N. 43° 23' and 47°, extending about 350 miles in length, and from 50 to 100 miles in breadth, and including with its dependency Cape Breton, an area of about 21,500 square miles. The climate is considerably colder than that of England, the mean temperature of the year at Halifax being 43°.8, whilst at London it is 49°.3, or 5½° higher. Though the winters are long and severe, and the springs cold and changeable, yet the summers are warmer than here; the mean temperature of that season being 62°, while for about a hundred days the thermometer is above 70°. Thus vegetation, although retarded about a month as compared with England, proceeds rapidly under the stimulus of the summer heat, and cereal and root crops as well as fruits, are ripe at the same time as in this country.

Judging from the specimens exhibited, Apples acquire a high degree of perfection in Nova Scotia, both as regards size and colour, and are, consequently, very extensively cultivated; and it is said that sorts which require a wall in this country succeed well as standards. To illustrate the size which some Apples attain, there are several specimens of Gloria Mundi of large size preserved in spirits, one of which is stated to have measured 15 inches or 17 inches in circumference.

The finest collection of Apples came from R. G. Haliburton, Esq., the Secretary to the Colonial Commissioners, and included some large and very fine fruit of the Gravenstein, Catshead, of good size; Baldwin, rather small; Nova Scotia Codlin, a fine, large, waxy yellow Apple, prominently ribbed, and with a red cheek next the sun; *Æsopus* Spitzemberg, rather small but highly coloured; Hubbardston's Noneseuch; and Alexander, large, and very finely coloured; Chebucto Beauty, a local variety taking its appellation from Chebucto, the Indian name for Halifax harbour, was a rather large but pretty pale yellow Apple, with broken streaks of crimson, and more or less suffused with the same colour next the sun; Morning Star, a rather small kind, dark crimson next the sun, was very like Pomme de Neige; Royal Pippin and Bishop Pippin appeared identical with the Yellow Bellefleur; Ohio Yellow was a medium-sized, roundish, yellow Apple; and Nova Scotia New, a middle-sized fruit, cream-coloured, with numerous broken streaks and dots of crimson, giving it a variegated appearance.

The Ribston Pippins though rather below the middle size, were well coloured; so was the Nonpareil; and Golden Russet,

Gloria Mundi, and King of the Pippins, were fine; Rhode Island Greening was of fair size; Large Yellow Bough, under the name of Early Bough, was large; Corn Apple was a red fruit, very light, and apparently soft; and Cracking Pippin, a heavy, middle-sized, pale yellow Apple; the Hawthornden was rather small, and much flatter than with us, whilst in colour it was white, with a pale red cheek. The Apples called American Russet, Gilliflower, Late Pippin, Fall Red, and Winter Emperor, were probably seedlings raised in the colony; and Hallow Pippin, Blue Pearmain, Rivers' Apple, and Holland Pippin, were large fruits, equally unknown to us; the last-named was not to all appearance the variety known as the Holland Pippin in this country. For the above collection a silver medal was awarded.

From the orchard of R. Starr, Esq., Cornwallis, there also came an excellent collection of the Apples and Pears grown in that fertile district; but from the specimens of the latter fruit it is evident that the Pear does not acquire nearly the perfection that the Apple does in Nova Scotia, a circumstance which is, doubtless, owing to the lateness of the spring retarding the blossom, and, as compared with this country, the consequent shorter period which is available for ripening. Nevertheless, the Marie Louise, Flemish Beauty, Williams' Bon Chrétien, Passe Colmar, and Vicar of Winkfield, are said to bear constantly and well as standards.

Among the Apples we found Gravenstein, Alexander, and Herefordshire Pearmain, well coloured, and of good size; Ribston Pippin, rather small, but apparently well ripened; Rhode Island Greening, below the average; King of the Pippins, rather large, finely coloured, and in one specimen dark crimson next the sun; Rambo, a kind highly esteemed in America, both for kitchen and dessert use; Yellow Bellefleur, good; Flushing Spitzemberg; Calkin's Pippin; English Russet; Gilliflower, not true; and two or three other kinds.

The Pears consisted of Seckle, small, but well ripened; Louise Bonne of Jersey, very small; Vicar of Winkfield, small, and apparently not well ripened; Marie Louise; Beurré d'Amant, of fair size, but too far gone; Black Worcester, and Glou Morcean (?), both very small; Columbia; Flemish Beauty, very fine and highly coloured; Sylrange, apparently a small Belle et Bonne, and Paradise d'Automne, small. The kinds sent as Beurré de Capiaumont, Belle Lucrative, and Bergamot, did not appear to be these sorts, but were too far gone to make anything of. Quinces of good size were also contributed by the same gentleman, whose collection received a bronze medal.

Black Hamburg, White Cluster, and all the hardier Grapes are said to ripen in the western districts against walls out of doors, the Vines, of course, receiving protection in winter. Small bunches of the Black Hamburg, with fair-sized berries, were exhibited from out of doors, as well as small, compact bunches of the Royal Muscadine, but the berries were small. As for the Isabella and Concord Grapes, the former though of good appearance for a hardy kind, we have long known to be of vile flavour, and the Concord we more than suspect to be of the same breed, and no better. A fine bunch of White Nice was exhibited by Mr. Forman, and three very good bunches of Black Hamburg from Mr. Haliburton; in both cases, doubtless, from under glass.

Apricots, Nectarines, Peaches, Isabella Grapes, and Plums, grown in the open air and preserved in spirits, were also exhibited; and Plums, preserved in the same way, came from Mr. J. Thompson, including Reine Claude de Bavay, Washington, Quetsche, and some others, one of which, through the glass, looked like Coe's Golden Drop.

Among the vegetables were some very fine Onions; clean, well-grown roots of Carrots, both of the Early Horn and Long Orange kinds; Parsnips of good size, considering the season at which they had been taken up; and the Potatoes, of which about a dozen sorts were shown, were all remarkably good, both as regards size and freedom from disease, and it appears that they form a very important article of produce, no less than 3,824,864 bushels having been grown last year. Red Beet was very good; both Mangold and Swedes were of good size; and the Kohl Rabi, though small, was well-grown and very solid. Tomatoes were excellent. Cucumbers, we presume from out of doors, were about a foot long; and of Gourds, the Large Yellow was probably about 100 lbs. weight; and the Vegetable Marrows were also of very large size. It appears that Gourds of all kinds are much cultivated in Nova Scotia, where some of them attain the weight of 170 lbs., both for domestic use and as food for cattle. Some excellent samples of Oats, Barley, and Maize were also exhibited,

as well as Rye, Wheat, and Flax, to the cultivation of the last of which attention has been recently directed as likely to prove a remunerative product.

We observed on the same table as the Nova-Scotia collection, several specimens of the "Fine Apple of Amassia," from E. B. Barker, Esq., Her Majesty's Consul at Saisoun. It is a showy, middle-sized Apple of handsome form, pale yellow, with a crimson cheek, covered with white specks. It is fair to look upon, but what its merits may be we cannot say. Several samples of Wheat came from the same gentleman, and among them were some remarkable for their long and very ornamental beard.

## EXTRACTS FROM A TOO-MUCH NEGLECTED BOOK.

November 22.—INDIAN CORN is prepared in many ways by our housewives: we have *sapaen*, or hasty-pudding; griddle-cakes, made with eggs and milk; hoe-cake, or Indian bread, baked in shallow pans; samp or hominy, corn coarsely broken and boiled; Jonikin, thin, wafer-like sheets, toasted on a board; these are all eaten at breakfast, with butter. Then we have the tender young ears, boiled as a vegetable; or the young grain mixed with Beans, forming the common Indian dish of *succotash*; the kernel is also dried, and then thoroughly boiled for a winter vegetable. Again, we have also Indian puddings, and dumplings, and sometimes lighter cakes for more delicate dishes. The meal is also frequently mixed with Wheat in country-made bread, making it very sweet and nutritious. Besides these different ways of cooking the Maize, we should not forget parched or "popped" corn, in which the children delight so much; and a very nice thing it is when the right kind of corn is used, and the glossy yellow husk cracks without burning, and the kernel bursts through, pure, and white, and nicely toasted. A great deal of popped corn is now used in New York and Philadelphia by the confectioners, who make it up into sugar-plums, like *pralines*. Acres of "popping corn" are now raised near these large towns, expressly for this purpose; the varieties called Rice corn, and Egyptian corn, are used, the last kind being a native of this country, like the others.

The word *sapaen* has sometimes been supposed of Indian origin. It is not found in any dictionary that we know of, though in very common use in some parts of the country. Vanderdonck speaks of the dish.\* "Their common food, and for which their meal is generally used, is *pap*, or *mush*, which in the New Netherlands is named *sapaen*. This is so common among the Indians that they seldom pass a day without it, unless they are on a journey, or hunting. We seldom visit an Indian lodge at any time of the day without seeing their *sapaen* preparing, or see them eating the same. It is the common food of all; young and old eat it; and they are so well accustomed to it, and so fond of it, that when they visit our people, or each other, they consider themselves neglected unless they are treated to *sapaen*."

Maize seems, indeed, to have been the chief article of food with those Indians, at least, who lived upon the banks of the Hudson, or in the New Netherlands. Vanderdonck, in describing their food, does not, I believe, once mention the Potato, at least not in the parts of his works which have been translated. He speaks of Beans as a favourite vegetable of theirs, and one of the few they cultivated, planting them frequently with Maize, that the tall stalk of the grain might serve as a support to the vine. He observes, they had several kinds of Beans—probably all the native varieties, of which we have several, were cultivated by them. Squashes he mentioned as peculiar to them, and called by the Dutch *Quaasiens*, from a similar Indian word. Pumpkins were also cultivated by them, and Calebashes, or Gourds, which, says he, "are the common water-pails of the Indians." Tobacco is also named as cultivated by them.

But, as we already have observed, in his account of their field and garden produce, he says nothing of the Potato, which is quite remarkable. The Maize, on the contrary, seems to have been eaten at every meal. "Without *sapaen*," he continues, "they do not eat a satisfactory meal. And when they have an opportunity they boil fish or meat with it, but seldom when the fish or meat is fresh, but when they have the articles dried hard and pounded fine. . . . They also use many dry Beans, which they consider dainties. . . . When they intend to go a great distance on a hunting expedition, or to war . . . they provide

themselves severally with a small bag of parched corn or meal; . . . a quarter of a pound is sufficient for a day's subsistence. When they are hungry they eat a small handful of the meal, after which they take a drink of water, and they are so well fed that they can travel a day. When they can obtain fish or meat to eat, then their meal serves them as well as fine bread would, because it needs no baking."

Speaking of their feasts, he says, "On extraordinary occasions, when they wish to entertain any person, then they prepare bearers' tails, bass-heads, with parched corn-meal, or very fat meat stewed, with shelled Chestnuts, bruised." Not a bad dinner by any means. Thus we see that while they relied on the Maize in times of scarcity and fatigue, it made a principal part of their every-day fare, and entered into their great feasts also; but Potatoes do not appear at all.

In using the word *sapaen*, Vanderdonck leads one to believe it either a provincialism of the New Netherlands, or an Indian word. Very possibly it may have been borrowed from the red man, like the *Quaasiens* or *Squash*. There is, however, a word which corresponds to our English *sup*, to swallow without mastication, which in Saxon is *zupan*; the Dutch are said to have a word similar to this, and *sapaen* may prove a provincialism derived from it. A regular Hollander could probably decide the question for us. *Samp* for cracked corn; *homing* for grain more coarsely cracked; and *succotash* for Beans and Maize boiled together, are all considered as admitted Indian words. *Mush* is derived from the German *Musse*, for pap, and probably has reached us through the Dutch.—(*Miss Cooper's Journal of a Naturalist in the United States.*)

EARLY FROST.—The first frost of sufficient severity to injure the occupants of our flower gardens, occurred on the night of Friday, the 24th inst, when the thermometer fell to 25°. It was what is called a white frost, and owing to the large amount of moisture in the air everything was abundantly covered with rime. As the immediate recurrence of frost of even greater severity is extremely probable, we would advise our readers to be prepared with their protections.

## BRISBANE BOTANIC GARDEN, 1861-1862.

[THE following from the Report on the Brisbane Garden, Queensland, Australia, made in July of the present year, by its Director, Mr. Walter Hill, will be read just now with especial interest, touching as it does upon the production of cotton and other fibre-producing plants.]

"Amongst the improvements effected in connection with the cultivated land, I may state that two plantations of the *Thea Bohea* (Black Tea), consisting of several hundred plants, have been formed on each side of the ridge in the vicinity of the Director's residence; heretofore, there had been but a few isolated and scattered specimens of this valuable plant in different parts of the garden. These plantations were formed with a view of furnishing an example of the cultivation of this product on a large scale, and also for the purpose of making an experiment to ascertain the position best adapted for the growth of the plant, as this is a disputed question. One of the plantations referred to is exposed to the east, and in the other the plants have a western aspect. In both situations the plant thrives admirably, and there is no perceptible difference in the progress of the two plantations.

"This experiment in connection with the cultivation of the Tea-plant is the largest which has been made in any of the Australian colonies. The result proves the perfect adaptation of our soil and climate for the successful cultivation of this product.

"Several rows of timber trees indigenous to this colony have been planted in part of the border at the south-west side of the ground. These trees will prove highly ornamental. A collection of this kind should form a prominent feature in any botanical garden. Future visitors to these grounds will have an opportunity of examining in the Museum specimens of the timber of this colony, worked-up and polished by the hands of the artisan, and also of viewing in the garden, specimens of the trees from which such timber is procured. For the sake of ornament a row of *Laurus australis* (Native Laurel) has been planted in front of these trees. A pleasing effect will thus be produced when the trees attain a more mature growth.

\* In 1653.

"About half an acre of ground in proximity to the Tea plantations has been planted with Bananas, with a view to the suppression of the growth of that noxious weed, the *Cyperus hydra* (Nut Grass). A similar experiment was made in different portions of the garden with successful results on a previous occasion.

"The cultivation of the Cotton-plant continues to be attended with the most satisfactory results. An experiment has been made in order to ascertain the position best adapted for the growth of the Cotton-plant. Several varieties have been planted in the low, flat ground, and several in the higher and undulating ground.

"The result is, that the plants situated on the undulating ground are much healthier, and yield a larger and stronger fibre than those grown in the low ground. The cultivation of the Peruvian variety of this plant has been unsuccessful, and the result of experience indicates that this variety cannot be cultivated with profit in the district.

"The *Coffea arabica* (Coffee Tree), raised from seed obtained from a plant at Newstead, and planted four years ago, is now in a flourishing condition. This plant did not at first thrive so well as could be desired, owing to the unfavourable situation in which it was placed. About eighteen months ago it was replanted and placed on the side of a ridge sheltered from the westerly winds. In this new position the plant has flourished well. The berry is fine and well-flavoured, and at the present time is bearing about two pounds weight of fruit. This experiment in Coffee cultivation fully proves that the soil and climate of the colony are admirably adapted for the growth of this production.

"The cultivation of fibre-yielding plants has attracted of late years a considerable amount of attention in Great Britain, and other colonies. Several species yielding valuable fibre, such as the Manila Hemp, the Jute, the China Grass, the African Hemp, &c., have been introduced into our gardens and thrive well. One of our commonest weeds, however, which grows in profusion in this district—viz., the *Sida retusa*, will, I am certain, eventually be cultivated as a valuable fibre-yielding plant in preference to any of the species above named. This now disregarded plant will in course of time be ranked in this respect as one of the valuable products of the colony. A small sample of the fibre prepared in a rough way have appeared amongst the contributions of Queensland to the Great Exhibition of 1862.

"Several new and valuable plants, for the cultivation of which the colony is admirably adapted, have been added to the garden during the past year. Among them is a *Cinchona Calisaya*, one of the trees yielding quinine. I trust to be enabled to cultivate this product in our garden with success. Amongst the other plants introduced I may direct attention more particularly to the following:—*Urania speciosa*, a magnificent palm-like plant, whose seeds yield an essential oil, and are said to be edible; *Xanthocymus pictorius* (Gamboge Tree), the juice of which produces the brightest of yellow dye; and the *Indigo* (*Indigofera indica*), the leaves of which yield the valuable dye of that name."

### DÜRKHEIM—THE GRAPE CURE.

DÜRKHEIM is the head-quarters of the Grape cure in Germany. Meran, in the Tyrol, and Vevay and Montreux, on the lake of Geneva, have a high reputation, and are much resorted to for the same purpose, but in Germany Dürkheim is the place which enjoys most fame. It is on the left bank of the Rhine, in the Bavarian Palatinate, and is distant about fourteen miles due east from Mannheim. The nearest railway station is Neustadt, a small town on the line from Mayence to the French frontier at Forbach. The drive from Neustadt to Dürkheim, a distance of about nine miles, is very beautiful, and is to be preferred to that from Mannheim. The road is a very good one, and runs along parallel to and at the base of the Haardt range of mountains, on a slope which has been formed by the action of water on the light, sandy, and friable soil of those hills. From a few miles to the north of Dürkheim to about twenty miles to the south, the Haardt range of mountains on its east side runs almost due north and south, leaving an immense flat plain of about twelve to fourteen miles in breadth, intervening between it and the Rhine. This plain is very highly cultivated, and abounds in every sort of crop. The Haardt range is considered to terminate in the neighbourhood of Landau, the mountain on the south side of the stream which flows through that town being properly the Vosges, though the one range is merely a continuation

of the other. A slope of the same character, and due to the same causes as the one on which the road from Dürkheim to Neustadt runs, extends from Neustadt to the southern limit of the Haardt range at Landau. The geological character of this slope is different from that of the great plain which extends to the Rhine, the latter being either tertiary or alluvium, while the slope is formed of the detritus that has been washed down from the hills. The whole face of the slope is covered with Vines. The Vine cultivation is on so enormous a scale that nothing in Germany, not even in the Rheingau, from whence the most celebrated of the German wines come, can be compared to it in extent. For some five and twenty miles the high road passes through the midst of a succession of vineyards, without a trace of any other cultivation meeting the eye of the traveller. Though the wines of this district do not command such high prices as the wines from the Rheingau, and are not much known out of Germany, the cultivation is conducted with as much care as in the Rheingau itself, and the wines produced are more generally consumed by the Germans themselves than any other of their wines. The Deidesheimer and the Förster are the best of these wines, and immense quantities of them are sent to all parts of Germany. The former is usually recommended by the German doctors to their patients as being the least acid of their wines. The vineyard from which these two wines come is in the immediate neighbourhood of Dürkheim. A very good class of wine is made at Dürkheim, but the Grapes grown there are for the most part table Grapes, as the Germans say, to be used in the Grape cure, and for the purposes of export. Immense quantities of them are sent daily to all parts of Germany, and no Grapes enjoy so high a reputation in that country. Grapes differ materially from each other in quality: the Grape which is best adapted for the purpose of making wine is not generally so wholesome and so agreeable to the taste as another which will produce an inferior wine. About twelve to fifteen different sorts of Grapes are grown at Dürkheim. Many of these, if not most of them, may be often found in the same vineyard. A little practice will enable any one in a very short time to distinguish, by the eye, one sort from another; for differences exist between them not only in colour, but also in form and size, as well as in the thickness of the skins. The leaves, also, of the different sorts differ in form and size. To the taste the differences of flavour are at once perceptible. Persons who have not been through a vineyard, and have not had the opportunity of testing one different sort of Grape after another, can hardly believe that there is so great a difference in flavour between the different sorts as does, in fact, exist. The Grapes used in the cure are generally of four or five sorts; the two most commonly employed are called the Gutedel and the Austrian. They are both white, with thin skins, and are both of them sweet and well-flavoured. The Black Burgundy Grape, and the small dark Red Traminer, which has been introduced from the Tyrol, are also much used in the cure, though not nearly to the same extent as the two already mentioned. The Burgundy Grape is a very fine Grape, and is, both in flavour and look, very like what is called in England the Black Hamburgh. The Traminer is a very pleasant sweet Grape, with a scented or aromatic flavour, and a very thick skin. In certain cases, it is found to disagree with patients as being too heating. The Riesling, the Grape from which all the most celebrated wines of the Rheingau are made, is not used in the cure, and is not considered by the Germans as a good table Grape. Chemical analysis shows that it contains more saccharine matter than either the Gutedel or the Austrian Grape; but at the same time its acid properties are stronger. The Burgundy Grape is still sweeter than the Riesling, but its acid qualities, though less than those in the Riesling, are greater than those in the Gutedel or the Austrian, and, therefore, it is not so much used in the cure as they are. The acids which are found in the juice of all Grapes, in greater or less proportions, are tartaric, citric, and malic acids. Much albumen, gelatine, and gum, as well as a considerable quantity of alkaline matter, are always found. Careful analysis has also discovered in all Grape juice traces of tannin, and even oxide of iron. An excess of acids in the Grape is found, not only to interfere with the digestion, but to affect the mouth and the teeth in such a way as to prevent a person from being able to continue the cure for the requisite period.

The Grape cure lasts for from three to six weeks. The regular season commences, on an average, about the middle or the first week in September, and lasts to nearly the end of October. Everything depends on the state of the ripeness of the Grapes.

The amount of Grapes daily taken by persons undergoing the cure varies from about  $4\frac{1}{2}$  to 7 or 8 lbs.; in some cases even as much as 9 lbs. are eaten. They are taken three times a-day, at the same hours at which mineral waters are usually drunk in Germany—before breakfast, at eleven o'clock in the morning, or two hours before dinner, and at from five to six in the evening. Persons generally commence the cure with from 2 to 3 lbs. a-day, and advance daily in quantity till the larger limit is reached. The skins and the seeds should not be swallowed. The largest portion is usually consumed at eleven o'clock. Some doctors do not allow their patients to take any other breakfast than the Grapes, accompanied by a roll of bread. The usual plan, however, is to permit them to take a breakfast of tea or coffee with bread, but no butter, after the Grapes. A strict diet is universally prescribed; all fat, sour, or spiced meats, and pastry, are forbidden; a small quantity of white, light wines is permitted, but red wines, beer, and milk, must be avoided. The evening meal should be a very light one. The system pursued at Dürkheim is the same as the one followed at the other places where the Grape cure goes on; and the Grapes which are used in the cure both at Vevay and Montrenx are, as at Dürkheim, for the most part the Gutedel and the Austrian varieties.

There is a small Kurgarten at Dürkheim, formerly the garden of the castle, where a band plays at the regular hours appointed for the eating of the Grapes. On one side, under the trees, there are tables covered with large baskets full of the varieties used in the cure. As at Ems and other places where mineral waters are drunk, it is the fashion for every one to buy a glass for himself, so here every one must be provided with a basket to carry the Grapes which he purchases from the attendants at the tables. The price of the best Grapes is at present only  $2\frac{1}{2}d.$  a-pound. To a stranger the sight is an amusing one, and very different from anything to be met with elsewhere. Numbers of people are seen walking up and down in the little garden, each with a small black basket, full of Grapes, in his hand, which he is eating with great rapidity, as if he were doing it for a wager. The place is, as may be imagined, covered with Grape-skins, though some of the burly, round-shouldered Germans bolt skins and all.

On the tables where the Grapes are sold, there is generally a small Grape-press, a miniature of the one used in the making of wine, for the purpose of squeezing out the juice or liquor, which is sometimes preferred to the Grapes themselves. Persons whose mouths or teeth have been affected by the acidity of the Grapes are frequently obliged to give up eating them and drink the juice or must instead. The "mueching" one's own Grapes is by no means essential to the cure, but the liquor pressed out is so strange, so unlike the Grapes themselves, and so unpleasant, that few persons will prefer it, except they are obliged to do so.

The disease in which the Grape cure is considered by the German doctors to be most beneficial is in affections of the mucous membrane of the respiratory organs. The secretive powers of this membrane are roused, and it is enabled to throw off obstructions which have assumed a chronic form. Cases of bronchitis and pneumonia are said to have been often cured even in patients of a serofulous constitution; and much benefit is said to have been experienced by persons affected with tubercular consumption in its earlier stages. Where spitting of blood has set in, much caution must be used as to the amount of Grapes taken. Persons affected with any of these complaints are in the habit of coming to Dürkheim yearly from all parts of Germany.

Dürkheim possesses an advantage over other Grape-cure places in having close to it a brine spring, which enables patients to combine the use of salt baths with the Grape cure. The union of the two remedies is said to be especially beneficial in all maladies affecting persons of a serofulous tendency. Complaints of the heart and liver, as well as other internal complaints, gout, and even Bright's disease, are claimed by the Grape-cure doctors as coming within their scope and range.

Whether the efficiency of the Grape cure in the alleviation of disease be as great and as beneficial as it is claimed by its advocates to be, may be doubted, without at the same time impugning the system altogether. In this, as in most other cases, truth lies, perhaps, between the extremes. A free use of Grapes is probably good, and may be beneficial in the alleviation of many complaints. The action of the vegetable juices upon the animal system is a subject most imperfectly understood. Some of them, it is known, have a most powerful action as well

in the prevention as in the cure of disease, but how that action takes place is still one of nature's secrets. The man who prohibits wholesale the vegetable juices, and crams his patients with mutton chops and bread, is a greater charlatan than the Grape doctor who gorges and stuffs them with Grapes. The course of regimen pursued by the latter includes all sorts of light and nutritive diet, whereas the former forbids even the moderate use of articles of food which seem to be especially suited for the wants of the animal system, and which, in many cases, his patients have an eager craving for. Of all the vegetable juices, none seems so well adapted for man as that of the Grape. In times of serious sickness, and especially in cases of fever, Grapes are frequently the only food which is cared for and eaten with pleasure. Nature tells, with an unerring voice, its real wants, and speaks out with an emphasis that cannot be gainsayed. The food which, on occasions of severe crisis, when nature is put to its strain and reduced to the lowest ebb, the human system calls for, must not only be a healthy one, when taken in moderation, but must also be instrumental in the alleviation of disease. Whether the healthy action of Grape juice be due to its tartaric or citric acid, or to its sugar, or to any other of its constituent parts, or to them all in combination, neither chemists nor physiologists can tell. The property which the saliva has of turning cane sugar into Grape sugar, seems to speak in favour of the sugar; but other facts, well known to doctors and physiologists, will support the claims of others of the component parts.

Like hydropathy, homœopathy, or the cure by the drinking of mineral waters, the Grape cure is, perhaps, carried to excess by its own practitioners. There is, however, truth in it, and it must not be treated with levity or ridicule. Much good may and little if any harm can be done by it. The process is well worthy of being tried by those who have failed to derive benefit from other systems of treatment. As an alternative, the Grape cure is probably a sound system, and it deserves more attention at the hands of English doctors than it has hitherto met with. It is as an alternative that it is looked on with favour by many of the most sound and sensible doctors in Germany, and many patients are sent by them from all parts of the country to try it.

Independently of the question of Grape cure, Dürkheim is well worthy of a visit. The position of the place is very charming, and several objects of interest exist in the immediate neighbourhood. The town is an ancient one; but, as it was burnt down during the wars of Louis XIV., it contains no building of any interest. Dürkheim was formerly the capital of the Counts of Leiningen, a family now represented by the Prince of Leiningen, the nephew of our own Queen, and continued their capital till the French revolution, when their castle was burnt down, and the principality and all their property was confiscated. Leiningen, the *Stamm-Schloss* of the family, is a few miles distant, perched most picturesquely on the top of a conical hill. The family possess no longer any property in the neighbourhood. No princely or noble families exist any longer in the Palatinate. The French revolution was the sponge which wiped them all out. Money is now the only nobility, and perfect equality is dominant. Property is much divided. The owners of vineyards are the people of the greatest influence.

Within half a mile from Dürkheim are the magnificent ruins of the Benedictine Convent of Limburg, built of the red sandstone of the country, which is as sound as on the day on which it was taken from the quarry. Like the castle of Leiningen, and many other places in the range of Haardt, the convent was perched on the flat top of a round conical hill. This common characteristic feature in the scenery of the Haardt is clearly due to the erosive action of the water of the great lake, which must at one time have filled the whole plain, before the Rhine had succeeded in bursting its way to the ocean.

Another very interesting object in the neighbourhood of Dürkheim is the Heidenmauer, a circular enclosure on the top of a high mountain, overlooking the whole plain, formed of loose stones, 60 feet in breadth, 12 feet in height, and  $1\frac{1}{2}$  mile in circumference. The ancient Germans were probably its constructors, and its use were, it is thought, of a religious character. Cooper, the novelist, has made it and Limburg the subject of one of his novels. Other objects of interest exist in the neighbourhood, but it would be tedious to enumerate them. The scenery all over the Haardt range of mountains is so picturesque and charming that the patient is seldom at a loss how to while away the time both with instruction and pleasure to himself. Dürkheim is not the only place in the Haardt where the Grape cure is carried on. Both Neustadt and Gleisweiler, in the neighbour-

hood of Landau, are rivals. The latter of these two places is beautifully situated high up in the face of the mountains, and combines a hydropathic establishment with the Grape cure. Persons who cannot find accommodation at Dürkheim are in the habit of going to either of these places. The hotel Löwe at Neustadt, near the railway station, is very good, the cooking is excellent, and the wine faultless.—(*London Review*.)

### POTATO AND CELERY CULTIVATION IN LANCASHIRE.

THERE are a goodly number of shows held on a small scale in Lancashire by cottage gardeners, for the purpose of seeing which can grow the largest Potatoes, Celery, Apples, and other garden produce. I have been round to the various shows this autumn, for the purpose of seeing which were the best and the heaviest of the above; and allow me to say, that so far as Potatoes (unless for cattle) are concerned, I totally disagree with the shows altogether, for of all the ugly things that I ever saw, the Potatoes were the worst.

The kinds they mostly grow here for showing by weight have many local names. For instance, the sort that chiefly wins is called Lumpers, Mangold Wurtzel, and Red Kidneys; Ox-nobles are the next. The Lumpers are like three or four Potatoes joined together, and sometimes like a dozen little ones fixed together. Nobody could ever peel one without cutting one-half away, or even more.

I have on one or two occasions been a judge at some of these shows of the other things shown along with Potatoes and Celery, and I have disappointed some of the lovers of very large stuff, because I have been unwilling to give the prizes to gross, overgrown productions, scarcely fit for cattle, and certainly not for human beings.

Some of these lovers of big stuff have condemned us poor gentlemen's gardeners as judges of cottagers' vegetables. One man said to me at a late show, that had he been a judge, he should have given his largest Turnips the prizes, instead of which they had no prize at all. I quietly told him that it was not an agricultural show, and if he had any doubts which were the best, to boil them after the show. His largest were 3 lbs. or 4 lbs. each, and his prizetakers about half a pound each. I told the man that there was little art in growing such things large; for what was wanted was simply plenty of room and good stimulants.

The heaviest Potatoes I have seen this year at the shows have been 3 lbs. 1½ oz.; 2 lbs. 11¾ ozs.; and 2 lbs. 8 ozs.

The heaviest Celery I have seen or heard of has weighed 15 lbs. 4 ozs., and 17 lbs. 1½ ozs. Without passing any comment myself, I enclose you the remarks of a genuine lover of gardening, and a man who takes many prizes at the Ashton Town Hall Horticultural Show.—JOHN HAGUE.

### OXFORD MILLS COTTAGE GARDENERS' TEA PARTY.

On September 27th afternoon, at half-past four, the above gardeners and their friends, to the number of 200, partook of tea and sandwiches, provided in great plenty and of excellent quality, in commemoration of their Show, which took place a fortnight ago, in the same set of magnificent rooms, built by Hugh Mason, Esq., for the use of his workpeople and tenants, as reading, smoking, and lecture-rooms. Some of the tables were decorated with bouquets of flowers, and there was an abundance of excellent Celery, nicely cleaned. After tea Mr. Wm. Tipping, cashier and general manager of the mills, was called to the chair, and in opening the business of the evening he said he was glad to be present at such a meeting, for he was glad to see that, in the midst of the present gloom and distress by which they were surrounded, the workpeople of Oxford Mills could have an evening's enjoyment, and his earnest wish was that all who were suffering such privations could be made as happy as those present. The workpeople of Mr. Mason had cause to be very thankful for the generous and kind-hearted treatment of that gentleman, for he (Mr. Tipping) could assure them that had Mr. Mason sold his cotton like some of the millowners, he would have been a richer man by ten thousand pounds than he was. (Sensation, and loud applause.) Instead of that he had not only run his mills full time, but had not reduced their wages at the general abatement. Some of his enemies said he did these things for a motive, but he (Mr. Tipping), taking the lowest idea, did not care what motive a man had if he did good to his fellow-

creatures. (Hear, hear.) Some who had not half the ability of the above gentleman were anxious to pull him down by any means, fair or foul; but, dismissing that subject, he would say to them, Go and do likewise. (Loud applause.)

As that was a meeting of gardeners and friends, it was necessary that something should be said about gardening; but he could assure the young people who were anxious to have an hour's amusement in dancing, that he should make his speech in as short a time as possible.

To those who kept gardens he would say that he should like some other plan than giving the first prize to stuff that was not fit to eat, and hardly fit to look at. He had noticed in going round the room at the late show, that the Celery most fit to eat was to receive the lowest prize. Now, it should be the aim of every gardener to produce something not only fit to look upon, but fit to use. They must have noticed the many fine ornamental plants and fruits brought for decoration, that they were grown not only to please the eye but the palate also. After passing some humorous remarks, he said he did not want the greatest amount to be given to one vegetable, but a fair distribution of whatever prizes Mr. Mason might give. He had sometimes walked over the gardens of the winners of the chief prizes, and had found, perhaps, a few sticks of Celery, a few Cabbages, and the rest of the garden up to the knees in weeds. Now, he would advise Mr. Mason to give his prizes in such a manner that he who kept the *best garden* should have a share, for of what use was it having a garden part full of weeds, and the rest filled with something not fit to eat?

The choir, which was, with about one exception, composed of Mr. Mason's mill hands, sang some beautiful pieces between the speeches, and recitations were given with good taste.

Mr. John M. Broadbent, one of the overlookers, was called upon to say a few words upon gardening, and, after giving an interesting outline of the history of gardening, and the rise and progress of many kinds of vegetables, flowers, and fruit, he referred to the part of Mr. Tipping's speech which spoke of weedy gardens and useless vegetables. He (Mr. Broadbent) would undoubtedly join the gardeners' club if prizes were given for the best-kept fences, the best cultivated gardens, and the most useful vegetables. He, for one, did not see why some Oxford gardener should not bring out some new vegetable, fruit, or flower—a thing which they all might do. He did not expect they would have houses for Grapes and for growing and raising exotics, like his friend Mr. Hague (Mr. Mason's gardener), or that they would, like Mr. Hague, have Verbenas by the hundred, and Geraniums and other things by the thousand, but each could have his garden plotted out into beds, and things grown in little patches or beds in some sort of order, without having all sorts of things jumbled up together, as was often seen in cottage gardens.

Mr. Tipping then gave some useful hints on the art of raising new fruits, flowers, and vegetables, and stated some wonderful facts about Grape-growing, showing that cottagers could now have their own Grapes as well as gentlemen, and there was not so much mystery about growing them as some people imagined. After showing how houses could be built for growing such things, he was sure such men as Mr. Hague would put any of them into the way of growing them.

Mr. Hague, in supporting a vote of thanks to the reciters and the chairman, gave a few useful hints on the value of having as many fresh vegetables in winter as possible, for they were quite as necessary as in summer, and many skin diseases would never occur if more fresh vegetables were eaten in winter.

Votes of thanks to the singers, tea-makers, &c., were received with loud applause. The company then divided into two or three lots, one portion occupying the smoking-room, and another the reading-room, where various plays and amusements were carried on by the elder portion of the company; and the young folks danced in the lecture-room until about eleven o'clock, when all separated, highly delighted with the gardeners' tea party.—(*Ashton Reporter*.)

### RED BEET VERSUS PERILLA NANKINENSIS.

I HAVE for three years tried the Perilla, sometimes edged round with Variegated Alyssum, and some other variegated plants; but the last three years have been anything but good for fairly proving bedding plants. Last year I thought I would substitute Red Beets for Perilla, and see how they would look. I have planted three beds in the geometrical garden. They were

the three centre beds of each group, two were planted or rather sown with Red Beets, and the third was planted with Perilla. Now, I have made up my mind to give Perilla "the bag," as we say in Lancashire—that is, to turn it away, but I will give it another trial.

I edged each with the same plant, but "commend me" the Beets. They are not only very ornamental but useful when their growth is finished, and I should feel glad if any other person who has tried them will speak out in behalf of the Beet, for I am convinced it is far more ornamental than Perilla, and everyone who has seen the two with me has said as I say.—J. HAGUE.

### ENTOMOLOGICAL SOCIETY'S MEETING.

THE October Meeting of the Entomological Society was presided over by F. Pascoe, Esq., F.L.S., Vice-President.

Mr. Samuel Stevens exhibited specimens of a blind species of Beetle (*Adelops Wollastonii*), which he had taken in considerable numbers at Hammursmith, under the decayed leaves of Rhubarb. It had, however, only been observed in certain spots which were frequented by one of the species of *Julida*. The connection was, however, probably only accidental, but Mr. Pascoe stated that he had also found a blind species of Beetle in one of the caves in France, in company with a *Scelopendra*. Mr. Ineson, on the contrary, had never met with any *Myriopoda* in company with the species which he had taken.

M. Desvigne exhibited a very remarkable variety of the Painted Lady Butterfly (*Cynthia Cardui*), having the disk of the fore wings almost uniformly flesh-coloured. It was taken on the sands at Margate in July last, by a schoolboy.

Professor Westwood directed attention to the state of the Turnip crop in Oxfordshire and several other midland counties, where in many places the leaves had gradually died off, having been attacked, as he had been informed by Mr. Druce, the distinguished agriculturist of Eynsham, by myriads of small green flies, similar to those which infest the Roses (*Aphides*). On examining the plants of several varieties he had not discovered any living *Aphides*, but the leaves and stalks were thickly covered with a dense white mould as though the plants had been washed with Gishurst Compound. In some instances the roots had thrown up a few small young leaves in the centre, but more generally they had died. He also exhibited an interesting series of specimens illustrating the natural history of different species of insects which, in the larva state, form mines or burrows within the substances of the leaves of different trees and plants, and which were found to belong to several orders, such as minute Beetles (*Coleoptera*), Flies, *Muscidae* (belonging to the *Diptera*), *Hymenoptera*, and *Lepidoptera*, the latter being small and very beautiful species of Moths. This collection had been made by S. Stone, Esq., of Brighthampton, Oxfordshire, and had been kindly presented to the New University Museum, Oxford.

Mr. F. Moore exhibited drawings of the transformation of a very remarkable large Indian Moth (*Epicopeia Polydora*), which from its extreme similarity to *Papilio Polydora*, and from the mutilated condition of the antennæ in the first recorded specimens, had at first been supposed to belong to the Butterfly tribes. The transformation had been observed by Captain Hutton, of Massoree, and fully proved that it belonged to the *Bombycida*, amongst the nocturnal *Lepidoptera* or Moths, the larva being enveloped in a dense coat of flossy silk of dazzling whiteness standing erect, and falling to powder when touched. He also exhibited a specimen of the magnificent *Kolisuris* Silk Moth of the Deccan, which had been hatched in London on the 15th September last.

General Sir J. B. Hearsey exhibited a case of beautiful Homopterous insects from Darjeeling.

Mr. Newman read a communication from Mr. Jenner, of Lewes, on the extensive destruction of young Ash trees grown in Sussex for Hop poles, by the larvæ of *Zenzera Esculi*. Damage to the amount of at least £1000 had been sustained by this means. Dr. Baly stated that Ash poles were also liable to the attacks of *Pachyta collaris*, one of the Longicorn Beetles; and Professor Westwood stated that he had reared *Clytus arictis* from oaken Hop poles received from Captain Cox.

Mr. Stainton gave an account of a visit to Aix-la-Chapelle, for the purpose of inspecting the specimens of *Micropteryx* reared from Hazel leaves, by Herr Kaltenbach, and which proved to be *M. fastuosella*, a species closely allied to *M. subpurpurella*, the

larva of which mines Oak leaves. It is during the month of April that the larva of the former species was found on the Hazel leaves, which would be a guide to English entomologists in search of the species in this country.

Professor Westwood made some remarks on the misapplication of the ordinary rule of priority in nomenclature in the case of insufficient or inaccurate descriptions of insects. He contended that no description ought to be recognised which was not intelligible, or which had been so carelessly drawn up as to be insufficient to enable a student to determine what was the species intended; instancing cases in which a Neuropterous insect had been described as a new genus of *Coleoptera*, and where a species had been described under many separate specific and even under two or three distinct generic names. He maintained on the other hand the value of typical specimens in collections, and the advantages as well as the duty of consulting them when practicable, by subsequent describers.

Major F. Parry read descriptions of a number of new exotic species of Stag Beetles (*Lucanidæ*); and the Rev. Hamlet Clarke described various new species of small Water Beetles, of the families *Halplidæ* and *Hydroporidæ*.

### FLORA OF THE ROMAN CLASSICS.

(Continued from Vol. I., p. 473.)

#### ACER.

"THE *Acer* and other trees delight in watery places upon mountains.—(*Pliny, Nat. Hist.*, xvi., 18.)

"The *Acer* is almost as large as the Cedar, and next to it for beauty and fineness for cabinet work. There are many kinds of it. The *White*, remarkable for the whiteness [of the wood], called the *Gallie* in Trans-Paduan Italy, is a native of the other side the Alps.\* Another kind, spotted and irregularly wavy, takes its name, when very superior, from the tail of the *Peacock*. It grows chiefly in Istria and Rhetia. An inferior kind is called *Thick-veined*. The Greeks distinguish it by its place of growth. That from the level country being neither white nor wavy, they call *Glinon* [perhaps from its pasty colour, *glia*, paste]: but the mountain-grown wood is [esteemed by them], more wavy and harder, the male tree being especially more wavy and suited to the handsomer kinds of work. A third kind they call *Zygia*; the wood is red and easily cleft; the bark is dusky coloured and rough. Others, however, prefer considering this of another genus, and call it in Latin *Carpinus*."—(*Ibid.* xvi., 15.)

"With the first west wind the Cornel buds swell, then the Laurel; then, a little before the equinox the Lime, and the *Acer*."—(*Ibid.*, xvi., 25.)

"The Terebinth, the *Acer*, and the Ash yield seed at harvest-time."—(*Ibid.*, xvi., 26.)

"Trees of which the substance is wavy, as the *Acer*, Palm, and Poplar, become decrepid slowly."—(*Ibid.*, xvi., 28.)

In all these notices there are but few particulars aiding us to identify this tree, but Theophrastus supplies this deficiency. He says—"Some conclude that there are two, others that there are three kinds of *Acer*; one they call by the common name of the genus—*Acer*; the second, *Zygia*; the third, the Stagirites name *Clinatrocton*. *Carpinus* differs from *Acer*, inasmuch as that the wood of *Acer* is white, having straight fibres; and in *Carpinus* it is red and wavy. In both the leaves are large, cut as in the Plane tree, so that the fissure does not extend to the middle, but stops and slopes to a point at the end; they are smooth and shining, more thin, soft, and long: not entirely covered with hairs. Its bark rather more rough than that of the Lime, rather dusky and thick; harder than the Pine, and less flexible. Roots few; lofty; nearly as many red-wooded as white-wooded trees are wavy. It is produced chiefly in watery situations. Trees not very long, and like to that of the *Paliurus*, but longer."—(*Hist. Plant.*, iii., 11.)

The particulars contained in the foregoing extracts when combined point out that various kinds of the Maple are the trees

\* Of this, probably, the Roman writing-tablets were made. In one of his *Elsgies*, Ovid directs that his tablets with what he had inscribed on them should be taken to his beloved Corinna, concluding with

"Subscribam: Veneri, fidas sibi, Nasq. ministras  
Dedicat; at nuper vile fuist. *Acer*."

—(*Ars Amor.*, i., 11. 27.)

(I will thus conclude: Naso consecrates these to be faithful servants to Venas, which not long since were merely *Acer* of small value.)

alluded to by Pliny and Theophrastus. They are all lofty trees, their wood is sometimes white and unveined; sometimes white and wavyly veined; sometimes reddish and wavyly veined; the leaves are lobed, the sections not extending down to the midrib, pointed, smooth, and shining. The bark is exactly as described by Theophrastus.

The Gallic Acer of Pliny seems to be that known to us as the Great Maple, *Acer pseudo-platanus*. Its wood is remarkably white, and, before earthenware was so cheap and well manufactured, was in much request for the making of trenchers, bowls, and other domestic vessels. It is common in Italy in wooded mountains.

The Peacock Maple was probably the *Acer campestre*, or common Maple, for it is native of northern Italy and its neighbouring countries, and the grain of the wood being very firm, and frequently abounding in knots like the eyes of a Peacock's tail, is very highly prized for cabinetmakers' work.

The Maple of the "level country," and called by the Greeks "Glinon," we believe to be that known to us as the Italian Maple, *Acer opalus*. It is a native of Italy, plentiful about Rome, is one of its loftiest trees, and the wood is white.

The "thick-veined" Acer might be that known to us as the *Acer monspessulanum*, or Montpellier Maple. The leaves are thicker than those of the other species. It is common in Italy and France.

The "Zygia," perhaps, was that now called *Acer creticum*.

Being evergreen, it might well be considered in the days of Theophrastus as belonging to another genus. It is a native of the mountains of the Grecian Archipelago.—G.

#### APPLE AND PEAR TREES UNFRUITFUL.

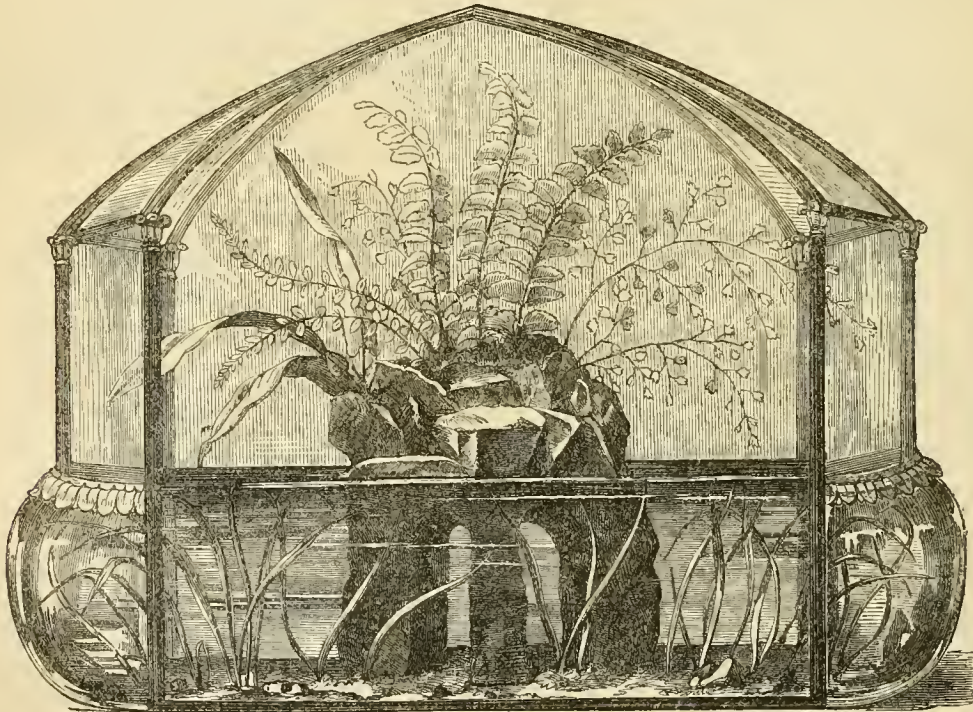
I HAVE some Apple and Pear trees grafted on Paradise stocks which have been planted five years. The former, with a few exceptions, have neither grown nor fruited; they were about five feet high when planted, and are not higher yet. They are hardy and prolific kinds, such as were recommended for this part of the country. Two years ago they were root-pruned and fresh compost was put to the roots without any beneficial change. They are growing in light loam as standards. The Pears are very much the same as the Apples, but a little more vigorous.—HYPNUM.

[From the description of the trees, we do not see that the fruit trees were too vigorous: therefore they did not need root-pruning at all. Are you sure you have not planted the trees too deep? If not, then, as the loam is light, press or beat it somewhat firm, and then mulch with cowdung or any other manure. We would prune none in such circumstances. If there seems a want of vigour in the spring, rake off the mulching, add a little fresh loam as surfacing, and mulch again. We hope you will have fruit next year, and plenty the second season.]

#### THE WARRINGTON PLANT CASE.

WE now subjoin a design for an aquarium, or Warrington Case, with the view to indicate, to some extent, the variety which may be attained by combining this with the Wardian Case. It will be obvious that this combination will afford scope for a

much greater variety of form than would have been brought out by confining them chiefly to the growth of aquatic plants, and this amount of variety will afford opportunity for the display of a greater amount of ornamentation.



THE WARRINGTON PLANT CASE.

The design now submitted, from the pencil of A. Aglio, Esq., jun., is intended to consist of an ornamental zinc framework, a slate bottom, and the whole of the sides to consist of glass, used in plates as large as the fittings will allow. The front and back will thus each consist of a single plate, and the absence of framework of every kind will admit of the whole interior being viewed without obstruction. The convex ends of the basin portion are

also intended to be of glass formed into the exact shape and size required.

The mass of imitation rock in the centre must be formed expressly for the reception of the plants, good drainage being an essential feature, so that the soil may not become soddened. The whole is supposed to be supported by an appropriate and elegant stand.—(*Gardeners' Magazine of Botany.*)

ORNAMENTAL PLANTS.

*VIOLA PYROLEFOLIA* (Pyrola-leaved Violet).—*Nat. ord.*, Violaceæ. *Linn.*, Pentandria Monogynia. This is a very beautiful dwarf, hardy, herbaceous plant, introduced from Patagonia a year or two since, by Messrs. Veitch, of Exeter, and grown by

them and distributed under the erroneous name of *V. lutea*. It produces a tuft of small, cordate-ovate, radical leaves, with ovate or linear-lanceolate fimbriate stipules, and produces very large, bright yellow blossoms, each elevated considerably above the



*Viola pyrolefolia.*

foliages on a slender stalk. The flowers have a short, blunt spur, and the petals are bearded inside with club-shaped hairs; the lower petal is obovate, streaked with red lines. It is found in Chili, as well as in the straits of Magellan; and is the *V. macu-*

*lata* (Cavanilles), *V. glandulosa* (Dombey herb.), and the *V. lutea* megaphyllos (Commerson herb.). It has been figured by M. Van Houtte in the "Flore des Serres."—(*Gardener's Magazine of Botany.*)

MARKET-GARDENING IN WEST CORNWALL.

(Continued from page 577.)

WITHIN the last twenty years the market-gardening of west Cornwall has undergone an entire change both as regards its system and its extent. Potatoes were then its solo export, and of these the greater part went to Falmouth for the supply of the various packets sailing from that harbour. Probably not one-tenth of the ground now cultivated for early Potatoes, and which may be estimated at about seven hundred acres, was then employed for this purpose. The variety, also, was distinct from that in present use, being a smooth white Kidney, of consider-

able size, and a good cropper. It was known as the "Cornish Kidney," and was grown for seed in the "growan," or granite soils of Zennor and some other adjoining parishes. I have not myself seen this Potato for the last twelve or fifteen years, as, for the purpose of the market, it has been superseded by varieties a fortnight or so earlier.

We now come to the preparation of the land for the Potato crops. Old lay would be preferred for this purpose, but that is rarely to be had, since the narrow limits of the district compel

the annual succession of Potatoes and Broccoli year after year. Many acres have been thus occupied for ten or twelve seasons without any apparent falling-off in the produce. No other two crops that I am acquainted with could be thus constantly and without intermission grown on the same land, the Potato appearing to provide the most favourable conditions for the Broccoli, while the latter re-supplies what is again, after a few months, required by the former. Where lay, however, is attainable, it is usually turned with the long-handled Cornish shovel, which here does the work elsewhere executed by the spade. The cost of this operation varies, according to the toughness of the turf, from £2 10s. to £3 10s. per acre,\* and the seed is planted immediately afterwards. Scarifying and the subsequent use of the harrow, roller, and plough would certainly be a cheaper, and, I imagine, not a less efficacious process. But in whatever way obtained, a fine, tilth is essential, and for the earliest crops a situation neither too low nor too high; wind in the latter case, and the late hoar frosts in the former, too often damaging, or even destroying the plant. Such land as was planted with Broccoli after Potatoes in the preceding year is best dug over, the Potatoes having generally to be planted as soon as possible after the Broccoli is cleared off.

After the disease of the Cornish Kidney, the greater part of the seed was of the Axbridge Kidney, imported from the neighbourhood of that town. But this, again, has in a great measure given way to the Springer or Creeper Kidney, and Early Shaws, of which a large quantity is now annually brought down from the country around Glastonbury. It has long been admitted that a frequent change of seed from a different soil is essential to the well-doing of the Potato; but in this district the general failure of home-grown seed has been aided by another cause—and that is, the long period during which the tuber is more or less exposed to atmospheric influences, ripening so early as it does with us, and planted so late.

Sprouting the seed is now universally practised wherever early maturity is desired. This is done in the following manner:—An airy light room or loft, with windows to be closed in severe weather, has tiers of shelves filling up all its available space. These are often, from lack of room, too close to each other, and a foot from shelf to shelf may be given as a good average distance. On these shelves the seed is carefully placed, each on its end; one sack weighing 2 cwt. will thus require about 30 square feet of superficial space. The end of October or the beginning of November should see this done; and there, with a due supply of light and air, and the occasional removal of any tuber showing signs of disease, they remain till planting-time comes, at the close of February. The great object is to secure strong, healthy, and well-coloured shoots about 2 inches in length; the neglect of ventilation and a proper amount of light producing weak colourless shoots, liable both to injury in removing them, and to decay when planted. The earliest crops are now invariably grown from sprouted seed, and they are drawn a good fortnight in advance of former years when autumnal planting was the rule. I speak of the planting season commencing in the end of February; but where the extent is not great, and labour is abundant, the first week in March would, all things considered, be the best period. The soil is then usually in good order, the seed already in active growth, and the manure unexhausted by winter rains, so that from these causes the shoots are frequently above ground in ten days.

Before speaking of the mode in which they are drilled-in, the manures employed must be severally detailed, and to this purpose the next paper must be given.—W.

(To be continued.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE recent heavy rains have somewhat impeded spade operations. The necessity of an examination of all drains and water-courses will be readily suggested by the now frequent recurrence of wet weather. Every facility should be given at this season for the passage of the water from the garden. *Broad Beans*, in soils favourable to vegetation during winter a few *Mazagans* may be planted, either where they are to remain or on a sheltered border for planting-out early in the ensuing year. *Broccoli*, lay the plants for spring use. The operation is performed thus: Open a good trench and plant them almost horizontally, with

\* The Cornish customary acre, by which these calculations are made, exceeds by about one-fifth the common statute acre.

their heads to the north, burying the stems with soil up to, and even amongst some of the lower leaves. This process will protect them very much against a severe winter. *Cabbage*, vacancies in the main plantations to be filled-up immediately. *Cauliflowers*, those in the frames and under hand-glasses to be divested of their dead leaves, and any vacancies that occur to be filled-up. Give air freely every fine day. *Celery*, if severe weather should set in, some long litter should be laid over the most forward crops. *Endive*, when quite dry, a good quantity to be tied-up for blanching; a quantity of it could then be laid-in in pits or frames before severe weather sets in. *Jerusalem Artichokes*, if left to be taken up as wanted for use, to be covered with litter during severe frost. *Onions*, hand-weed the autumn sowing, and stir the ground slightly amongst them. *Shallots and Garlic*, plant in light and dry soil, otherwise they had better not be planted till February.

### FLOWER GARDEN.

Whenever alterations are intended, lose no time in completing the transplanting of evergreens, the present mild, damp weather being most favourable for their removal. Be careful to secure them against wind, especially large plants, which should never be left until they are properly staked or otherwise made fast, for, when this is put off, it frequently happens that the roots get injured through the tops being rocked about by the wind. Lengthy discussions and conflicting opinions as to the proper time for transplanting shrubs and trees have frequently occupied the columns of gardening periodicals; but there is no time better in practice, or more consistent with theory, than early autumn planting. The uniformly moist atmosphere of October and November, and the exemption generally of these months from severe frosts and drying winds are circumstances, together with the natural warmth of the soil, most favourable for the establishment of the trees in their new quarters. As soon as the greater part of the leaves are off the trees, let the pleasure ground be thoroughly cleaned and swept. The present is also a good time for rearranging the herbaceous ground, which is necessary every two or three years on account of many of the free-growing kinds getting too large. The removal of *Geraniums*, *Heliotropes*, and other bedded-out things should immediately follow their destruction by the recent storms or by frost. Where such is the case do not be niggardly in planting out a good stock of spring flowers, especially if a gay spring garden is required; abundance of early *Tulips* and *Crocuses* in variety should be planted-out now. *Hepaticas* to be remembered, their colours, white, red, and blue, form a pleasing variety; *Snowdrops*, *Winter Aconites*, and *Dog's-tooth Violets* are pleasing visitors in early spring. Standard *Roses* to be gone over and all the long shoots to be shortened to diminish the power of the wind over them. *Chrysanthemums* against walls to have their shoots closely tacked to them, with something at hand to protect them in case of frost.

### FRUIT GARDEN.

The planting of fruit trees, either in the open quarters or against walls, may be commenced as soon as all the leaves are off. The present time is likewise the most favourable for relifting and root-pruning such trees as are too luxuriant, and require cheeking to induce a fruitful habit.

### STOVE.

But little moisture will be required at this period even for the growing *Orchids* which may be located here. Keep the temperature progressively on the decline, more especially in dull weather. Ventilate freely whenever the weather will permit.

### GREENHOUSE AND CONSERVATORY.

If unfavourable weather should occur do not hesitate to use a little fire heat at times, especially in the conservatory where many plants are in bloom, and by such means a free ventilation may be given to expel damp and stagnant air.

### PITS AND FRAMES.

Look over the pots of autumn-struck cuttings and wherever indications of damping appear, remove them to drier quarters. It is safest to keep *Scarlet* and other bedding *Geraniums* in houses where fires can occasionally be lighted to exclude frost and damp, reserving the pits and frames for *Calceolarias*, *Lobelias*, and other similar plants which do not suffer so much from cold and damp.

W. KEANE.

## DOINGS OF THE LAST WEEK.

THE excessive wet continuing on to this morning of the 24th, has rendered all work in the kitchen garden very trying indeed;

but opportunity has been taken to string Onions that had been placed there under cover, until we could get at them. Plaiting them in small strings tends to keep them sounder and longer than when lying in heaps, and hung on nails, &c., space under cover is thus economised. When much is required in little room, it is enough to make one's eyes water, thinking of the extent of accommodation in such places as Drumlanrig and Dalkeith. Even without the assistance of Onion-plaiting, provided Onions are kept dry, I never knew them suffer at all from frost, so that all protection in that way is next to labour thrown away.

Placed a covering of hay over the *Mushroom-beds* in the thatched-roof shed, with open sides, as it was getting too cold to have them exposed. Moved the covering of straw from the first bed in the Mushroom-house. Swept the bed clean with a hair broom, and sprinkled a little dry straw over the surface. The Mushrooms are now coming like pin-heads, and will be in a few days earlier than I expected them. This light covering we find useful, not only for drawing the Mushrooms through the soil, but also for preventing the surface of the bed getting too damp, from the moisture rising from other beds in a state of preparation. The second bed was spawned a week ago, and as all was right, was covered with 2 inches of stish turfy loam, well kneaded and beat, levelled on the top, watered, and a clean spade drawn over it, and now the manure that was thrown in below the first bed, as I mentioned some fortnight or three weeks ago, has been lifted to form a third piece, which, probably, will be ready for spawning in a fortnight.

By these successions we keep heat and moisture enough in the house until cold weather in winter.

I have seen many fine Mushroom-houses, ours is a very plain, simple affair, merely a lean-to shed, with a hot-water pipe through it; the walk in the centre being over the pipe. There is space for a bed on each side on the ground, and a wooden latticed shelf on each side above, making four beds in all. From these we generally make a good number of successions, sometimes making only a third, and rarely more than a half of a bed at a time. There is a small ventilator at the apex at each end, and openings also in the north wall of the house. The roof is close-boarded and slated, and the space between the boards and the lath and plaster is stuffed with dry straw. When the smooth plaster inside was dry, it was washed over with boiled oil, so as to prevent all moisture getting to, and destroying the roof. From the packing of the roof little fire heat is necessary, unless in cold weather. Where Mushrooms, as in many families, are a daily want, the expense of a little simple house would soon be made up, in the saving of labour, and covering of beds out of doors.

#### FRUIT GARDEN.

We had made up our mind to scoure our Vine-borders from such a drenching, but have been beat, as it came some days sooner than we expected, and we hardly hope to see them quite so dry as we wish them for the winter. The first house which we smoked with sulphur a short time ago, has had a thorough scrubbing, the glass and woodwork being washed with hot soap water, the Vines pruned, cleaned, washed also with strong hot soap water, and to be painted with clay and sulphur as soon as they are dry enough. Stages, also, were thoroughly scrubbed. About 1 inch or a little more of the surface soil inside taken away, so as to remove all the filth that fell from the washings, and any insects or their eggs that might be lodging there. To make assurance doubly sure, if possible, we will borrow from Mr. Thomson's book on the Vine, and scatter a little sulphur over the floor, and water it besides with water from the rose of a pot; the water being not much below the boiling-point. When that gets settled we will fork it over a little, and put a surfacing of fresh soil. The walls, thoroughly scoured with hard brushes and soap water, will be whitewashed with new lime, sufficiently darkened to take off the glare, and then every conceivable place will have its shelf, where room can be got for one. Most likely these walls will get another touch of lime and sulphur before the Vines break. The house will at present be crammed—the floor with the rougher bedding plants in boxes and pots, the stage and shelves with the finer Geraniums, &c. This job should have been done a week ago, but we were waiting for the wet weather to do it in. Kept a little fire in the Fig-house, and though the fruit are not so large as in summer, they are sweet, and the out-door ones now are about over. Gave fire every day to the late vinery, with a little air on even in this rainy weather, but allow the fire to go out at night. Placed some sashes, &c., over the border to prevent it getting too wet

and cooled. Burnt a little sulphur in an early Peach-house to stop all growth, and destroy any scale and other insects. Will most likely cut and wash house and trees. No sulphur should be burnt, unless the wood is well ripened, or it will kill it to a certainty, and the sulphur and the sawdust should be covered with a heap of damp moss, and too much should not be used. About half a pound for a house 50 feet by 18 feet. Be sure, however, of the ripeness of the wood, or do not attempt it, and if the sun threatens to show next day, open the house early, and sprinkle the trees from the syringe. Of the finer fruit we have now only a few of the Salway Peach, on a small tree in a pot, valuable for its lateness. The trees in pots in the orchard-house though heavily cropped, are not showing yellow leaves so soon as I would wish, and the Peach and Apricot trees outside are yet too green, and little will come off with switching. The shoots have been shortened, and if this wet, mild weather holds on, we will cut and thin a number of leaves.

#### ORNAMENTAL GARDENING.

We have just taken a few of the plants out of the flower-beds, especially a few of the large central ones. We shall pot a good number of the variegated Geraniums—such as Alma, Bijou, &c. The Golden Chain is already done. The best of these will have most of their leaves stripped off, and be squeezed into 60-pots in light, sandy soil. The smaller ones will be put into larger pots as thick as they can be packed. A lot of these will be plunged into an old bed of leaves in a pit, where they will get a little bottom heat, and plenty of air be given to the tops. A few of the best Scarlets will be treated the same way, all the leaves removed, the points of the shoots taken off, and then the roots packed closely together in soil in boxes and pots, the stems looking just like a little faggot. These generally get watered, are allowed to stand in the dry for a day or two, and then are surfaced with dry soil, and are just kept from frost all the winter, and if they can get a little light all the better. We do not care about their making a leaf bigger than a fourpenny-bit until April, and then they must be protected in temporary beds until planting time.

No time should now be lost in doing such work. We have seen the flower-beds here good in November, but, after such heavy rains, that is impossible now; and success with these old Geraniums greatly depends on having them up before they are touched with frost. When frost threatens, therefore, they should be taken up at once, and placed under cover until there is time to arrange them. There is no other plan so good as this for enabling amateurs and cottagers to have a fine display of Scarlet Geraniums in their beds every summer. A friend writes to say, "Tell little gardeners they should keep their Scarlets in pots, plant them out in pots, raise them in pots, prune a little, and keep them over the winter in pots." This is all very well, but where is the room to come from? An eight-inch pot for a single plant is no joke. On the faggot system, a dozen might be kept in such a pot, and would be safe with a little attention in a garret or a wood-house. Two years ago, I saw some scores thus packed in three moveable wooden boxes in a wood-barn. In fine weather the door of the barn stood open; when there was a little frost the door was shut; when the weather was a little colder a little hay and a cloth were put over all the boxes and stems, and more added as the frost continued. They were thus thickly covered for five weeks; but a few days after the frost was over, when uncovered, they were as fresh as fresh could be, and when adorning the flower garden in summer, I can only say I could not beat them.

The wet weather has also set us thoroughly cleaning the conservatory and other places under cover. But I must stop, only expressing a hope that as soon as it is fine, turfing, planting, &c., will be proceeded with as soon as possible, as sward-laying, box-edging, massing, &c., in winter, are, to me, always associated with that terrible scourge to the gardener—rheumatism, a scourge that lashes all the more when we reflect it chiefly visits us as the result of ignorance, carelessness, or inconsideration.—R. F.

#### TRADE LISTS RECEIVED.

André Leroy, Angers (Maine et Loire).—*Catalogue descriptif et raisonné des Arbres, Fruitières et d'Ornement*. 1860. *Supplement* to the same. 1862.

C. Turner, Royal Nurseries, Slough.—*Catalogue of Fruit Trees, Roses, Coniferae, Trees, and Shrubs*. 1862.—*Select List of*

*Pelargoniums, Cinerarias, Azaleas, Carnations, Pinks, Auriculas, &c.* 1862.

W. Paul, Waltham Cross.—*Descriptive Catalogue of Fruit Trees.* 1862.

### TO CORRESPONDENTS.

We cannot reply privately to any communication unless under very special circumstances.

**TUNNINGHAM MUSCAT GRAPE.**—Since the publication of Mr. Thomson's paper on Muscat Grapes, we have had an application from "R. H. C.," and numerous other correspondents to inquire where this variety is to be obtained. Those nurserymen who have it for sale should advertise it.

**VARIOUS (J. E. W.).**—The Easter Beurré Pear is a very capricious sort. Sometimes it is one of the finest late winter Pears we have, and at others it is perfectly worthless and only fit for stewing. It requires a warm well-drained soil, and a warm exposure. *Escallonia macrantha* flowers are borne by the previous year's shoots. Chalk forms a good concrete under Peach trees. We have them on a chalk subsoil in Hants.

**PANSY SEEDLING (L. F. F.).**—You must name it yourself, if it is worth naming. Seedling Pansies do not come like their parent.

**GRAPE SHANKING (J. L.).**—The cause usually is the roots not supplying a sufficiency of sap, they are probably outside the house, and in a temperature too cold in comparison to that in which the branches are growing. The Live Oak of North America is the *Quercus virens*, an evergreen Oak, known as long since in this country as 1739.

**RASPBERRY STAKES (J. M.).**—As the canes are to be shortened to 2½ feet, it is pretty clear that the stakes depicted in No. 73, must be not more than 2 feet from the plant. In height, 3 feet above the surface.

**FUMIGATING APPARATUS (J. Barr).**—Our correspondent says that many gardeners and amateurs have tried and approved that of which we gave a sketch in No. 70, of our Journal. He thinks "T. H." has not tried it, or he would not prefer the old mode. This may be, but no correspondent has a right to abuse another correspondent merely for differing from him in opinion.

**WHITE-LEAVED CELERY (G. Abbey).**—This whiteness, which has come naturally without the plant being earthed-up, will not be permanent we fear. You had better save seed from it, but the seedlings from that seed, we think, will come green. If they do not, it will be a valuable addition to our kitchen-garden stock.

**TREATMENT OF GLADIOLUS (H. C., Ireland).**—For all who need instruction we advise the common trodden path, even if it is the longest to success. We do not take up our own Gladiolus. He you must take up yours and keep them exactly as you do Potatoes.

**TREE ROSES (Idem).**—We never protect tree Roses unless in very severe frost, and then only Teas and some Bourbons. For them and for all protection work out of doors, dried fern is by far the best, and the way to do Roses with it is to put three stakes to each Rose tree, 4 feet from the stem, then bring their top ends together over the head of the Rose tree, next place half a sheaf of fern, root-end uppermost, between the ends of the three stakes and fasten them and the fern stalks in one tie, and then spread out the fern leaves among the Rose shoots and right over them, and remove the fern before active growth comes on in the spring.

**YELLOW BANFESHIRE ROSE (Marietta).**—What is on the wing now? A "yellow Banksian rose." Is it not possible that your Rose may be the yellow Banksian, named after Sir Joseph Banks, instead of the brow town of Banff? If so, the leaves are smooth and shining, there are very few prickles and very long slender shoots; and if it is the Banksian, the reason for its not flowering is, that you prune it, for it should never be pruned, but only trimmed and thinned every year just when it is going out of bloom, and at no other time unless it grows too crowded, and if it does the extra shoots should be cut right out at once.

**LARGE HOLLY INJURED BY FROST (T. C. P.).**—The way to recover the large, fine, frosted Holly tree would be, first of all, to cut out every particle of dead wood down to the next living joint of every branch and twig of it. That would not be pruning in the sense we use the term, and might be done any day of the whole year. But as the winter is coming on us no good could result from the operation till next season, so put off this till you have fine dry weather in the spring. Meantime, take to the second stage of the operation of recovery, and bring the powers of scientific cultivation to bear upon the roots. Increase their numbers and their efficiency, and then give them fresh soil near the surface, and keep them at active work there instead of at the extremities of the old roots, and you effect all that cultivation can do, and your Holly will in time be as good as ever it was, for no tree is more enduring of hardship than the Holly; but, unfortunately, none is more slow of recovery. Uncover a large space over the roots, put 6 inches deep of the cocoa stuff all over this opening down to the roots, and in one season every inch of the stuff will be full of fresh active roots, then put a layer of fresh good soil or compost of the stuff, and mulch that also an inch thick, and then all that summer give large doses of pond water all over this array of fresh top roots, and the tree will assume the green luxuriance of a "Holly bush."

**STATICE HOLFORDI (Tamerlane).**—We think it is very likely that the plant had got dry in the centre of the ball, or that it had exhausted itself by blooming. It would not be wise to repot it now, unless the soil was in bad order. If the shrivelling-up in the centre continue, you had better cut the plant into pieces, and pot the pieces separately, either as plants or cuttings, using small pots, and two parts sandy heath soil, and one of loam, taking care not to over-water, and keeping them in a temperature about 50° to 55° until rooting freely, when 45° will do. Potted again in spring, these will make good plants. They dislike over-dryness and stagnant moisture. A few broken potsherd and bits of charcoal should be mixed with the soil, so as to make a seventh part of the whole. The drainage must also be good. As the plants get larger more loam may be used than is specified above. When growing freely they like a little salt water—say an ounce of salt in three gallons of water, but only given over the soil occasionally. *Berberis repens* is a native of North America; it is in Messrs. Veitch's catalogue.

**PABONYCHIA ARABICA (H. S. A.).**—We are very much obliged by the plant which you have forwarded, and which arrived safely.

**CAMELLIAS RECENTLY GRAFTED (A Young Beginner).**—We would leave the Camellias alone until the spring; but if the scions are coming strong, top the stock. The plants should be kept in a nice, growing temperature all winter, seldom below 50°, unless you are sure the grafts have taken well. It will be advisable to get them in a place where you can give them from 50° to 60° in March. Cut back then all the forwardest, and dab grafting-clay on the cut. You will obtain the supplement to the Encyclopædia of Plants, at Messrs. Longmans, Paternoster Row.

**PEAR TREE LEAVES DISEASED (R. O.).**—We think that the ground retains too much moisture about the roots of the Pear trees, or that the roots are too deep, but we require more information to enable us to decide. We have seen young trees so infested that were cured by being taken up and replanted shallower in poorer soil.

**TREATMENT OF OLD VINES (P. McH.).**—We quite approve of all you have done. We think you act wisely in not starting until February, or even the beginning of March. The stems should have a little more protection than a board, unless the board is a sort of case that fits over them. We would not delay covering the border until a month or six weeks before starting them, there will surely be moisture enough from the late rains, and we would recommend covering the border at once to keep heat in. If you can keep wet out, it will also be an advantage. You might turn the same litter six weeks before you began to force, and put 9 inches or 1 foot of hot leaves and dung next the soil, and the old litter over that; but more depends on early covering to keep the heat in than upon extra hot coverings.

**VINES OVER-CROPPED (F. G.).**—It would have been better if you had been satisfied with 3 bunches, or 4 bunches at most, on each Vine. Perhaps, however, the Vines were two or three years old when planted. All you can do now is, not to be too hard on them next year in the way of cropping. We have known Vines get over such hard cropping. We have known others that never gave their proprietor a second chance. We hope that will not be your case. We think there is quite enough of dung in the border, and were it ours we would give neither cowdung nor night soil. Very likely either would do more harm than good under the circumstances, but we would have no objection to a couple of bushels of crushed bones, or a hundredweight of superphosphate of lime, applying a third now, a third in March, and the rest in May.

**PLANTS FOR BACK OF CONSERVATORY (A Devonian).**—We do not think, that even now, any Geranium would be superior to *Defiance*, and Mrs. Naylor among Scariets. For ourselves, we would have *Defiance*, and *Stella* us a *Nosegay*. There is no difficulty in grafting new Geraniums on old ones, but we cannot say that ever we found them long-lived and healthy. As a strong-growing, free-flowering, sweet-scented *Heliotrope*, we would prefer *Triomphe de Liege*. The trusses are of an immense size, and of a light grey colour. We do not know "John Catell" variety. The *Luculia* will answer well, but if you plant out all these plants, you should have a brick or wooden box for each—that is, divide the border into so many little pits or beds, that the roots of one plant may not rob the roots of its neighbor. *Jasminum grandiflorum*, *ligustrifolium*, or *gracile*, will answer well. The latter is slender, the flowers not very conspicuous, but of sweet odour, and in bloom nearly the whole of the summer. The *Rhynchospermum* will do at the warmest end. Were you not so far south we would recommend a Japan *Honeysuckle* at the coldest end.

**FERNS DISEASED (One in a Fix).**—Your Fern is eaten up by thrips. Instead of in a hothouse at 70°, that species requires to be grown out of doors or in a cold frame. If you have tender sorts in the same condition, you must use sulphur till you get rid of the insects.

**DESERT PEAR FOR A WALL (Berks).**—There are no better "very early, handsome, dessert Pears for a south-west wall" than Williams' Bon Chrétien and *Beurré d'Amanlis*. The former has a powerful musky flavour, and the latter has not; choose which you prefer.

**NAMES OF FRUITS (Eleanor).**—We do not recognise your Apple. It is quite worthless and ought to be grafted with a better sort. (T.)—Court of Wick, and is generally a good bearer. (B. A. S.)—Your Apple appears to be *Downton Pippin*. (Thos. Sherman.)—*Blenheim Pippin* Apple, and *Marie Louise Pear*. (G. Price.)—*Duchesse d'Angoulême*. (R. W.)—Your Pear is *Paradise d'Automne*.

**NAMES OF PLANTS (Patelin).**—1, The *Pelargonium* (not *Geranium*), is apparently *Madame Vancher*. 2, The Fern is *Polypodium phegopteris*. (J. D., *Furfarshire*).—1, *Genm rivale*; 2, *Mentha aquatica*; 3, *Alechilla vulgaris*; 4, *Stachya palustris*. (*Polypodium*).—1, *Polystichum aculeatum*, young; 2, *dilatata*; 3, *Lactrea Filix-inas*; 4, *Blechnum spicatum*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### TREATMENT OF KILLED POULTRY.

(Translations from M. Jacque's work on Poultry continued.)

FATTENED fowls must, even after death, be subjected to a certain preparation, in order to secure all the advantages there may be in the trade. The dealer in them should know the tastes of the localities where he sells. In some parts buyers like to see fowls with long, round bodies, like the natural form of a Duck; in others they want them flattened, so that there shall be no appearance of a breast-bone; and, again, some want short, square, lumpy forms. All these little circumstances of taste should be taken into serious consideration by feeders, and, if the fowls have not naturally the saleable form, most of them know how to give it as soon as they are killed. Almost all the fowls sold at Paris are flattened. This is done by the killer pressing heavily on the breast and breaking the bone. After this preparation they are put in a press, laid on their backs, and loaded with a sufficient weight. This is done while the bird is still warm; when cold it stiffens and preserves the desired form. Under the weight which presses down the fowl, a more or less coarse cloth should be put,

it leaves its impression on the fat, and gives it a look like *shagreen*, which is pleasing to the eye.

"In Bresse," says M. Chanel de Bourg, "there is no idea out of the immediate neighbourhood of all the pains taken by the farmer's wife who fattens the fowls, to kill them properly by bleeding in the palate without leaving any mark, then to pick it without injury to the outer skin, which becomes a *bark*, and takes from its value; after which she wraps it, while yet warm, in a very fine cloth steeped in milk, and which she sews rather tightly to insure an oval form rather lengthened, which being pleasing to the eye is advantageous to the sale."

Fattened fowls sent long distances, are generally picked, except the head, the flight-feathers of the wing, and the tail. They should also be drawn—that is to say, the intestines and the liver should be drawn out naturally, without making any opening or enlarging the natural one. The appearance of the fowl demands this. The liver should not remain in the body, because the gall, which is generally abundant in the bladder, becomes absorbed, and communicates a bitter and disagreeable taste to the meat. If there be any food in the crop, it should also be emptied; if any remain in this first stomach it becomes sour, and this disagreeable taste is also communicated to the meat. Thus prepared, every head of poultry is wrapped, except the head and feet, in a sheet of white paper, then tied, and packed in hampers of open basketwork, which are preferable to close boxes. The fresh, cool air penetrates and circulates in a basket; the poultry keeps better and longer for it.

The consumption of poultry is immense in France, and the producer, by the facility and rapidity of communications, is in some way sure of a sale for his products. Paris alone buys many millions worth annually.

The hampers of poultry, prepared as we have described, are sent to the great poultry market, formerly at La Vallée, now at the "Halle Centrale," addressed to a salesman who sells them wholesale by public auction. The produce of the sale is sent to the seller.

That which Madame Millet Robinet says on this subject may help to complete the two preceding chapters.

"A fowl should never be killed till it has completely digested all food; morning is then the best time, but if that is not convenient, any time may be substituted, provided the bird has fasted ten hours. There is the same rule to observe with cattle; they must fast till the intestines are nearly emptied. I think eight or ten hours' fasting sufficient for poultry, as they digest rapidly. Fowls may be killed either by cutting the jugular in the mouth with scissors, or by cutting the throat with a *very sharp knife*, after removing the feathers, that the animal may not suffer. In either case the bird must be held up by the feet, head downwards, so that all blood shall run away, for on that operation depends much of the whiteness of the flesh.

"As soon as the bird is dead, and has ceased to bleed, the intestines must be taken out. This is only done in those countries where the poultry trade is a special industry, and yet it is absolutely necessary. They give a detestable taste to the bird if they are allowed to remain. At Le Mans, and in those parts where fattening is carried to perfection, as soon as the intestines are taken out, their place is supplied with fine whitey-brown paper. This not only helps to keep the fowl, but it gives it a good shape, because the loss of the intestines makes it flat-sided. When all the intestines are removed, there remains only the gizzard and liver, which do not injure the keeping. These also are useful in the kitchen; the cook takes them out before she trusses the fowl previous to roasting it.

"Fowls must be picked as soon as they are dead; they are difficult to pick after they are cold. Two feathers should be pulled out at a time, in order that the skin be not rubbed, which would diminish value, if it is for sale, and spoil the appearance, if for the table.

#### MANCHESTER POULTRY AND DOG SHOW.

IN reply to the letter of "INQUIRER," and to satisfy yourselves, I should be greatly obliged by the insertion of the following explanation in your next Tuesday's publication. In the first place, I may say it is not intended to judge either the Poultry, Pigeons, or Dogs on the Sabbath. I may also assure exhibitors that every care will be taken to secure the services of experienced gentlemen to act as arbitrators. The meeting of 1861 has shown us what number of prizes may be awarded, without hurrying, in three hours, and as the Judges are not

appointed until the entries are closed, we shall, of course, be guided by the number of birds and dogs to be shown as to what Judges will be required for each department, so as to finish their labours at or near the appointed time.

I think all exhibitors agree in wishing to keep their birds at home as long as possible before each Show, and to oblige them we have arranged to receive the poultry, &c., so late as ten o'clock on the 27th, even to our own inconvenience.

In conclusion, I may add that most of the exhibitors are aware that should the Judges not have completed their awards by eleven o'clock a portion of the Show can be open to the public whilst the remaining awards are made.—GEO. JENNISON, *Secretary*.

[We are very glad to find that the Sabbath is not to be misemployed, but we had information which induced us to believe that the arrangements were of a different character. We hope that a sufficient number of Judges will be engaged to get through uninterruptedly in the three hours specified; but, although Mr. Jennison refers confidently to the number of prizes that may be awarded (without hurrying), in three hours, when speaking of the Meeting of 1861, he appears altogether to have forgotten that the Judges on that occasion had to push on amongst the whole concourse of spectators till late in the day, and that double the time named by him did not see the awards completed. The only way to prevent a repetition of this error, will be to divide the classes among the adjudicators, if the duties are really to be fulfilled in anything approaching the time fixed for public admission. It would occupy a whole day for any number of gentlemen to act together and go through the classes from end to end of a show like the Manchester one. The judging before competitors, either within earshot or sight, is one of the greatest mistakes in arrangement conceivable.]

#### PIED BANTAMS.

I HAVE a very pretty breed of Game Bantams—viz., White and Pieds. The cock bird has a very perfect pretty ginger saddle, hackle, and saddle feathers; and the hens are a creamy colour; in fact, they are Game fowls in miniature. Would you give me your opinion whether they are not something very scarce and particular?—W. CLARK.

[They are very scarce, and the few we have seen of them have been very beautiful. It would clear up some disputed points if you will state whether you bred them, and if you did, by what process—i.e., what colours and sexes you made use of.]

#### DUTY OF JUDGES AS TO DISQUALIFICATION.

I WISH to ascertain through the medium of your Journal your opinion as to a point in poultry-judging that has given our Society no little trouble. At our last Show we had two sweepstakes for Game—the one a sweep for the best Game cockerel, the other for a cockerel and two pullets, all to be under twelve months old. The first and second prize in each fell to the lot of one individual; but the Judges wrote on the two first-prize pens, "Subject to protest on account of age," clearly showing that they believed them to be over age, which opinion was backed by nearly all the breeders of poultry connected with our Society. In fact, the birds were generally believed to be eighteen months old.

As a competitor in the sweeps, I wrote to the Judges, and asked them to give an opinion in writing as to the age of the birds in question; in compliance with which they gave in writing their unanimous opinion that they were over age, and said that they thought that the protest ought to stand good. I referred the matter to the Committee with the Judges' opinion. The only action taken by them was to forward a copy of the Judges' opinion to the party in question, and leave it to his honour, the consequence of which was that he walked off with the prizes. I wish to ascertain from you what, under the circumstances, would have occurred at any of the leading Shows in England? My own opinion is that the Judges were wrong; that if they believed the birds older than stated, they were bound to disqualify.

If you will clear this point, and give us a rule by which to be guided for the future, you will be conferring an act of very great kindness upon our Society.—W. HUTCHINSON, *Commercial Bank, Hobart Town, Tasmania*.

[Under such circumstances there is no middle course for a

Judge. If he is convinced that birds exhibited as chickens are adults he should absolutely disqualify them. If he is not certain he should state his doubt to the Committee, and then the Committee ought to require from the exhibitor satisfactory proof of the chickenhood. It was a shrinking from duty to allow the exhibitor to be his own censor, and the Committee should have reflected that if he gave up the prizes he would publicly confess by so doing that he had attempted to commit a fraud.—*Eds.*]

### HOLDING EXHIBITIONS SIMULTANEOUSLY.

ALTHOUGH the columns of your extensively circulated periodical have so frequently exposed the fatal error of committees of poultry exhibitions holding their meetings simultaneously, or, at best, closely following each other, there appears at the present moment a more total disregard of this praiseworthy warning than ever.

No doubt several circumstances have tended to produce this result, still the inevitable consequences remain unaffected—viz., the widely spread injury of all. During the past summer not a few local committees, doubtful whether the International Exhibition might not absorb nearly the whole of the stray shillings commonly devoted to other sources of amusement, prudently determined to postpone their respective meetings until some more favoured opportunity, and now the closing time of the London attraction is finally determined upon, many of the managers of these poultry shows, wearied by procrastination, appear to think that any further delay would certainly compromise the future well-doing of their society. Hence it is, that arriving at these conclusions, altogether without the knowledge of each other, December next seems an all but universal appointment among them. From these unusual causes, still another hint to parties thus on the eve of committing, so far as their own shows are concerned, an almost suicidal act, will, perhaps, be more beneficial and time-serving than heretofore. It is almost unnecessary to point out, that those committees whose customary time for holding their shows has hitherto been December, look upon newly-regulated appointments in that month as an encroachment of annually-enjoyed privileges, producing a little jealousy of feeling not altogether provocative of benefit to either party interested.

I will not enter now on the prescriptive rights, real or assumed, just referred to, but merely endeavour to point out that a complication of poultry shows invariably tends to injure more or less extensively each one of them; and by directing attention to the fact that our larger shows of necessity carry out their appointments the most popularly, and that, consequently, the minor meetings suffer the most severely by collision of the character referred to. It must recur to many of your poultry readers, and still more forcibly to pecuniary sufferers, that not a few shows beforetime carried out with perfect success, have been so blighted as to be abandoned altogether by the contingency referred to. It must also be remembered that three of the largest shows in the kingdom already date their appointments for December next.

The opinion is, doubtless, a correct one, that Birmingham, the Crystal Palace, and Manchester Shows will provide quite enough confinement to tax to the full the energies of all the best specimens from the yards of our principal poultry-breeders during the month of December. That exhibitors give decided preference to the hope of winning at the largest shows is a fact barely open to dispute, at least in all cases where the superior quality of their birds justifies the anticipation; and, therefore, it of necessity follows, any small show taking place at about the same period is deprived of the advantages of their exhibition, with an exact discount on its future popularity and importance to the less-known show attempting it. Even the most liberal prize-list rarely counteracts this misadventure; whilst after-prudence fails as entirely to refill un replenished coffers. It is impossible to assign any particular reason why December should thus have become so universally selected, unless it be that Committees are assured that without sufficient time for advertising their show it cannot possibly be successful, and that this idea prohibits November being thought of; and again that after Christmas breeders will be more anxious to keep their favourites at home. That truth exists in this argument I freely admit, but my opinions are without qualification that with the three largest Shows just named, three in addition already before the public, to still augment the December shows by seven others now on the *tapis* would injure

all, and at the same time some of the weaker ones permanently. The individual interests of these societies would be far more insured by spreading the time of holding them over the first months of next year; whilst, most probably, the public taste for poultry-culture would not pall as completely as it must do (except to enthusiastic fanciers) if subjected to this continuous repetition.

As in all probability even other committees unknown to myself are now holding the same subject under consideration, if anything I have written should tend to a more wise determination I shall conceive the trouble I have taken in no way misemployed; and return my best thanks for the opportunity you have thus so kindly allowed me to forewarn those who otherwise might possibly have not imagined the difficulty thus made evident.—*EDWARD HEWITT, Eden Cottage, Sparkbrook, Birmingham.*

### BANTAM CLASSES AT THE CRYSTAL PALACE SHOW.

In further confirmation of what Mr. Ballance says at page 582 of your last Number, I would call your attention to the fact that the Crystal Palace Company have but one class for all varieties of Game Bantams, although at their last winter Show there were twenty-three pens of these birds, clearly showing what favourites they have become with the public. The glaring injustice of this will be manifest when I point out to you that the Gold and Silver Sebrights have two classes, though the two classes together mustered only twenty-one pens at the Show referred to. But what makes the matter monstrous, is the fact that there are four classes for Polish fowls, with eleven prizes of the aggregate value of £21, though these same four classes, at the last winter Show, could only muster altogether twenty-four pens. I, for one, certainly will not exhibit a Game Bantam—though I breed both Greys and Black Reds—at this Show, until a more just distribution of prizes is made. I shall send my birds to Birmingham and Manchester, where they can compete fairly.—*P.*

### MIXING VARIETIES OF FOWLS IN ONE CLASS.

AFTER reading the valuable remarks of Mr. Hewitt and Mr. Ballance on the above subject in your Journal, allow me, as a frequent exhibitor of Cochins, to express my conviction that if there were a separate class for Buff and Partridge birds at all shows, as at Birmingham and the Crystal Palace, it would tend very much to their prosperity, as many exhibitors will not show when both varieties are in one class. And how difficult a thing for the Judge to decide which colour to award the prizes to; besides which I see, on reference to the catalogues of several of our principal shows, that the entries for each colour of Cochins are as numerous as that for Gold and Silver Hamburgs, which, in almost every instance, have a class for each colour; so if committees would make the alteration I suggest, it will surely insure them a larger number of entries.—*HENRY BATES, Edgbaston, Birmingham.*

### MIDDLETON AGRICULTURAL SOCIETY'S POULTRY SHOW.

THERE were 266 entries—a greater quantity, and, according to the Judges' report, of a finer quality than has ever been exhibited during the Society's existence. This was evinced by the care and skill it required to select those for the prizes offered. The general arrangement of this large and interesting department was entrusted to Mr. Smith, and elicited commendations from the Judges, the public, and the Committee. The Judges were Mr. R. Teebay, Preston, and Mr. J. Hindson, Liverpool. Their awards were as follows:—

SPANISH.—First, R. Tattersall. Second, R. M. Stark, Hull.  
DORKING (Any Colour).—First and Second, T. W. Hill, Heywood. Commended, T. Stutter; R. M. Stark, Hull.  
GAME (Any variety).—First, R. Parkinson, Poulton-le-Fylde. Second withheld.  
COCHIN-CHINA (Any Colour).—First, T. Stretch, Ormskirk. Second, J. Pith, Halifax. Commended, E. Smith, Middleton.  
HAMBURGH (Gold or Silver-spangled).—First, J. Ashcroft, Waterloo, near Ashton-under-Lyne. Second, J. Dixon, Bradford.  
HAMBURGH (Gold or Silver-pencilled).—First, J. Dixon, Bradford. Second, S. Smith, Northowram, Halifax.  
ANY OTHER VARIETY.—First, Second, and Third, J. Dixon, Bradford.

**GAME BANTAMS (Any Age or Colour).**—First, J. Crassland, Wakefield. Second, N. Cook, Chawbent.

**BANTAMS (Any other variety).**—First, J. Crassland, Wakefield. Second, G. R. Tate, Driffield. Highly Commended, Mrs. Foster, Molesworth Cottage, near Beverley.

**DUCKS (Aylesbury).**—First, T. W. Hill, Heywood. Second, Mrs. M. Seamons, Hartwell, Aylesbury. Highly Commended, R. M. Stark, Hull; Messrs. H. & J. Kenyon, Acerrington.

**DUCKS (Roan).**—First, J. Dixon, Bradford. Second, G. R. Tate, Driffield.

**ANY OTHER VARIETY.**—First, E. Hutton, Pudsey. Second, J. Dixon, Bradford.

**GREEN (Any variety).**—First, G. R. Tate, Driffield. Second, W. Kershaw, Heywood. Third, J. Dixon, Bradford. Highly Commended, W. Kershaw, Commended, J. Marshall, Saddleworth.

**TURKEYS.**—First, S. F. Armitage, Middleton. Second, W. Kershaw, Heywood.

#### POULTRY HATCHED IN 1862.

**SPANISH.**—First, C. J. Samuels, Manchester. Second, J. R. Rodbard, Winton, near Bristol. Third, C. J. Samuels.

**DORKING (Any Colour).**—First, J. F. Newton, Kirby-in-Cleveland. Second, T. Statter, Whitefield. Third, J. Holmes, Knowsley. Highly Commended, J. F. Newton, Kirby-in-Cleveland; H. Hilton, Harpurhey; E. Smith, Middleton.

**COCHIN-CHINA (Any Colour).**—First, T. Stretch, Ormskirk. Second, F. G. McCrea, Halifax. Third, A. Barker, Todmorden.

**GAME (Black-breasted and other Reds).**—First, J. Fletcher, Stoneclough. Second, C. W. Brierley, Rochdale. Third, C. T. Rhodes, Halifax.

**GAME (Any other variety).**—First, W. Bourne, Newton Heath. Second, B. W. Bretherton, Rinchill, Prescott. Third, W. Barstley, Middleton.

**HAMBURGH (Gold-pencilled).**—First, J. Munn, Stacksteads, Newchurch. Second, Messrs. Carter & Valliant, Poulton-le-Fylde. Third, A. Nuttall, Newchurch, Rossendale. Highly Commended, A. Nuttall; M. Isherwood, Radcliffe; T. Parkinson, Acerrington.

**HAMBURGH (Silver-pencilled).**—First, S. Fielding, Birch. Second, J. Firth, Halifax. Third, C. Moore, Poulton-le-Fylde. Commended, J. Dixon, Bradford; J. Wood, Horridge, near Bolton.

**HAMBURGH (Golden-spangled).**—First, N. Marlor, Denton, near Manchester. Second and Third, J. Roe, Hadfield, Derbyshire.

**HAMBURGH (Silver-spangled).**—First, J. Lancashire, Tonge Lane. Second, E. Collinge, Boarshaw, Middleton. Third, J. Dixon, Bradford. Highly Commended, J. Mitchell, Hipperholme, near Halifax. Commended, W. Cannon, Bradford; J. McWilliams, Glossop.

**ANY OTHER VARIETY.**—First, W. Hargreaves, Bacup. Second, C. J. Samuels, Manchester. Third, J. Dixon, Bradford.

**DUCKINGS (Aylesbury).**—First, Mrs. M. Seamons, Hartwell, Aylesbury. Second, Messrs. H. & J. Kenyon, Acerrington. Highly Commended, J. Collinge, Habergham House, near Burnley; J. Dixon; Mrs. M. Seamons; G. R. Tate, Driffield.

**DUCKINGS (Roan).**—First, J. Collinge, Habergham House, near Burnley. Second, G. R. Tate, Driffield. Highly Commended, J. Holmes, Knowsley; F. Hindle, Haslingden.

**ANY OTHER VARIETY.**—First and Second, J. Dixon, Bradford.

**GOSLINGS.**—First, Mrs. M. Seamons, Aylesbury. Second, G. R. Tate, Driffield.—(*Middleton Albion.*)

#### POULTRY-KEEPING ON A LARGE SCALE.

A CORRESPONDENT of the *American Country Gentleman* says—“I keep from 100 to 200 fowls, mostly of the Black Spanish breed, and keep them confined the year round; but disease is not known among them, and I can assure you that they do full as well as those kept by others, who believe that fowls cannot do as well unless they are kept scratching. My yard is only 25 feet by 60 feet, filled 12 inches deep with leached ashes and fine sand. I have a large box containing some thirty bushels of burnt shells and bones, which the fowls have free access to, and when the top becomes too dirty, I take it off and put it around my grape vines. My gardener raises six hundred head of cabbage annually, which are given to the fowls through the winter, and in summer he gives them lettuces, all they want. I have a contract for ten beef heads weekly, and give the fowls plenty of sour milk, in addition to all of which they have free access to a mixture of corn, oats, wheat, and barley, which is kept in a bin holding some forty bushels, so constructed as to regulate itself, and not allow the fowls to waste a grain or to scratch in it. My watering-trough is also so constructed as only to admit the heads of the fowls, and is always full of pure, clean water, which is of more importance than anything else in keeping poultry healthy.

“A barrel of lime, a bucket, and a brush are indispensable articles in a poultry-house, and should be used every rainy day (and oftener during such a drought as we have had lately), white-washing everything but the floor, and using the lime dust on that; but wash the floor first. I have tried all your vermin preventives, and everybody's else, but never succeeded in keeping my fowls free until I found a remedy by experimenting.

“The nests are so constructed as to be all taken apart in two minutes; they are perfectly smooth inside and out, and once in every two months I have them taken down, cleanly washed, and then thoroughly coated with common whale oil, and have never yet seen a single louse near them, nor can one

be found around my premises. The oil we apply with a common brush, and it can be relied upon as being a sure preventive against vermin on fowls.—(*Boston Cultivator.*)

#### QUEEN BEE'S AGE OF FERTILITY.

COULD you inform me through THE JOURNAL OF HORTICULTURE—1st, At what age a young queen bee usually begins to deposit eggs? 2ndly, Is the laying of eggs retarded if the queen is not soon impregnated after being hatched-out; or does she commence laying about one ago generally, whether impregnated or not? 3rdly, Is a queen older before laying when hatched late on in the year—say the 16th to the end of August—than when bred earlier in the season?

I ask the last question, because one or two late-bred Ligurian queens, hatched in the latter half of August, had not become fruitful when more than a month old. I may say there was not any lack of drones in the apiary.—A. T.

[Three weeks is the usual age at which a young queen commences egg-laying during the summer months; but if the weather be very warm, this period is sometimes shortened to a fortnight, or it may under other circumstances be prolonged to thirty days or even more.

Egg-laying is generally retarded when impregnation has not been effected; but this is not always the case, as exemplified in the instance related by me at page 56t. On the other hand, I have several queens hatched on the 30th and 31st of August, which had not commenced egg-laying when last examined, about the middle of this month (October), although I have reason to believe that most of them are impregnated.

Egg-laying is often longer deferred in autumn-bred queens than in those that are hatched earlier in the season. For instance: a queen which was hatched on the 17th of August last laid no eggs until the 19th of September, although she then laid worker eggs, and turned out remarkably fertile.—A DEVONSHIRE BEE-KEEPER.]

#### BEE-HIVES AT THE INTERNATIONAL EXHIBITION.

FENN, R., *Rectory, Woodstock*, No. 2112.—Not long since I wrote you that I had made a discovery about the ascent of the bees from my hives up into the supers, and that I would let you know all about it on the first opportunity; and from the numerous letters I have received requesting particulars about my hives since they have been at the International Exhibition, and as you are about to issue illustrations, I grasp the nick of time and say, Go forth!

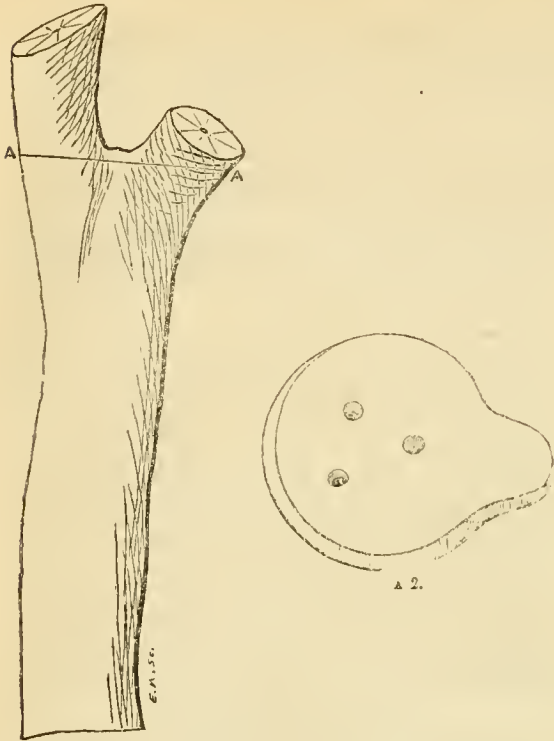
It is a great nuisance to the worker bees in small supers to have a lot of drones constantly fussing about in their way, and antagonistic to quick filling of the glasses. Fat people in general consume less, but your big drone will eat you considerably; and for some cause or other I find they do not meet with such rough usage in the supers as they do in the paternal hive: hence their retreat. But I have changed all that.

My supers are now proof against drones, and, I may say, the queens also, for not the least sign have I seen of any bee majesty in my supers, which cannot be said of others working on the free-admittance system in Woodstock; for, in two instances I know bell-glasses have been half filled with bee-brood and bread this bee-breeding season.

I have so lately shot over the workings of my system, excepting the above recently invented contrivance, in Nos. 639, 650, 652 (old series), and 4, 10, 22, 29, 39, 40, 42, 43, and 46 (new series) of this Journal, that it would be unnecessary to beat the ground all over again; so I will merely for the present illustrations point to where their descriptive features may be found, and also attach the prices to them which they cost me, leaving out of question altogether the daily thought and numerous contrivances of eleven years' cogitation ere I arrived at what I consider to be, up to the present time, a very good natural country system of bee-keeping and bee-apparatus, which any one with a little help from his ingenious village neighbour could set-up for himself. “If I had but a thousand a-year” I cannot say whose or how many systems I should set up. But as it is, my necessity and object has been simplicity, and yet nevertheless so to combine results fit to set in a pleasure ground by going to a moderate expense, and to show how good and saleable samples

of honey in the cheapest manner can be produced agreeably to the means and understanding of the cottager.

No. 1.—Pedestal and block-board. See No. 4, 1861, page 73.



Tradesman's work for getting-up as well as they could be of their kind cost me 4s. 6d. I have some which I manufactured myself. Of course their expense is nominal, and I wish to impress this secondary idea as a primary consideration throughout.

No. 2.—Bee-boards. See No. 10, page 186. 7s. 6d., mahogany; 3s. 6d., deal and dovetailed; and 2s. plain ash.

No. 3.—Hive and comb-support-sticks. See No. 10, p. 188. Sorted straw, peeled withes, and hickory support-sticks, 4s. 6d.; common straw, &c., 2s. 9d.

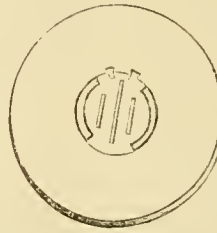
As the next numbers mix themselves up with the permanent adapting-board, I will next explain away what I will call the flap, which is a thin piece of deal, or any other wood, rounded exactly to fit the central hole of the adapter, and to rest on four pin-supports so as to lie even with the surface of the board. Each piece of pin or wire is forced into the wood of the side hole in the adapter some eighth of an inch, and left to protrude about the same distance. Now measure 2 $\frac{3}{4}$ -inch sections off the opposing ends of the rounded flap, and cut away the edges between each section, so as to leave openings between the flap and the adapter of not quite two-eighths of an inch broad, which will admit the worker bees to ascend upwards but not the queens or drones. Two other openings may be cut out of the flap opposite each other 2 inches long, not quite two-eighths of an inch broad, and three-fourths of an inch from the sides parallel with the others. Bore two rows of holes with a small nail-piercer, or form a slit too narrow for a bee to pass along the centre of the flap to act as an air-passage. Then rest the flap upon the pins, and secure a piece of adhesive label (I use the margins from sheets of postage stamps), on to the adapter and flap, which will form a hinge as it were. Paste another piece of adhesive on at the opposite end of the flap only, of which more anon. When I place this my permanent adapting-board—for it is never removed during the honey-gathering season—upon the hive, I firstly take off the small round piece of plaited straw from the top central hole, and quickly place a glass tumbler inverted over the hole, which effectually prevents a bee from escaping to place itself in jeopardy or to annoy the operator. Then if the top of the hive is at all sunken, which is frequently the case, I have small deal fillets (No. 5), a trifle wider in diameter



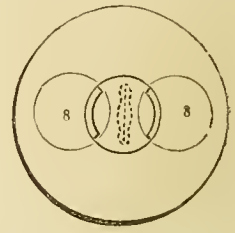
No. 5.

than the central hole of the adapter, and of various depths, to slip over the tumbler, and a wind of cotton wadding also to lay nearly around the outside circumference on the top of the hive. Then place on the adapting-board (No. 6), when the tumbler will obtrude itself up through the flap-hole, and no insect will ever be able to pass the cotton wadding one way, nor, by reason of the fillet, will the bees be able to go between the hive and the adapter on the other. Now moisten the end of the adhesive paper, quickly take away the tumbler, down with the flap, press the adhesive paper on to the board, and place the super-board (No. 7), which must have a flap in its centre to exactly correspond with the one below. Two guide pencil marks on each board previously marked will point out their proper positions; and by reason of these duplicate openings in the flaps it will be seen by illustration to admit of two glasses (No. 8), being worked in lieu of one, which is another great point gained in a good and early honey season. Now slip a carpet bag over the glasses to keep them warm, and the super-over-hive over that; and then the pan and sculptured weight will keep all taut, and be far from appearing unsightly into the bargain.

No. 6.—Permanent mahogany adapting-board, circular, three-eighths of an inch thick, 16 inches in diameter, and having a central hole 3 inches in diameter. Three shillings with flap.



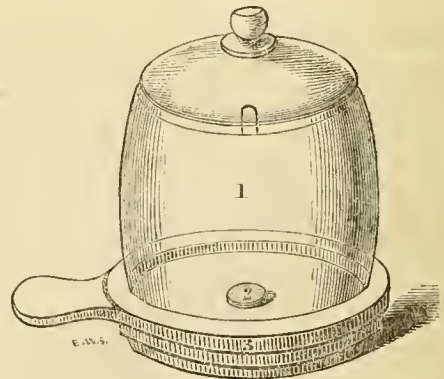
No. 6.



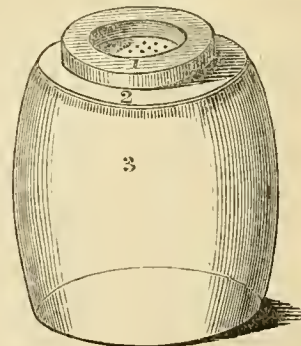
No. 7.

No. 7.—Super-board mahogany, circular, two-eighths of an inch thick, a foot in diameter, and having a central hole 3 inches in diameter. One shilling and sixpence.

For a description of a method of setting the honey-glasses to work, see old series, No. 652, page 389.



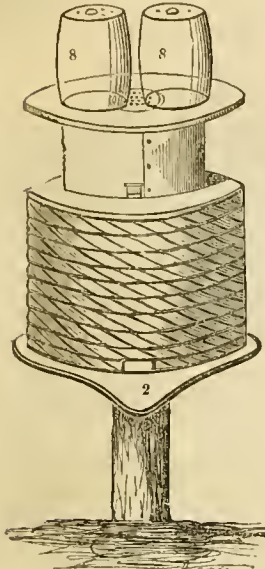
E.A.S.



Honey-glasses.

No. 9 is a second small super-board to correspond with the above, excepting that the central hole remains without a flap; for, unless double supers are worked throughout the season, a third flap is unnecessary, and the super 3 inches high or so, and of any diameter one likes coming within the measurement of the board, is of wood, glass, or straw.

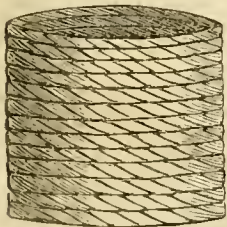
My second relievers are mostly fig-drums cut in halves, or at least to the required depth, having a piece of glass let in nearest the board, so as to admit of one's seeing when the bees have nearly completed their combs, and are ready for another. Well, we are arrived at the time, let us suppose, when it will be seen by examination that the bees have nearly completed their honey-combs in the glasses, and are in want of more room; so that all one has to do to accommodate them is merely to lift up (Nos. 7 and 8) board and glasses, slip (No. 9) a board and super and fillet on top in its place, and bodily set Nos. 7 and 8 on the top of it, which will then represent No. 10. The narrow fillet will prevent the board from coming flush down on the top of the newly-inserted super, which has a hole of only about 1½ inch in diameter in its top; a second small super-board would answer this same purpose—viz., leave a vacuum there for the bees to ascend to complete the sealing-over of their combs in the glasses, which they will presently do, and till when, of course, the piece of carpeting and super-over-hive is reinstated. My method of taking the honey-glasses or supers can be seen in No. 652, page 390; but, with the newly-invented flap, the messing with the thread or wire is quite superseded.



No. 10.

Payee's straw supers I generally use for my third removes; but these the man here who makes my hives, and a very good hive-maker he is, is not quite up to, so I purchase them in my native county of Mr. Major, in the Traverse, Bury St. Edmonds, Suffolk. They cost there about 1s. each.

No. 11 is the super-over-hive, a foot deep, and about 14 inches inside diameter. I cause holes to be worked in their tops, about



No. 11.



No. 12.

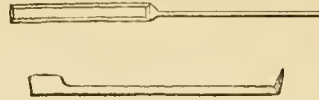
3 inches in diameter, the same as for the bee-hives, to allow the foul air to circulate up and away, or the top may be omitted altogether as per engraving.

No. 12.—A self-floating bee-feeder.—I formed this out of a fig-drum, but I find it is becoming out of the fashion to export figs in drums. Square boxes are now the vogue: therefore, to employ a tradesman to make a machine of the sort, I daresay it would cost 3s., and with a bell-glass to cover it—say 2s. more. But I have lately manufactured another out of an old quarter-of-a-peek measure, and for the method of doing it see No. 639, page 185. My spring-time bee-feeder is made of zinc, see page 186, *ibid.* It cost 9d.

No. 13.—Honey-knife. Consists of a flattened steel handle, some 2 feet long, three-quarters of an inch in diameter, by one-eighth of an inch substance, having a horizontal pibleme 2 inches

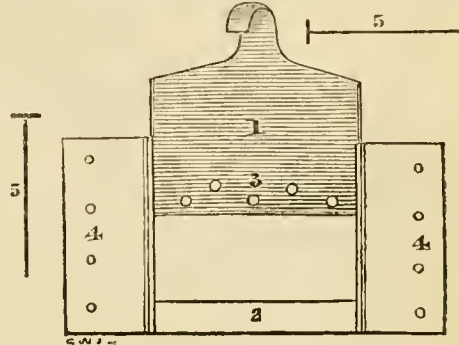
long, and tapering to a point at one end, and a vertical spud about the same length flattened-out to 1½ inch broad at the

Spring-time bee-feeder.



No. 13.

other. A blacksmith could make one for 2s. 6d. See manner of using it in No. 40, 1861, page 287. My bee-entrances which



Bee-entrances.

appear on the hive in its winter garb (No. 14, A), are described in No. 10, page 187. Cost me 6d.



No. 14, A.

The bee-pan shelters measure 11½ inches wide across the bottom, with sloping sides 7½ inches deep, and measuring 2 feet for their top inside diameters. See No. 10, page 187. They cost me 2s. each.

The well-doing of my bees again through last winter, leads me still to recommend the shelter of pan. A few bricks placed on his head would prevent an exuberance of spirits in a high wind; but, for the look of the thing, a greater expense is gone to. We have a few old Anglo-Saxon pillars left, which have fortunately escaped the churchwardens' axe, in the church here, and they are garnished with sculptured heads of monks and nuns, from the severest of aspects to right-down-broad-face; so, having an ingenious self-taught mason living in the parish, I caught him by the button-hole one fine day, and, with pen and pencil, sketched a few of those heads which vastly took my fancy. His chisel has perpetuated their physiognomies in their congenial stone, and they now do duty as wind-protectors for my pan-shelters. For conveniently taking off and on they are made separate, and to fit on pivoted busts, No. 16. They cost 5s. each. The nun's head illustrated was furthermore endowed with a wreath of vine



No. 16.

foliage and grapes, just by way of not allowing those old facetious fellows to vanish with all the conceits to themselves. The above is shown in *propria persona* in my case, 2112, in the eastern annex, at the International Exhibition.—UPWARDS AND ONWARDS.

### DO WORKING BEES EVER BECOME FERTILE?

AMIDST the many apparent anomalies which present themselves in the natural history of the bee, no one seems more perplexing to the scientific inquirer than the alleged power ascribed to the worker bee to lay fertile eggs; notwithstanding that, according to all naturalists, it is incapable of being fecundated; indeed, the whole subject connected with reproduction in the bee, notwithstanding the German-Dzierzon theory, as to which I do not now pronounce an opinion, is still shrouded in obscurity, and is still *the* great mystery in apian science.

The merit of the discovery of fertile workers is assigned to the naturalist Reim; and the celebrated Huber has confirmed that discovery by observations and experiments conducted chiefly by his valuable assistant, Francis Burnens. To Miss Ivrine also belongs the credit of having, by aid of the microscope and dissecting-knife, discovered the existence of ovaries in the working bee, and of the presence of eggs in several of them; thus establishing, beyond a doubt, the identity of sex of the worker and queen bee.

Although, however, this discovery has been put beyond the reach of cavil by these eminent naturalists, and been confirmed by subsequent observers, I must yet record my doubts of this strange anomaly being sufficiently and thoroughly investigated, and, consequently, understood. I must, for my own part, candidly confess that in all my experience I have never been fortunate enough to detect fertile workers in the act of oviposition, nor have I been able to identify such as are in that abnormal condition.

Admitting the fact, however, which has been so well authenticated, I should, nevertheless, feel extremely obliged to such of your intelligent correspondents as may have witnessed this strange anomaly of fertile workers depositing eggs which developed into male bees, to state under what peculiar circumstances this happened, to give the antecedents of the stock in which they were produced, and such other particulars connected with their history as may be thought worthy of remark.—J. LOWE.

[We should be glad if any of our correspondents who have observed this remarkable phenomenon would comply with Mr. Lowe's request.—EDS. J. OF H.]

### USE OF EMBOSSED BEESWAX.

AT the beginning of October, the weather being warm and fine, I removed a side-bar from my wooden bar-hive, and carefully substituted a new bar having a sheet of embossed beeswax, with which I had been favoured, firmly fixed to the top.

On the 16th, the day being very bright although rather cold, I carried some food to a straw hive near; and, finding the bees in the bar-hive very quiet, I loosened the slides on each side of the bar introduced a few days before, and on looking in was much pleased to find that the bees had built thick comb on each side of the sheet of wax.

My bees have been working well here until within the last week.—SURREY HIGHLANDER, October 24th.

### ARTIFICIAL COMBS.

I HAVE been favoured with the following letter from a lady correspondent to whom I sent a few "artificial partition walls," and whose experiment with one of them appears to have been quite as successful as those of—A DEVONSHIRE BEE-KEEPER.

"I was much obliged by your favouring me with thirteen sheets of wax; and as the 3rd of this month was a very fine, sunny day here (Haslemere, Surrey), I took out one of the side bars from my frame-hive, and inserted a new frame in its stead,

having previously fastened a waxen sheet firmly in, according to your directions. We had wet and windy weather afterwards, and for a few days I could not look at the hive often; but to-day (16th of October) being very fine and sunny again, I went to give some food to a straw hive, and finding everything very quiet in the wooden-frame hive, I provided myself with a little tobacco smoke, and quietly took off the upper box, loosened two slides at the side, and drew them out. The bees crowded up to the light to see what was the matter, but dispersing them with a little smoke, I had the pleasure of seeing that they had built white comb to a considerable thickness, from the sheet of wax, and from each side. It was not possible for me to ascertain during the short time the hive remained open whether they had entirely covered the sheet of wax with comb, nor whether they had built exactly upon the embossed pattern given. This must remain uncertain until next spring, but I think you will be pleased to hear of the success of one of your waxen sheets."—H. R.

PANAMA HATS.—Dr. Berthold Seemann, in the "Bonplandia," says they are not made on the Isthmus alone, but most of them, and the best, in Manta, Monte Christe, and other places in New Grenada, south of Panama. Panama hats are worn all over the continent of America, and in the West Indies. The best are sold at from 1 dol. 50 cents. to 2 dols., and but seldom sent to Europe. The staple article for exportation is made by negroes in the tropical latitudes. Panama hats excel other straw hats in their pliancy, as they consist of but one single piece, and can be rolled up and even carried in the pocket without much injury being done to them. During the rainy season the Panama hat easily gets soiled; it is then cleaned with soap and water, then with the juice of lemon or some other acid, and when dried in the sun its whiteness is restored. The plant which is used for making the Panama hat is called "Tipijape," and "Porto rice,"—botanical name "Carludovicia palmata," looks much like a Palm tree, and grows along the western coast of Ecuador and New Grenada. The leaves are gathered before they unfold, the ribs and coarse stalks taken out, exposed to the sun for twenty-four hours, soaked in boiling water till they get white, when they bring them up in the shade for bleaching. The plaiting of the straw is hard work. Common quality hats take a day or two, fine ones upwards of three months, hence the great difference in prices. The best time for plaiting is when the straw has a certain degree of moisture—viz., in the damp weather, in the rainy season, and in the early hours of the day.

### OUR LETTER BOX.

WARNING (*E. Hutton*).—We have no reason to doubt all that you say, but we do not think that there is any need to insert a letter warning our readers against lending money to applicants whom they do not know personally. It would be difficult to find another gentleman like him you name, who would so readily part with his money.

RIP OR COOP FOR CHICKENS (*North Lodge*).—A rip in which to put a hen and chickens should be 24 inches high in front, 18 inches at the back, 20 inches square inside. It should be boarded on three sides, but have bars in front. Two of these should slide up and down for facility of putting in or taking out the hen, and all should be wide enough apart to allow the chickens to run through between them. It should have no bottom for any kind of poultry. It should stand on sand or gravel. Out of doors is better than the attic. A washing-tub or anything of that size and depth will be all your Ducks require. Slate and zinc are the best materials for small tanks, a hole and plug the best means of emptying them. It is not very detrimental to cut one wing of a fowl, but it is a disadvantage.

BOOTHMAN'S PATENT BEE-HIVE.—When we wrote last week we were not aware that this hive received *honourable mention* by the Jurors of Class 9, there being no medals awarded in this department; a model of this hive also received the silver medal of the Royal North Lancashire Agricultural Society, at Preston, September 3rd, 1862.

### LONDON MARKETS.—OCTOBER 27.

#### POULTRY.

Miserable weather makes dull markets, and Leadenhall is no exception.

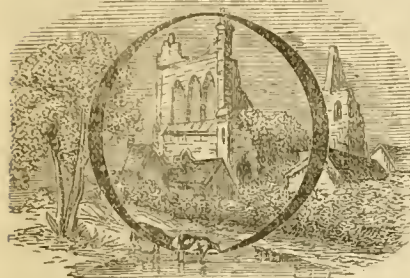
Large Fowls .....	3 0 to 3 6	Ducks .....	2 6 to 2 9
Smaller do .....	2 6 ,, 3 0	Partridges .....	2 3 ,, 2 6
Chickens .....	1 9 ,, 2 0	Hares .....	3 0 ,, 3 6
Geese .....	6 6 ,, 7 6	Rabbits .....	1 4 ,, 1 5
Grouse .....	3 0 ,, 3 6	Wild do .....	0 8 ,, 0 9
Pheasants .....	3 6 ,, 4 0	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of Mnth		Day of Week.		NOVEMBER 4-10, 1862.															
				WEATHER NEAR LONDON IN 1861.															
				Barometer.		Thermom.		Wind.	Rain in Inches.	Sun Rises.		Sun Sets.		Moon Rises and Sets.		Moon's Age.	Clock after Sun.	Day of Year.	
						degrees.				m. h.		m. h.		m. h.			m. s.		
4	Tu	Ageratum mexicanum.		29.964—29.925	52—31	S.W.	.06		m.	7	27	af	4	44	4	12	16	16	308
5	W	Aster grandiflorus.		29.659—29.515	56—31	S.W.	.69		3	af	7	25	4	51	4	13	16	15	309
6	Th	Cassia corymbosa.		29.497—29.343	50—25	S.W.	.07		6	7	23	4	ris			16	13		310
7	F	Camellias.		29.422—29.564	56—24	W.	—		6	7	22	4	40	a	4	15	16	10	311
8	S	Chimonanthus fragrans. [n. 1841.		29.314—29.290	55—22	S.W.	—		8	7	20	4	20	5	16	16	6		312
9	SUN	21 SUN. APT. TRIN. PR. WALES		29.534—29.416	53—28	N.W.	.40		10	7	18	4	9	6	17	16	1		313
10	M	Cinctarius.		29.326—29.102	51—35	N.E.	.39		11	7	17	4	4	7	18	15	55		314

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 51.7° and 36.8° respectively. The greatest heat, 63°, occurred on the 6th, in 1834, and 5th, 1852; and the lowest cold, 18°, on the 9th, in 1851. During the period 127 days were fine, and on 118 rain fell.

DINNER-TABLE DECORATION.



NE of the principal duties which a gardener has had to attend to of late years, is to provide plants suitable for the decoration of the dinner-table, and the Royal Horticultural

Society made a step in the right direction when it offered prizes for the above. It is true that the first exhibition of the kind was not so successful as was anticipated, but it has been the means of inducing nurserymen and others to adopt measures for importing and cultivating plants more adapted for the purpose than those we already possess.

The size of pots which the Royal Horticultural Society recommend—viz., 48's, is, I think, most suitable, as pots of that size can easily be placed in either gold, silver, or china vases, without disturbing the balls of the plants—a matter of no small importance with choice specimens.

If this kind of decoration is required five evenings out of the seven, a good collection of plants will be indispensable; as, for instance, should four or six plants be used at once, not less than twenty or thirty will be required for the five days—that is, if any portion of a party should stay that time; and as ladies (to whom we must always refer for good taste) never appear twice in one dress during a visit of a few days' duration, that is a sufficient suggestion for the gardener to change his plants every day, which will not only be good taste, but beneficial to the plants, as many of those mentioned below will not bear too much confinement in dry rooms, and if housemaids are not specially careful as regards dust, the pores of the leaves are soon sealed-up, and that important function, perspiration, is suspended. Indeed, with every possible care on the part of the domestics, it is an impossibility to keep plants in a dwelling free from dust in the autumn and winter months: therefore, those plants with smooth foliage which have to remain in-doors for days in succession, should be carefully sponged every morning.

The following are the best which are used here for dinner-table decoration:—

*Dracena versicolor*, than which nothing to my mind looks better, if small plants are used. *Caladium argyrites*, *Belleymei*, and *Wighti*, the first-named of which is an especial favourite here with the ladies, and deservedly so, as it is a lovely plant either by day or lamp light.

*Gesnera zebrina* and *cinnabarina* are both very good when grown dwarf. *Centradenia rosea* is a neat-foliaged plant, and easily grown to a nice height.

*Poinsettia pulcherrima*, the scarlet bracts of this plant are most conspicuous by lamplight. Cuttings taken in July and August will make nice dwarf plants by the end of October and onward through the winter.

*Croton variegatum*, and *Aphelandra Leopoldi*, are two useful plants for a change. *Cyanophyllum magnificum*, *Eriocnema marmorea*, *Maranta regalis*, and *Sonchila margaritacea*, are all lovely for small vases, and so are *Dieffenbachia picta*, *Cissus discolor*, *Dioscorea discolor picta*, *Sanseveira carnea fol. var.*

*Cyperus alternifolius*, is a very pretty little plant by night. Mr. Dyer, the kind and intelligent foreman at Mr. Veitch's, of Chelsea, informed me that this plant should be always pot-bound, otherwise the foliage, instead of being white, has a tendency to become green.

*Solanum capsicastrum*, *Coleus Verschaffelti*, *Fuchsia Tom Thumb*, *Maranta zebrina*, *Ananassa sativa variegata*, a splendid plant for the dinner-table; *Graptophyllum versicolor*, *Lycopodium Lyalli*, and *Campylobotrys pyrophylla*.

Amongst Ferns, the *Gymnogramma tartarea*, *G. chrysophylla*, and *G. sulphurea*, are good, and so are *Cheilanthes elegans*, *Pteris serrulata*, *P. tricolor*, *Adiantum capillus-Veneris*, and *A. cuneatum*.

I shall be glad if Mr. Robson (to whom I tender my best thanks for his kindness to me at Linton last month), will name a few which he thinks adapted for the purpose.

Mr. Fish, at Hardwick House, near Bury St. Edmunds, and Mr. Blair, of Shrubland Park, near Ipswich, have some very nice berry-producing plants admirably adapted for dinner-table plants, particulars of which (should this meet their eye) would be acceptable to all in search of such plants.—J. PERKINS, *Thornham, Suffolk.*

EUGENIA UGNI AND THE GOURMETS.

HITHERTO this fruit has held no place among the gifts of Pomona, notwithstanding the rich and peculiar flavour with which it is gifted. This may have arisen in consequence of its small size, and possibly, too, because of the very satisfying nature of that rich and peculiar flavour.

At the late International Fruit Show at Kensington a happy thought entered the mind of a gentleman, who has both a name and a place in horticulture, that this rich and peculiar flavour might be applied to some useful purpose, and *Eugenia Ugni* be raised to a pomological position it has never yet occupied. Thoughts are as vapour unless they are interchanged, and this gentleman having communicated them to one or two others interested in such matters, it was determined to test the applicability of this fruit as an ingredient for flavouring ices and other cunningly devised achievements of the confectioner.

Arrangements were made, and one day last week a committee of taste met in the city of London to discuss this all-important subject, under the presidency of a gentleman deeply learned in gastronomic lore. As it is necessary when any momentous question is to be settled

in the city of London, the occasion was celebrated by the usual indispensable preliminaries, after which the business of the evening was introduced. If we were to say that the experiment of introducing the flavour of *Eugenia Ugni* into ices was a complete success we convey no idea of what that success really is. Suffice it to say that it is a new flavour, distinct altogether from what we are accustomed to find in Vanilla, Pine Apple, Strawberry, Raspberry, or any other ingredient with which we are already familiar for the purpose. However slight the flavour may be, it still retains that rich and permanent aroma which is marked in the fruit, and leaves on the palate what we have heard distinguished as "a pleasant farewell." The fruit experimented upon was the new variety called "hybrida," raised by Mr. J. A. Henry, of Edinburgh, and in the possession of Messrs. Veitch, of Chelsea.

Now that a use has been found for this remarkable little fruit, we can imagine that its cultivation will be greatly extended. In the west of England it stands out of doors; but for general cultivation it would require the protection of an orchard-house or some such shelter. In an orchard-house, however, it would be quite at home, and we have no doubt when the fact of its use becomes generally known there will not be a glass protection in the country which will not receive under its shelter a plant of *Eugenia Ugni*.

### THE INTRODUCTION OF THE QUININE-YIELDING CINCHONA TREES INTO INDIA.

In 1859, the Secretary of State for India resolved to cause attempts to be made for the collection of plants and seeds of the quinine-yielding *Cinchona* trees (Peruvian Bark), in South America, and the introduction of their cultivation into India. The duty of superintending the necessary arrangements connected with this important experiment was entrusted to Mr. Clements Markham, of the India Office; and, in spite of some disappointments, all the numerous difficulties of the undertaking were finally surmounted, and the measure has at last been crowned with complete success.

By the latest accounts, dated in the beginning of last September, the number of *Cinchona* plants, on the Neilgherry hills, the cultivation of which is under the able superintendence of Mr. William G. McIvor, was as follows:—

Species.		Number.
<i>C. succirubra</i>	yielding red bark of commerce	30,150
<i>C. calisaya</i>	" yellow bark "	1,050
<i>C. condaminaea</i>	" crown bark "	20,307
<i>C. lancifolia</i>	" Carthagen bark "	1
<i>C. nitida</i>		8,500
<i>C. micrantha</i>		7,400
Species without name	grey bark "	2,340
<i>C. peruviana</i>		2,295
<i>C. pahudiana</i>		425
Total number plants		72,563

Of these, 13,700 plants are placed out permanently in the plantations, and, although only recently transplanted, are in a very promising condition. The number of plants placed out in the nurseries in the open air and in the hardening-off frames is about 18,076 all in the finest possible state of health. The number of small plants under glass, including those used for the production of wood for propagation, is about 40,792.

Extensive clearings are now being prepared for *Cinchona* plantations on the Neilgherry hills. The Denison plantations and the Markham plantation, both at Neddidiattam, on the northern slopes of the Neilgherries, will contain 410 acres. The Wood plantation, a splendid piece of land well watered and protected from the west winds, will cover 250 acres; and another plantation has been formed at a higher elevation called Dodabetta.

Private individuals are anxious to undertake the cultivation, and 22,000 plants have already been bespoken, so that the quinine-yielding trees will soon be widely spread over the hills of the Madras Presidency.

Meanwhile they have not been idle in Bengal. Dr. Anderson, who has charge of the *Cinchona* cultivation in that Presidency, conveyed a stock of plants to Darjeeling, in the Sikkim Himalayas, early last May, and in July he had 246 plants there of valuable species. In Ceylon also they are rapidly increasing their stock of *Cinchona* plants.

In the first week in November, a work on the whole subject will be published by Mr. Murray, entitled—"Travels in Peru

and India, while Superintending the Collection of *Cinchona* Plants and Seeds in South America, and their Introduction into India. By Clements R. Markham."

### PRUNING ROSES UNTIL TWO YEARS OLD.

WHEN a fruit tree, or a flowering plant, trained against a wall or any other structure, makes a shoot here or there which is two, or three, or more times stouter, and more soft, more leafy, and much faster growing than the ordinary summer shoots, it is called a "robber" in garden lore. The gardener is both the executive and the executioner against such robbers; and it would seem unseemly in one of their number, like me, to harbour or to encourage a robber of that kind, or of any other. Nevertheless, I have done it scores of times, and I am not only about doing it again, but to attempt to prove that the practice is not so unseemly as might appear on the face of it.

I said that two-year-old Roses from cuttings were pruned at the end of last June, and so they were, on purpose to obtain robbers of this very description. One of them on a *Géant des Batailles* is over 5 feet in length; another, the next to it in degree of affinity, and on the wall, is over 6 feet; and a third with three more of a feather, on an *Auguste Mié Rose*, is over 9 feet long; and the remainder are in different degrees of robberhood, between these points.

The difference of opinion by practical men on the use, and on the dangers of such robbing shoots, arises from the fact that one set of such shoots is the result of bad management, the other of the necessity of adhering to a principle opposed to general practice. You will not find it in the calendar to cut down a *Glycine*, or a *Jasmine*, a *Honeysuckle*, or a *Rose*, to the last bud at the end of June, and immediately before the "midsummer shoot," and yet cases will arise, every year of our lives, in which the midsummer shoot of one year would need double the robbing power of that of the preceding season. Then, if you can tell me an easier way, or a more effective plan to attain that end than the one which is here set forth, I shall be glad of it, and will follow the prescribed mode in preference to my own; if not, you will follow mine till you meet with a better than the encouragement of thieves and robbers for getting up higher in the world.

If we take the first on my list, a *Glycine*, from the beginning, it will teach us to turn the tune twelve months out of time. The *Glycine* is propagated by layers, and then kept in pots, as Mr. Fish keeps his extra *Geraniums* for beds, or rather on his principle, the plan which takes up the less room, cramped at the roots, so as to make a little bush of it, with the bottom of the bush ripened so as to be as hard and dry as the ribs of an umbrella. You, or they, or we, buy such bush-like *Glycines*, knock off the ball, and let the roots go free in planting, and we might let the branches go quite as free also.

You have often heard of the *Glycine* doing no good for a length of time after planting; which failures all come from that fallacy at the first going-off. All the little wiry branches of a so-cramped *Glycine* ought to be let alone the whole of the first year after planting, in order that each of them might add a few more leaves to operate upon the roots; and it is far better not to prune the shoots next spring, but to let them make another effort, and the roots will be thus set in motion the sooner in the season. Then, as soon as the roots are fairly on the go, and the growing season is safely on the wing, by the turn of midsummer, cut down the scrub of a *Glycine* to the last eye, and by the end of the following week that one eye will come up as the *Asparagus* shoots do in the spring—full, green, and juicy; and, now, nothing intervening, the roots will be able at once to sympathise with the onward movement, and the young growth will thus go on and increase to the end of that season, so that you will have a shoot from 5 feet to 10 feet in length, and as free in the passages of the rising and returning sap, as a "rod," on the rod system of pruning a *Black Hamburg Grape*. If that one rod on the young *Glycine* gets hidebound, it can only be caused by leaving it too long at next pruning.

Now, if I had *Madame Furtado Rose* stunted in a little pot, as was that *Glycine*, I would treat it just as the *Glycine*—let the roots go free in planting, and let go the shoots the first season. But the *Roses* I planted last winter were not stunted plants, they were not big, but they were free and sappy, and they and the roots went to work together, and at once, so that I had been enabled to set them quite freely to work together the first instead of the second season. So you see that by applying a principle, a practice might be wrong: therefore, a man who

applies principle without having the practice to know, at sight, whether his subject is in a condition to bear the application of the principle or not, is not better than if he had no notion of principle at all, for all depends upon the condition of the plant at the time of planting, and you may take the Rose, on its own roots, at one end of the scale and the *Glycine* at the other; the Rose the easiest of all to do, the *Glycine* the most difficult. Every plant must come in at some one point between the two extremes. But a man cannot be taught by book-reading to know the point, or the degree; practice only and long observation can make a man an adept at such niceties.

The pruning of every plant in out-door decoration, for the first three years after it is planted in a young state, should be made on the plan or principle of establishing it in the best possible condition for its future well-doing, rather than for filling-up space or for the sake of the flowers; but, with Roses and many other kinds, the two systems may go on at the same time. What I said last week about leaving long Rose shoots at full length, and the short ones to be cut-in to the last eye, had reference to the two systems of pruning being carried on simultaneously. If the plants were old, or say established, I would cut the long shoots down to various lengths, according to the kinds of Roses, and according to the ripeness of the wood; the middle-sized to a foot or 18 inches, and the smallest to three or four eyes, and very likely some shoots of the three degrees of strength would have to be cut out entirely, rather than be much crowded another year. But the plants were not old, merely beginning to get along comfortably; and the pruning to one eye, and no pruning at all, is a very different way from what one would do with established plants.

Now here is the very point where thousands go wrong with their Roses. They prune and manage their young Roses, and their newly-bought-in or wrought-on-the-place plants, just as established Roses ought to be done, or as if the Duke of Cambridge took to so many schoolboys and expected them to act as veteran soldiers without having had any training.

My intention in leaving the extra long shoots at full length the second year is this: Last summer and autumn their extra size and strength of foliage gave a far greater stretch and capacity to the roots than the common run of summer growth could do, and I am anxious to keep up the full power of the roots another year, in order to obtain the most perfect freedom for the flow of sap from the roots, so that, come what will afterwards, there will always be a free passage at the collar of the plant; and should the plant get wrong by blight, or insects, or frost, or be transplanted, if the shoots are cut down to near the bottom, the next growth is sure of a full flow through the good channels which had been provided when the plant was young and in full vigour: therefore, if you can see the drift of this, you will find no difficulty in understanding how it is that a very different system of pruning is quite essential for a young plant from that which the same plant will need when it comes of age. But Roses on the *Manetti* stock will explain the principle, to some much easier than the practice with Roses on their own roots.

The *Manetti* is a free grower, and when cuttings are made of it for stocks they are 4 inches, 5 inches, and 6 inches in length, and they are ridged-in, as it were, so that one eye only at the top is out in the open air. But do you think, for one moment, that it is essential for the rooting that all above the roots should be buried? *Manetti* will certainly root just as well without being covered more than is usual and good for other cuttings; the reason for covering or burying cuttings of the *Manetti* is exactly, in principle, the same as the reason for my leaving shoots so many feet in length, to keep the part between the roots and where the stock is budded fresh and plump, or from getting hidebound, or the sap-channels so dried-up that very little sap can get up through them, and that is the one thing above all other things on this line which I want you to understand thoroughly.

Gardeners can always, by their superior practical skill, get out of a scrape; it is very different, however, with men who are not practical hands at it. Once let a plant get wrong, and ten to one if it is not all up with it before it can be brought round again. No wonder your Roses on that *Manetti* are going to the dogs, the stock part is not buried as it was when it was a cutting, and it never fails to get so hidebound when a morsel of it is exposed to the open air, that you could not drive up sufficient sap through the collapsed and compressed passages even with steam, and, as a matter of course, the roots push and push till the

whole bottom is one mass of suckers. But bury the whole of the stock, as the people who can do or undo all manner of things with Roses have recommended, and the channels of the sap are kept free, fresh, and effective, just like the channels of those strong or very strong shoots which rise from the very collar of my Roses. If I were to take up my two-year-old Roses with the strong shoots, and plant them 6 inches deeper than they are now, I should have them on a par for rooting afresh with Roses on *Manetti*, and I would eat my hat if I could not cause every one of the shoots to root just within the surface of the ground in one season. I have done hundreds of Roses so in my day, and I maintain that there is no possibility of a Rose getting permanently into an ill condition if it is on its own roots, for you can do anything with them; but a worked Rose getting into a bad state is beyond our art entirely. We may operate upon the stock searching for a cure, but with the Rose itself we can do nothing. Then, as we cannot cure a sickly Rose on a worked stock, how much more essential must it be to have the channels of the sap between the stock and the branches of the Rose in healthy action—that is, free from all obstruction to the flow of the sap.

The way to obtain and to retain that degree of capacity is exactly the same as for Roses on their own roots. When the Rose-bud has started and made one good shoot, there are two ways of managing the passage part, as I shall call the distance from the stock-head to that of the Rose, and one of the ways is the best way for the stock-worked plant; but not the best for the one on its own roots. When a budded Rose bursts with a strong shoot, instead of allowing it to run its length to the end of the season, and then to cut back to so many eyes, the better plan is, for the future welfare of the plant, to stop it when it is 6 inches long; then in ten days there will be three, or four, or more shoots starting from the stopped part, and the best three of them should be kept and the rest rubbed-off. Those three shoots then are to form the head, and the original 6 inches form the collar, or neck, or groundwork of the head of the Rose for the rest of its life; and that part, the most essential part of all plants, having never had a cut or a scar, will last in health under difficulties many times greater than the same part could do if the first shoot had been cut back in the usual way. But it is only when Roses are worked at home that this way can be thoroughly well done. It would never pay a nurseryman to take such pains, and, probably, his plants if so treated would not sell so readily as long as public opinion is as it is now, and that is on the wrong scent for big heads and weak shoulders on worked Roses.

The whole of this story might be put into a lady's thimble. It only runs over the first two years of a Rose's life, the period in which the well-doing of the Rose or the contrary is most likely to be effected. But the principle is applicable to every plant in the garden, and it is simply to obtain a permanent way for the flow of the sap from the roots to the branches of a plant without the smallest check or hindrance. If we could but make the people understand the absolute necessity of a free permanent way for the easy and rapid flow from the roots to the leaves, we should not hear one-quarter of the complaints which flow to our office with every tide. The first thing a medical man will do with any of us when we need his aid, is to see the permanent way is all right; and all plants need it quite as much as we do. Doctors' stuff is of little use to a man while his permanent way is sluggish or constricted, and your doctoring a Rose, or a Juniper, while the seat of life, the collar and the parts next to it, are in any way choked or restricted, is similarly ineffective.

D. BEATON.

#### DISTRESS AMONG THE WORKINGMEN BOTANISTS OF LANCASHIRE.

WE have to acknowledge the receipt of 10s. in postage stamps from "F. H. A." for the above-named deserving men, which we have forwarded to Mr. Hague to apply for their benefit.

Our correspondent says:—

"Many I believe would open their purse-strings if you would state in your next Number that you would receive subscriptions, as probably there are many, like myself, perfectly unacquainted with the names given in your paper."

We shall most readily forward any donations entrusted to us for the same good purpose; but no one need hesitate transmitting their contributions to any one of the gentlemen we named in our last Number.

## NOSEGAY GERANIUM STELLA.

I AM indebted to my friend Mr. Thomson for a breed of the above, and direct from the Lothians, and as far as my humble judgment goes I class Stella A1 amongst the Nosegay section. I am not in a position to give a decided opinion of its merits as a bedder compared with others, as I had only a single plant which I grew under glass all this season. It stood amongst some dozen or more of crack kinds, yet, upon entering the house, Stella was the most conspicuous; at once drawing admiration from the beholder—a most telling colour, fine truss, and excellent habit, leaving nothing to be desired. If spared till another season I purpose employing Stella most extensively.

The best of the Nosegay section in beds, with me, this season was one called Newell. This is truly a good thing—a most profuse bloomer, and excellent habit. But I am inclined to suppose that "Newell" is only a local name, having failed to find it in any of this season's catalogues; I may, it is true, have overlooked it. I think Mr. Fish made some comments upon it in his "Few Days in Ireland" in one of your back Numbers.—  
JOHN EDLINGTON, *Crom Castle, Ireland.*

## RAVENSWORTH CASTLE AND ITS GARDENS.

AMIDST the many changes which the increase or fluctuations of wealth more or less create, it is always a pleasing thing to find that an old well-established place, which has been enriched by the liberality of a bygone generation, still retains an actual supremacy over those of more recent date, although the latter may possess more of the fashionable requirements of the present day. A thousand bedding plants are no equivalent for a noble Cedar of Lebanon; and a whole street of plant and forcing houses is much easier reared than an avenue of old well-grown trees. When, therefore, we come upon a place possessing both the one and the other of these necessary appendages to a first-class place, it may be safely inferred that such a situation is one of no ordinary character; and such, therefore, is the one I am now endeavouring to describe.

Ravensthorpe Castle, the family seat of the Baron of that name, is pleasantly situated in a park of large dimensions, profusely timbered—so much so, that it looks almost as if shut-in with large well-grown trees. The situation of the Castle is a slightly rising ground, that in front of it sloping gently but irregularly to the river Team, which forms an important feeder to the Tyne; and the Team valley, in which Ravensthorpe Castle stands, is certainly not surpassed in fertility by any in the north of England; while the domain here spoken of, though not possessing any of the more rugged features which give a romantic tone to some places, is not destitute of deep and precipitous glens or gullies; but these being in most instances densely timbered, their outline is less distinctly shown than when more sparingly clothed. Suffice it to say that the scenery is more pleasing than romantic; while for the neighbourhood an unusual amount of luxuriance prevails, and its privacy is in no way invaded by the numerous railways by which it is surrounded, some of which I believe I am right in saying are upwards of 150 years old, and of the same gauge, gradient, and material as when first made, and the gauge at least is the one in most general use in the most popular passenger lines in the kingdom. It is, therefore, with no small amount of pride that a Tyneside collier, when traversing the well-formed arteries which unite the great metropolis with the other parts of the empire, and hearing some fellow-passenger descant on the utility of railways and their modern invention, tells them in his mother tongue, which no doubt Johnson or Walker would call "vulgar;" that railways have been in existence in his country for two hundred years or more. I believe, however, that many of these lines in which wooden rails were laid down are fast disappearing, and it is only in declivities that they are used. Engineers, in the present day, would not like to trust a carriage on an incline falling 1 in 15; and that was no unusual thing in this neighbourhood in years gone by—and that, too, without a rope or any other check than that of the break, which, by-the-by, was identically the same here in the last century as it is in the passenger and other carriages of the present day, the latter a little, perhaps, improved in power by the aid of a screw. But we must leave railways and the other features of industry by which the neighbourhood is studded, and shut our ears to the distant clang of iron forges, the sharp ring of some boiler building, or the many other sounds which in a busy industrious neighbour-

hood greet the ear of one fresh from a rural district, and after this digression endeavour to confine our remarks to matters purely professional, if allowed to adopt the term.

Ravensthorpe Castle is one of these commodious dwellings which, as the name implies, combine all the dignity of a baronial residence of the olden time with the comforts that the habits and requirements of the present day render so necessary. The present structure was built on the site of an old one about the beginning of the present century, and presents a good example of what may be called the Norman-Gothic style, massive Norman towers flanking the principal front; the carriage entrance is on the opposite side, where the building retains the same character; and a broad terrace contains a flower garden, which was gay with the fashionable bedding plants of the present day. But the greatest breadth of dressed ground was on the west and north-west sides of the Castle, where Pinuses and other things had been planted with a liberality which the memorable winter of 1860-61 told sadly against. In fact, so severe had been the visitation, that some trees generally regarded as the hardiest we have had succumbed to it; and Mr. Mort, the intelligent gardener, pointed out a standard Portugal Laurel whose stem had been split to the core its whole length, and wide enough to get a hand in, during the frost. But, strange to say, this plant survived this trying ordeal; the opening closed-in, leaving a mark or scar, and a top certainly less healthy than before. Some other trees that had suffered in a like manner subsequently died and were removed, and it is needless to say that most of the Californian and Himalayan Pinuses fell victims to its severity, and even the common Laurel. These disasters of course thinned the grounds of many of their most important ornaments, while many that remained were evidently crippled for many years, if not for life. Amongst the latter were some fine Cedars of Lebanon, which some thirty years ago were regarded as the finest for many miles. The dead tips by which they were surmounted, and that absence of vigour which once characterised them gave unmistakeable tokens that they, too, had been sufferers.

The dressed ground here spoken of gradually blends into the adjoining wood, which is of large extent and varied scenery, Ferns, Hollies, and Yews growing naturally with the majestic Oak. In this wood walks of at least 8 feet wide traverse it in various directions, and now and then an opening has been made and some choice shrub or conifer planted; the latter in most cases surrounded with wire netting to keep rabbits at bay, which with other Game abound here to a great extent. Most of these plots had been in some degree levelled, and were kept mown, as well as the broad margins of the walks; and, when taken in concert with perhaps a rugged bank rising on one side, and an abruptly descending one on the other, with jutting rocks and tumbling streams of water, and ever and anon the waving plumes of the Male Fern, which with some others was growing here in wild luxuriance, it is easy to picture the feelings which such an assemblage of natural and artificial beauties calls forth; and this is rather increased by the vast extent of such walks, from which now and then a peep into the outer world is also obtained. But it is needless dwelling further in this direction. Suffice it to say that the ravages of the severe winter were being made up by the spirited nobleman again planting more novelties; and it is to be hoped they will escape such a visitation as proved fatal to their forerunners.

Having described the dressed ground as extending mostly in a westerly direction from the Castle, it is right to say that it extends northward also, the kitchen garden being in that direction. This garden is surrounded by high and good walls, and, I believe, contains from three to four acres. The range of houses, occupying the north wall, was erected a few years before the commencement of the present century, and for symmetry, appearance, and the good quality of their contents were exceeded by few, if any. Neither has the mode of building been much improved on, notwithstanding the many changes that this particular branch of garden architecture has undergone during that time. The range in question is between 400 feet and 500 feet long, being a lean-to, with a front light about 3 feet high, and about 16 feet wide; the central house, which is a plant-house, is both wider and higher than the others, and faces the central walk crossing the kitchen garden to the pleasure ground. At the time these houses were erected, there were few finer ranges or better adapted for the purposes they were intended for. The glazing was in larger squares than was the fashion to make them some thirty years after they were built,

though they have outlived that period; and since large squares came into use again, even larger than these were employed, which was some 8 inches or 9 inches square. The pitch of roof is about 30°, and the rafters, sash-bars, tie-rods, and other features have been little improved on during the seventy years that have elapsed since the houses were built.

Most, if not all of the Grape-houses, had large central beds in them for heating material, and Pines were grown there for many years, but this has been relinquished; I believe, however, that many of the original Grape Vines are still in full bearing. The Peach-houses have trained trees against the back wall, and a broad trellis curving from the front in a manner that has not been much altered in more-recently-put-up houses, for the same purpose. It was too late to see any of their contents, but the appearance of the wood indicated that the Vines were in an excellent bearing condition; and there were some very good Grapes. Most of the houses were heated on the old flue principle, and whatever may be the merits of hot water elsewhere, the old flue is certainly not without its advantages; and it is even a question if, in a place like Ravensworth, it is not superior to hot water. The expense of fuel (an important item in the south of England), the saving of which the advocates of hot water regard as one of its greatest advantages, is here of very little account; for such coals as are burnt in garden flues (and very good coals they are) do not cost more than 2s. per ton at the pit, and if we add a like sum for carriage, a good many tons may be consumed at no great outlay—in other words, the interest of the cost of a hot-water apparatus for such a range of hothouses as those in question, would pay for all the coals used in the flues. This, of course, is not the case where coals are 24s. per ton instead of 4s., so that general conclusions cannot always be drawn. Sufficient, however, has been said to show, and something like three-quarters of a century has proved, that flues will do their work very well; and Mr. Mort, who has had experience in both, is far from giving all the merit to hot-water which its advocates claim for it. Neither does he condemn the old despised flue, but adduces one or two reasons in its favour which are well worth mentioning here, as perhaps not so often striking the observer as they have him. It is a well-known fact that the smoke emitted from the heating apparatus very quickly discolours the painting of the houses: hence some of the more fashionable ones either have the chimneys carried to a distance, otherwise coke is burnt. Now, though the latter is within easy reach of such a place as this, still it is much more expensive than the small coals generally burnt in the flues, and to use coals to heat a boiler, however carefully the latter may be made to economise heat, there are still large volumes of black smoke emitted, much more so than in ordinary flues; the long journey it has to travel in the latter divests it of much of its impurities, and when it is finally discharged out at the chimney it is much less black, and, consequently, does much less mischief than when the same kind of fuel is used in an ordinary hot-water apparatus. These ideas are those of Mr. Mort, the very worthy gardener at Ravensworth, and I can fully endorse all he says on this matter and for such a situation. Passing, therefore, from this range of houses, we are taken to see some Cucumber, Melon, and Pine-pits, or rather houses, at the back of the garden, which are heated on the hot-water system, and which are snugly ensconced in front of excellent shelter from the north and east. They were variously occupied with the crops required for the season, all of which looked well and reflected great credit on the worthy manager, whose professional abilities are only equalled by his kind-heartedness and hospitality, and the visit to Ravensworth will long remain as one of the red-letter days, not to be forgotten.

J. ROBSON.

### SHRUBBY CALCEOLARIAS.

THE vast improvement which has taken place in this class of flowers has been such as to make them most desirable plants for the decoration of the conservatory and greenhouse during the later summer and the autumn months. I had intended giving a few rough notes on their culture and the best varieties, and had written for that purpose to one whom I believed to have been the great mover in them—Mr. Burley, of Limpsfield, Surrey. A letter received from his son gave me the sad news that he was no more. Many will recollect him and his plants, and I am sure will not be displeased at this tribute to his energy and thorough heartiness in the cause of floriculture. Poor fellow! The last time I saw him at Kensington he was full of

his plans for next year. How well I remember his telling me in the fulness of his heart, when his name was for the first time appended to a collection with first prize, his little history; how, like many others, he had foolishly thrown away good prospects; and how one day the good clergyman of the parish came to him and said he would not be satisfied unless he pledged himself to alter; how he did by the blessing of God; and that from that time he had been rising in life, adding to his nursery and houses, and gaining with this thorough heartiness the good will of his neighbours. He died in harness. He had been out as usual in the day, at night retired to rest, and about half an hour afterwards said he felt strange, fell back, and died—doubtless (for he ever spoke as one who felt the reality of eternal things) to enter into rest. And thus my notes have been changed into an obituary, and I had almost feared it was to record, too, the standing-still in this class; but I am glad to say that his son, an intelligent young man, has taken his father's place, and is preparing to carry on the hybridisation which has resulted in such success.—D., Deal.

### TREATMENT OF GRAPES HANGING ON THE VINES.

I HAVE a very large supply of Grapes, which my employer is anxious to have kept as long as possible. According to the quantity which is used daily since the 8th of August, if nothing happens, they should last till about the 1st of January. The kinds are the Black Hamburg, Royal Muscadine, West's Black St. Peter's, and Black Prince. Please to say what treatment is best: what should the day and night temperature be?—HENRY.

[You will have no difficulty in keeping the Grapes to the 1st of January, as we presume you will not start the Vines before the end of February or March. If much earlier, the Vines might be disbudded, and pruned when in leaf: but we presume in your case nothing of the kind will be required.]

The great point will be to keep a dry atmosphere in the house; not a single plant in a pot should be retained there. In your damp climate you will need a fire every day, and a little at night in cold muggy weather. The fire heat should not raise the house above 40°; but the house may rise 10° or more above that with sunshine. Give air all day, and a little at night, except when frosty; a little air at the top of the house prevents stagnation. Give little or no air on a foggy day; a close house and a little fire heat will keep the fog out, but if it continue several days, a little air must be given. Look sharp after decayed berries.]

### REVIEWS OF NEW BOOKS.

*Hints on the Construction and Management of Orchard-Houses.*  
By J. Pearson. London: Journal of Horticulture and Cottage Gardener Office.

"OH that mine enemy would write a book," is an aspiration that would be next to useless when applied to the fashionable monographs of the day; as it would hardly be possible for a writer to give room for confuting himself in such a useful work as the above, consisting of less than fifty small pages.

With respect to lean-to orchard-houses, of which Mr. Pearson is no friend, though we should never think of building a high wall for such a purpose, but would prefer a span-roof, as the cheapest, if not the best, we would not say a word against covering the border in front of such a wall now existing, it suited the proprietor's pleasure. We thoroughly approve of such lean-to's for early forcing. The objection to them in orchard-houses, that the plants are drawn to one side, is more theoretical than real in houses glazed with large squares of glass. The wall under such circumstances is always sure to be heavily cropped, and if the front border is supplied with pots, they can be easily moved round. Many, looking at the great success from thus fronting an old wall, have been led seriously to inquire whether they might not as well cover such walls, instead of taking up fresh ground with span-roofed houses. Mind, we would not advise building a wall for such a purpose; but with all our admiration of the light, elegance, and economy of span-roofed houses, where no walls exist, the fact still remains, that as fine productions have been obtained from lean-to's as from the finest span-roofed houses.

We would, however, advise all to have solid walls, and the

best style of roof, if they can afford it; but we would not throw a wet blanket over the attempts of the small tradesman or mechanic, to have his little fruit-house, even if he built it all himself, and used the simplest and cheapest materials.

Though, therefore, we do not agree with Mr. Pearson as to the inefficiency of such homely structures, and that without citing what we consider the confirmatory experience detailed at page 28, we do most cordially approve his advocating for orchard-houses in particular, and all glass houses in gentlemen's gardens in general, a style of building that shall be distinguished alike for economy, elegance, and durability. Though necessity often compels many of us to do things merely for the present, it is not because we are insensible to the importance of the axiom that might be taken by Mr. Pearson as his motto, "What is worth doing at all, is worth doing well." As an evidence that the above requisites—economy, elegance, and lastingness, may be combined, we are presented with internal and external views of a large orchard-house, of which *fig. 1* is a section.

This house is 30 feet wide, and "covers 2700 square feet, with 18 inches of brickwork above the surface. The walks are paved with black and buff quarries, and the three walks are bordered by round-headed tiles, which have a very neat appearance. The bricks are laid in Portland cement, and the whole finished in a style fit for any garden, at a cost of £230, or about 1s. 8d. a square foot of ground covered. It is, therefore, unnecessary to have an ugly orchard-house to obtain a cheap one, or one that depends on wooden posts let in the ground for its stability. An orchard-house should not be less than 20 feet, nor more than 30 feet in width. When more than 30 feet it must have a ridge-and-furrow roof, which, though necessary when large spaces have to be covered, is more expensive,

houses for the million were introduced to meet the want, which though no doubt answering well for many purposes, had, so far

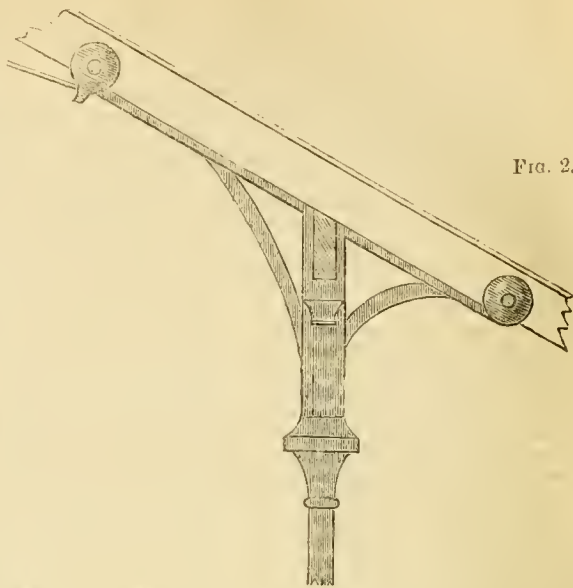


FIG. 2. Head of column carrying rafter, and into which the end of the tie-rod is screwed.

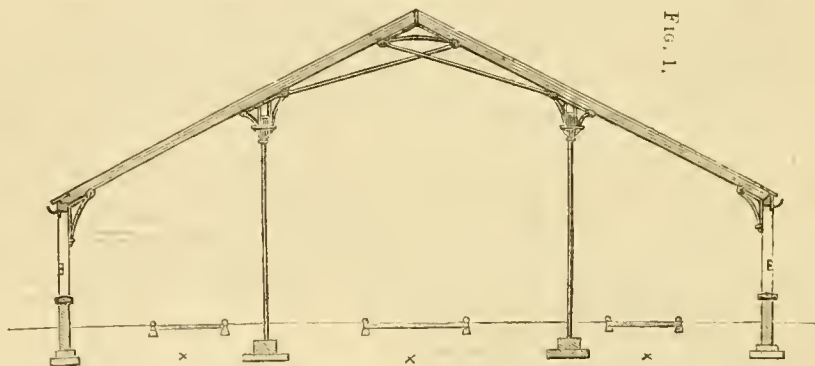


FIG. 1.

and much heavier in appearance. No fire being used to keep out frost, a wide house containing a large body of air will cool more slowly than a narrow one; and plants blooming in a twenty-foot house would be safe from frost, when those in one 14 feet wide might be in danger." (Pages 4, 5, and 9.)

There is more importance in the large body of air enclosed in a house than is generally imagined, so far as the heating and cooling of that house slowly are concerned. But space being secured, height comes in as an auxiliary as well as width—so much so, that plants frozen in low houses and pits have escaped being touched in lofty houses. Waving this, however, our readers can scarcely fail to notice a very distinctive novel feature in the section of the house, consisting in the mode of using cross-tie bars between the top of the column and the rafters, as patented by Mr. Foster, of Beeston, and which, we have no doubt, is a very elegant and secure mode of fastening.

"The iron pillars rise out of the beds and carry both rafter and cross-tie bars, as shown in *fig. 2*. The upper part is tapped to receive one end of the tie-rod screwed into it. The other end is fastened into the rafter."

Although when a tenant, or leaseholder, resolves on erecting a glass house it would be sound policy to have a written agreement with the landlord as to his right to remove it, there may be circumstances in which it would neither be pleasant to ask nor yet grant such a favour. In such cases, a house that, from being set on the ground instead of in it, could be as legally moveable as a wheelbarrow, is a desirable consideration. To meet such cases various modes have been noticed in this Journal, such as building on stout blocks; and Sir Joseph Paxton's

as orchard-houses are concerned, the fault inherent in the glass walls, of giving but little room inside for the extent of glass employed. This objection is got rid of by Mr. Pearson having the usual dwarf, upright sides "in a patent moveable house with iron supports. It is as strong as any house can be built, and yet may be taken in pieces and removed without difficulty."

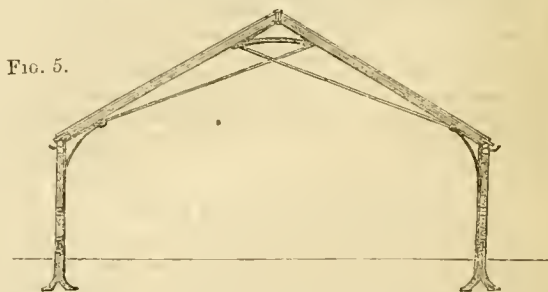


FIG. 5.

"*Fig. 5*, is a section of one of these houses, 14 feet wide, with path in the middle. The iron foot, pillar, and bracket, are cast in one piece. The roof is made in separate lights, and also the ends and sides, so that there is no occasion to break a square of glass in removing the whole structure." A table is given at the end of the book of the expense of such moveable span-roofs. Thus, one 20 feet by 14 feet, £20; 40 feet by 14 feet, £70; 50 feet by 24 feet, £126, and so on of all other sizes. It just

struck us that the spurs of the foot of the pillar are scarcely long enough, unless they stood on stone or some hard substance. We would prefer, if there was no bottom but earth, that these feet should have had a sole, and thus a triangle been formed, which we know stands very secure when well rammed.

Mr. Pearson, on the whole, prefers such trees as Peaches and Apricots, &c., in orchard-houses, to be grown in pots; advocates all potting, repotting, and top-dressing, to be done in the autumn before the leaves fall; gives sound cultural directions as to firm potting, soil to be used, air-giving, pollen-dispersing, insect-preventing and destroying, &c.; objects to using fire heat in orchard-houses, because gardeners would stuff them with tender things; has a word of advice to those gardeners who are opposed to such structures as orchard-houses, though so far as our observation and experience go, most would like to get one, and then use it as a little finger for wriggling the whole hand in, and thus obtain three or four; and concludes by giving marks by which Peaches are known to be true or not true to name, with a descriptive list of the most suitable Peaches and Nectarines for orchard-house culture. But for these and other matters we heartily refer our readers to the book itself.—R. F.

*A Practical Treatise on the Cultivation of the Grape Vine.*  
By William Thomson, Gardener to his Grace the Duke of Buccleuch, Dalkeith Park, N.B. Second Edition. Edinburgh: W. Blackwood and Sons.

WE are glad to see that this admirable work has already reached a second edition. Mr. Thomson says, in his preface, "In preparing a second edition of the 'Practical Treatise on the Grape Vine' I have made additions to several of the chapters which may be found useful. I have also added a chapter on the open-air cultivation of the Vine, having discovered that my excluding that aspect of its culture from the first edition was a source of regret to many." We know of no better authority on the Vine than Mr. Thomson is, and whoever follows his instructions must attain success.

*The Orchid-Grower's Manual, containing Brief Descriptions of upwards of 440 Orchidaceous Plants, with Instructions for their General Culture, &c.* By B. S. Williams, F.R.H.S., Paradise Nursery, Holloway. Chapman & Hall, London. Second Edition.

WHEN we were reminded in the above title-page how numerous are the Orchids now in cultivation, and reflected that these numbers are annually increasing, we had forcibly brought to our recollection how much the cultivation of these beautiful plants is a branch of floriculture created within the memory of many gardeners still living, and that it is an illustration of the superior skill of the present generation when compared with the skill of a generation only just passed away.

*Vanilla aromatica* was the only stove Orchid known to Phillip Miller in 1759—at least it was the only one he described and figured, which he did as *Vanilla mexicana*. Yet he ought to have known *Bletia verecunda*, introduced by Dr. Houston before 1733.

Hernandez, a century before, in his "Mexican Plants," had figured an Orchid under its native name—an Orchid which, perhaps, was that now known as *Peristeria Humboldti fulva*. Plumier, Rheede, Rumphius, and others, all contemporaries of Miller, had portrayed other species of these beautiful flowers of the tropical forests—travellers had described their exquisite forms, colours, and fragrance, yet no one had been able to introduce and cultivate them successfully; so that when the first edition of the "Hortus Kewensis" appeared in 1789, not more than twenty species were there enumerated.

When the eighteenth century closed thirty-four species had been cultivated in this country, chiefly through the exertions of Sir Joseph Banks and Admiral Bligh, whose name is so associated with Bread Fruit and the mutiny of the "Bounty."

Even as late as 1813, when the second edition of the "Hortus Kewensis" appeared, no more than fifty-five species were known to Mr. Aiton. On the continent success had not been superior; for in the catalogue of the Berlin garden, one of the European gardens most rich in plants, Professor Link was only able to enumerate nineteen species as late as 1822.

Individual enterprise and enlightened skill then began to be concentrated on the cultivation of these plants, and foremost among their amateur growers was the late William Cattley, Esq., of Barnet. Circumstances, however, compelled him to abandon his horticultural pursuits in 1826, and nine years after he died; but he had aided effectually to give an impetus to the pursuit, and about 1829 a large expenditure on Orchid-culture at Chiswick was incurred by the Royal Horticultural Society. The results of this expenditure were not commensurate with the outlay, but it threw some light upon Orchid-culture; and since then the efforts of such men as Loddiges, Harrison, Skinner, Warner, Veitch, and others have increased our Orchid-wealth, and enabled such a practical man as Mr. Williams to publish a work like the present.

When they began their efforts to cultivate Orchids, they laboured under great want of information relative to the soils, temperature, and degrees of light most congenial to the different species. "The data," observed Dr. Lindley at the time, "that existed upon the subject were imperfect, and the conclusions that were drawn from them were necessarily proportionately unsatisfactory. All our earliest experiments were consequently unsuccessful; we lost our plants as quickly as we received them, and when we preserved a single species out of an entire collection, we thought we had met with great success." Now, on the contrary, if a cultivator fails in blooming one out of a whole collection of new specimens, he considers that he has been unfortunate, and few will be so unfortunate if they follow the directions given by Mr. Williams. The details he gives are full and founded upon long and successful experience, and we do not think that information is deficient upon any point upon which an Orchid-cultivator might require guidance. As an example, Mr. Williams even begins with the in-gathering of Orchids, and the following is his

#### "ADVICE TO COLLECTORS.

"There are many different ways of importing Orchids to this country. I have seen some that have arrived in good condition, while others have been completely destroyed by not being properly prepared before starting. The first and most important thing is to send the plants away at the proper time; the next thing is to prepare them for their journey. My opinion is, that the plants should be sent away from their native country during the dry season, which is when they are at rest. While inactive their leaves contain little sap; but if sent away when they are growing, the foliage is tender and in danger of being bruised, a circumstance which accelerates decay on their journey. Another fact in favour of dormant importation is that, if sent in a growing state or just as they are starting into growth, the young shoots come weak and dwindling, and very often die outright as soon as exposed to light. I have seen many a fine mass of Cattleyas with all their leading growths completely rotten, of course lessening the plants in value compared with such as arrive perfect and are just ready to start into growth as soon as they get into a warm house. Plants with pushing pseudo-bulbs are also apt to lose their leading eye—an accident fatal to some Orchids, for many do not break well from old bulbs. *Ardises*, *Saccolabiums*, *Vandas*, *Angreecums*, and similar plants that have no fleshy bulbs to support are best imported after they have become established on flat pieces of wood, so that they can be nailed to the side of their travelling cases. I received some from Manila last spring, including *Phalaenopsis Schilleriana*, *P. rosea*, *P. amabilis*, *P. Lobbi*, *Ardises quinquevulnerum*, and *Vanda violacea*, all established and sent off in the way just described; these had evidently been growing some time before starting for this country, for their roots firmly adhered to the wood, and many of their leaves were as green as though they had been in an Orchid-house instead of a glass-topped case. One point of importance is to take care to well secure the plants to the sides of the cases; because if allowed to roll about, they get bruised and soon rot, which is very vexing after all the trouble and expense bestowed in importing them. In the case of *Phalaenopsis Schilleriana*, received last spring, some of the pieces of wood had become loose, rolling about during the journey and causing injuries; if therefore, you find a leaf bruised, the best way is to cut it off at once before decay begins; for if allowed to go on, there will be danger of the whole plant being destroyed. With the cases just alluded to I also had a close box filled with *Phalaenopsis* packed in the dry bark of trees, which I consider a bad material for such tender-leaved plants; when I unpacked this box there was not a green leaf to be seen, the shaking of the long journey, combined with the rough material just named, had destroyed all the foliage. If these had been packed in very dry soft moss they would most likely have come safe. I have received plants in good condition from India, in close boxes, packed in dry set shavings; while on the other hand, I have also seen many spoiled in that way. The cause of failure I attribute to their not being packed in a proper state. The plants themselves, as well as the material employed, should be well dried before packing, and care should be taken to avoid bruises, which often prove fatal. Cattleyas and plants with similar pseudo-bulbs I have received in close boxes from the Brazils packed in dry shavings, and have found them, when opened, in good condition; but care had evidently been taken to pack them firmly in the boxes, so that they did not roll about on their journey.

The best time of year for receiving Orchids in this country is, if possible, the spring, in order that they may have the summer before them to get established.

With *Anectechili* the best way is to tie some moss round their roots and stems to keep them firm, leaving the foliage just above the moss, and they should occupy a small case by themselves; these little things are very tender, therefore they require a great deal of care to keep them tight. On arrival, pot them in some dry soil, and put them in a close place with little heat at first, until they begin to grow; afterwards pot them in small pots, and place them under hand-glasses or in a frame, giving them the treatment usually recommended for this class of plants.

"Cases in which Orchids are sent home ought to be made strong, and roofed with good stout glass not easily broken; for I have often seen plants spoiled by the glass being fractured. Through an accident of this kind, salt water and cold air get in, both of which are very injurious. All cases should be air and water-tight; and to prevent the glass being broken, the best thing to place over it is some strong iron wire; the sash-bars ought also to be made very strong; and the case must not be too near heated surfaces or fires in the vessel. I have seen many boxes of plants spoiled by positions of that kind, the leaves being completely dried-up. They ought to be placed in as warm a situation as you can, but by no means near any fires."

## LILY OF THE VALLEY AFTER TRANSPLANTING.

### MAKING AN OUT-DOOR FERNERY.

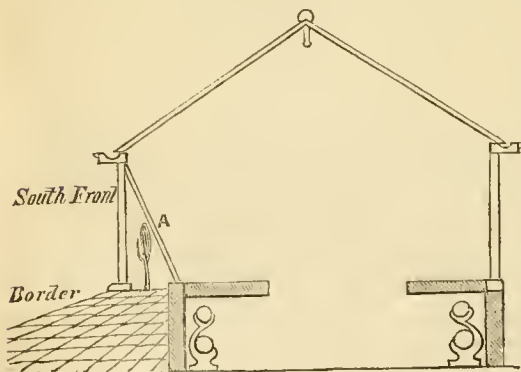
Rose will be glad to be informed what should be done to a bed of Lilies of the Valley; they were removed from another part of the garden last autumn, and this year flowered and grew very badly. Was this on account of the removal, or will they require any special treatment, and when? They are planted in a tolerably shady border facing the north. Lilies of the Valley do very well in the same soil in the neighbourhood.

Also, she wishes to know if stumps and pieces of wood, or rough stones, clinkers, &c., are the best materials for making a fernery.

[There is nothing the matter with your Lily of the Valley. The bed and the plants in it could not possibly be doing better. As they were only removed from another part of the garden last autumn, as a matter of course it will take just two more years before the plants will be equal to what they were before the removal. Lilies of the Valley, like common Asparagus, take full three years to establish themselves anywhere in our climate. The only thing they require henceforward is to be left alone entirely, and see that no weeds come up to hurt them.

Stones are the best for a fernery, clinkers are the next best, brickbats the next, and "stumps and pieces of wood" are the very worst materials for a fernery, inside a house or out, and should be used only when the better materials are deficient. A most beautiful Fern rockery could be made with any sort of refuse stones, bricks, or clinkers, with cement and greystone colouring, a pair of tidy hands, and a good eye to guide them.]

## RESTING VINES WHILST MAINTAINING STOVE HEAT.



THE above represents a section of my small stove. It has a border at the south front, 18 inches of which are inside the house and 10 feet outside. There are five Vines planted in the border, and to get them to rest and still keep up the stove heat a temporary screen of glass, A, has been fixed. I think while they rest I might as well force four Vines in pots, and wish to know what kinds you would recommend, one at least growing large berries, and where they can be had?—W. O. P.

[Your plan of wintering and securing the Vines is first-rate. We wish we could have such a plan ourselves, we have often recommended a similar plan. Not only will your Vines be safe, and you may use the house for what you like in winter; but you can keep the Vines back by giving air from the outside, and when you wish to start them gradually you can allow a little heat to reach them from the inside. For four Vines in pots with large berries and good we would select Buckland Sweet-

water, Bowood Muscat, Black Hamburg, and Kempsey Alicante. You may procure them from any of the firms that advertise Vines in our pages.]

## THE LILY OF THE VALLEY AS A CHRISTMAS FLOWER.

THE *Convallaria majalis*, or Lily of the Valley, is now an old inhabitant of our gardens, and still very generally admired, more especially by the ladies, on account of the delicious fragrance of its beautiful bell-shaped flowers. As a companion to Crocuses, Snowdrops, Hyacinths, and other early-flowering bulbs, it well merits a little attention. To have it in flower about Christmas, the tubers should be taken up about the middle of November, or, at latest, the third week; the tubers should not be less than three years old, if more all the better. Previous to potting, it will be necessary to decide upon how they are afterwards to be disposed of when in flower. They are frequently placed in fancy wire or wicker baskets, and, perhaps, still often in ornamental vases. Disposed of in either of the above ways they are very beautiful indeed, and each is a favourite way with many ladies.

If it is intended to remove the tubers when in flower, our plan is to wrap a little bit of moss round each, and then pack them away as closely together as possible in pots, or, what is still better, Mignonette-boxes, previously filled with any light, porous soil, the tubers inserted just deep enough in the soil as to slightly cover the crowns. Over all place a good thick layer of moss, it assists in keeping the soil and tubers moist; and lastly, pots or boxes of the same dimensions as those the tubers are planted in are inverted and placed over them, so as to keep all dark, as darkness is essential to success. The boxes are then removed to a warm pit, where they can be supplied with a little bottom heat, which must be gentle at first, but may be gradually increased as the plants show symptoms of active growth: thus, in three or four weeks, more or less according to the treatment they have received, they will be abundantly furnished with their exquisitely scented flowers. They may then be removed with the greatest facility, on account of the moss in which each tuber is enveloped, and transferred to the vases or wicker baskets. If they are intended to remain and flower where planted, the moss, of course, may be dispensed with, but otherwise the treatment is the same. By adopting this method, we yearly produce the Lily of the Valley at Christmas, and keep up a supply of this lovely little flower all through the dull, dreary months of winter.—J. DUNN, *Harrock Hall Gardens, Lancashire.*

## MARKET-GARDENING IN WEST CORNWALL.

(Continued from page 596.)

THE manures employed for the early Potato crop may be thus arranged:—

Seaweed,	Woolen rags,
Guano,	Farmyard manure.

In former years, as has been already been mentioned, seaweed was almost exclusively used; but the recent great increase of Potato cultivation requires far larger quantities than are now procurable. Fifty loads per acre are usually applied in its fresh state, and at a cost on the beach of 1s. 6d. to 2s. per load, to which 1s. must be added for cartage. Wet seasons are regarded as favourable to this manure, and the tubers are a better sample as regards appearance, but in quality are soft and indifferent.

Guano, when used alone, is applied at the rate of a ton per acre, the whole of which is drilled-in with the sprouted seed when planted in February or March; but if autumn planting is adhered to, half should be reserved for a spring top-dressing after hoeing.

Of woolen rags, four tons per acre are the usual allowance, the cost of which is £3 10s. per ton. But rags vary so greatly in quality, that, until the bales are opened, it is difficult to say how much will be required. Leather, cottons, matting, floor-cloth, and other rubbish are constantly added to give weight, but are of course valueless as manure.

All to whom I have referred on this subject place farmyard manure as lowest on the list for its returns. But this assertion, however true as to its actual results in this district, must be modified by the equally certain fact that the preparation of the farmyard manure is here little attended to, and its value compa-

ratively small. Milch cows, and horses whose mangers are supplied with Mangold Wurtzel and Turnips almost if not entirely to the exclusion of Oats, are too often the only animals for its production, and an unprotected yard with a black fetid stream flowing from it the only place for its reception. In the case of box-fed animals and a covered receptacle a very different conclusion would, I believe, be arrived at.

Of these four manures, therefore, the cost would stand thus—

Seaweed, 50 loads, with cartage.....	£7 per acre.
Woollen rags, 4 tons at £3 10s. per ton.....	14
Guano, 1 ton at £14.....	14
Farmyard dung, 60 loads at 3s.....	9

Such would be the proportions where these manures are used by themselves; but this scarcely ever happens in the case of rags.

The result, however, of many years' experience would show that such a combination of them as the following would be likely to pay for the somewhat greater cost:—

30 loads of dung at 3s.....	£4 10s.
20 loads seaweed at, with cartage, 2s. 6d. per load.....	2 10
10 loads of sea sand at 1s.....	0 10
½ ten of guano.....	7 0
	£14 10

These would be deposited on a pile of earth—first dung, then seaweed, then sand to cover it. After remaining two months, to be well turned and mixed, and so to remain for another two months before using; the guano to be spread on the tubers when planted.

In the case of lay ground first broken up for Potatoes, I have no hesitation in saying that this compost with guano at planting time would give the best crops. But where the land had been for some time in Potato tillage, regard should of course be had to its previous dressings. In the case of woollen rags, for instance, their fertilising powers would continue over two or three years, then guano by itself would be judiciously applied. Seaweed, on the other hand, does not benefit more than the year's crop; while farmyard manure also is nearly expended by the successive crops of Potatoes and Broccoli, or Mangold Wurtzel, taken within the year.

Bones, superphosphate, lime, and salt I have tried, but, on our soil, with anything but satisfactory results. Of salt, which, beyond doubt, is a very beneficial ingredient in any compost for Potatoes, the seaweed and sand seem to supply a sufficiency. But the absence of guano under any circumstances is fatal to the very early maturity on which the profit of the market-gardener so mainly depends.

The ground being in good tilth, and the end of February or the beginning of March having come, the sprouted tubers are taken down from their shelves, cut when larger than required for a single set, and placed in baskets. The drill being opened with the shovel, the seed is then laid on its end in a sloping position with the shoot upwards, covered with earth for an inch or more to prevent its coming in immediate contact with the manure which is then applied, and the operation is completed by the earth from the opening of the next drill being thrown over it to a depth of some 3 inches.

The early sorts are planted very closely together, being not more than 13 inches or 14 inches from drill to drill, and the tubers from 8 inches to 9 inches apart. For an acre from twelve to thirteen bags of seed, of 2 cwt. each, will be required. The crop being drawn before maturity, this close planting is not so objectionable as it otherwise would be; but I have found that in ordinary seasons 2 inches more either way would be well bestowed. Should the weather be favourable, in three weeks the shoots will be well up in rows, and a few days afterwards ready for their first and, generally speaking, their only hoeing, which is done either with the ordinary hoe, or with a three-pronged digger handled as a hoe. The latter is preferable, as it not only loosens the ground more thoroughly, and exposes it to the action of the atmosphere, but is also less liable to injure the young roots. If from a cold spring, or any other cause, growth is slow, this process must be again gone through; but, usually speaking, the plants cover the ground quickly enough to check any subsequent growth of weeds. Banking or earthing-up is never had recourse to.

In early situations ten weeks will frequently bring the crop to a marketable size, and it then rests with the grower to take his chance for the high price for the small quantity, or to wait for the larger produce at a reduced value. By the latter end of May and the beginning of June drawing becomes general, and by midsummer the early crop is cleared off.

Contrary to the practice elsewhere, the tubers, instead of being lifted by the fork, are dug up with the long-handled Cornish shovel; each person, after lifting three or four stems, picking the Potatoes from them, the haulm being thrown in one line, the Potatoes in another. Shallow as has been the planting, too many Potatoes are thus cut by the shovel, and were the use of the fork adopted much waste would consequently be avoided. But adherence to (for such purposes) a very indifferent implement seems in this case to be a general determination. For those first drawn small baskets, containing about 25 lbs., are used; but the use of larger ones, containing about 1 cwt., soon follows.

Packing is by no means so carefully attended to as the delicate nature of the young Potato requires; the sides of the hamper are just lined with paper, and when filled straw is placed over them, and tightly laced down with cord. Heaped one upon another, as happens to them in both the cart and the railway truck, many are thus bruised; while greater care, and especially the use of covers to the baskets, would amply repay the additional cost. The tubers are sized when packed, one hamper of small ones going to every four or five of large, the former selling at about half price.—W.

(To be continued.)

## THE GREAT ORCHARDS OF CALIFORNIA.

ACCORDING to the editor of the *California Farmer*, the orchards of Briggs & Haskell, at Marysville, are on a broad scale. We extract the following from his account:—

"It would be impossible for a stranger to form any possible conception of the extent of these orchards, the immense crop daily gathered, or the wonderful producing power of the trees. Strange as it may appear, with all the disastrous effects of the floods which swept away and destroyed thousands of trees, burying, also, great numbers with the drift-wood, of which more than a thousand cords swept over and upon them, and another thousand cords of Peach-tree firewood will be made from the broken and killed trees; yet, with all this destruction, the crops of these orchards will far exceed any former crop. And this, too, with another singular fact, that with all the energy and attention possible, and with about seventy men, the fruit often ripens faster than it can be gathered, so much so that more than 10,000 bushels will be lost in these two orchards alone. In connection with these there is the Oroville orchard, where about thirty men are gathering and shipping in like enormous quantities.

"That some idea may be formed of the magnitude of the business of these fruit orchards, there was sent from these orchards, the second week in August, from sixteen to twenty tons, or 30,000 to 40,000 lbs. a-day, of Peaches, Apricots, and Plums, of which about two-thirds were shipped to Sacramento and San Francisco."

## THE CULTIVATION OF VANDA.

No genus of Orchids is more deserving of culture than the Vandas, whose noble evergreen foliage, fine vigorous habit, handsome even when not in flower, and, above all, truly splendid and highly fragrant blossoms, render them worthy of being in every collection.

These fine plants, being all natives of the warmer parts of the East Indies, require the same treatment in regard to heat, moisture at the root, moisture in the atmosphere of the house, the material in which to grow them, and in their seasons of growth, flowering, and rest. This similarity of culture renders their treatment uniform and easy. There are, besides, several other genera of these singularly interesting plants, from similar climates, that flourish satisfactorily if subjected to the same treatment; and they are now so numerous, that it is almost necessary to place them in a house devoted to them alone, which structure may very appropriately be named the Indian House, in contradistinction to another devoted to the culture of Orchidæ, from the more temperate climate of Southern America. In the countries from which the Vandas and similar genera are brought, the heat at certain seasons is excessive, especially in the lower parts where these plants are located. It is found necessary, in some degree, to imitate the natural climate in artificial ones provided for tropical plants; and on this point experience has proved that when these plants are growing, a heat of 85° by day, and 70° by night, is the proper temperature for them. The

ason to apply this high temperature, thus encouraging vigorous growth, should be when the heat of our own country is at the highest; for then there is also the greatest amount of light, an element equally necessary for the well-being of the plants as heat. The season of growth, then, should commence in May, and continue till September.

How is this heat and light to be obtained? This question naturally brings us to consider the kind of house best adapted for their culture, and the best mode of heating it. In these enlightened days, science, ingenuity, and skill have brought the art of erecting hothouses and heating to, we might almost say, the utmost perfection; and, like most other essays of art, the most simple and least complicated means are found the best to produce a certain result. The form of house for Orchids cannot be too simple. Its aspect should be east and west—that is, the ends of it should point north and south. The form of parallelogram of any dimension; the roof only need be glass; the sides brick or stone. The angle of the roof should be not more than 36°, or, at the most, 40°. If it is more, there is danger to be apprehended to the plants from drip; but if the angle is rather sharp, the condensed water, instead of dropping upon the plants, will run down the glass on each side to the front where it may be collected and carried off. The best mode of heating yet discovered is, undoubtedly, by means of circulating hot water in pipes of sufficient size or number to give out more heat than is wanted, it being always more safe and easy to reduce the temperature by using less fire, or by the admission of fresh cooler air, than it is to force up a high heat with an insufficiency of pipe. To obtain moisture in the air, it is desirable to run part of the pipes through tanks, so shallow as only, when filled with water, just to cover the pipes. This is a superior method to that of having the tanks supplied direct from the boiler, because when a drier atmosphere is desirable, the tanks may, by means of taps, be easily emptied, and the effect attained.

Moisture in the air should always be in abundance during the growing season. If the weather should be so hot out of doors that artificial heat may be, in a great measure, dispensed with, it will be necessary to moisten the air by other means than the tanks alone. It may be sufficiently given by means of copious floodings on the floors, thoroughly wetting the walls, syringing the plants morning and evening, and shutting-up the house early in the afternoon. Water at the root, an element necessary for the growth of all plants at certain seasons, must also be liberally supplied to Vandas when growing freely. It must be of the same temperature as the air of the house. Rain water is the best.

As to the best material in which to grow them, I believe that baskets made of oak branches or hazel rods, and filled with sphagnum (white bog-moss), mixed with broken potsherds and pieces of charcoal, will be found the most suitable. The baskets may either be hung up to the roof, or if the house is low, placed upon pots to bring them near to the glass.

The season for growth has been mentioned; and as the days shorten, and the heat of the summer declines, the season of rest ought to commence by lowering the temperature to 70° by day and 60° by night. This season of comparative rest should commence at the end of September and continue till March. In the darkest days of winter the temperature should be reduced still further to 65° by day and 55° by night. During this cessation of growth, the plants will not require any water at the roots. Occasional syringing may be given (in the morning only) when there are several sunny days in succession; but moisture must be even then very sparingly applied, and only to prevent the

leaves from shrinking too much. This cessation of growth for a season will, as it were, ripen the wood and cause the buds of the flowers to fill and appear in due course; whereas, if the heat and moisture are continued all the year, the plants will keep growing, and rarely, if ever, flower. The season of flowering will follow the season of rest. As the flower-spikes advance, the heat must be increased; but a very moderate supply of moisture, either in the air or at the root, must be given. In their native country they flower during the dry season that immediately succeeds the cool one. So they will in our stoves, if the system of treatment I have described above be followed. The flowering season, then, will be from March to the end of May, or, perhaps, June, if required. Immediately after that is over, the growing season, with its requisite quantity of heat and moisture, will recommence. Then occurs the proper time to give them a shift, if they require it, by renewing the baskets and the sphagnum. Give them larger baskets as they grow and require more space for their roots.

The following is a selection of the species most worthy of cultivation:—

*V. carulea*. Grows on Gordonia trees among the Khasiyahills of India.—The noblest of the race, remarkable for the size of its whole-coloured bluish-lilac flowers, which measure 3 inches to 4 inches in diameter, and grow in long upright racemes of eight or ten blossoms. It has been erroneously called *V. corulescens* in several publications. The sepals and petals are large, membranous, and oblong; the lip small, leathery, deep blue, and linear-oblong in form.

*V. cristata*. Nepal.—One of the most scarce of the genus, and very beautiful. The flowers are produced on long peduncles, generally singly, but sometimes in pairs; they are large, and of a creamy white; the labellum mottled, and striped with rich dark brown. They last a long time in bloom.

*V. fusco-viridis*. East Indies.—This is a species very little known. As the name implies, the colour is a brownish-green, approaching to yellow. The flowers are of considerable size, lasting in bloom full two months, and are very fragrant.

*V. insignis*. Java.—A well-named species, for it is, indeed, a noble plant, with equally noble flowers. They are large; grow frequently six to ten in a raceme; yellowish, beautifully spotted with crimson, and very fragrant.

*V. suavis*. Java; *V. tricolor*. Java.—These two are very beautiful species, in the way of *Vanda insignis*; and together with it are, perhaps the most beautiful of the species.

*V. Roxburghii*. India.—A handsome-growing plant, but not a free-flowerer; no doubt, because the plants are kept too long in a continued moist atmosphere. The sepals and petals are yellowish, spotted with red inside, and rose and white outside; the labellum is white and pale red. There is a variety with blue spots instead of red or rose.

*V. teres*. Various parts of India.—A very fine species. The petals are deep purple, shading off to the margin; the sepals pale cream colour; the lip large and beautifully variegated with crimson and yellow; a tall-growing species, seldom flowering till 3 feet high.

*V. unicolor*. India.—Not a very handsome species, but a free-flowerer; and the flowers are large and continue fresh a long time. They are light brown, changing to a tawny yellow.

*V. violacea*. Manilla. The sepals and petals of this are white, tinged with violet, the labellum richly striped with rich purple. It is a beautiful species, flowering when very dwarf. The season of blooming is about February, a time when flowers are scarce, even among Orchids.—T. APPLEBY.—(*Gard. Mag. of Botany.*)



*Vanda suavis*.

## ORNAMENTAL PLANTS.

**CAMPANULA VIDALII** (Capt. Vidal's Bell-Flower).—*Nat. Ord.*, Campanulaceae. *Lin.*, Pentandria Monogynia.—A half-shrubby maritime Bell-Flower, probably half-hardy or requiring a greenhouse. It is described to us by a gardener well acquainted with English flower-gardening, as a very ornamental species. Our figure, which serves merely to show its form, is taken from a representation of a poor specimen in "Hooker's *Icones Plantarum*" (vii., t. 684). The plant forms a roundish mass 2 feet high, with dichotomous thickened branches, terminating in a rosette of leaves, of half-succulent, half-leathery texture, smooth, spatulate-oblong, with revolute crenated margins; the few leaves which occur on the flowering stems are lance-shaped and nearly entire. The flowers grow in terminal racemes, which shoot out from the centres of the leafy rosettes; they are nodding, bell-shaped, and contracted in the middle, white or cream-coloured. Mr. Watson describes the leaves and branches as recalling to mind some species of *Saxifraga* or *Sempervivum*; in his dried specimen, shown in our figure, on which about three flowers were developed, several flower-buds appeared abortive, or else would have been developed later and irregularly. We have raised seedling plants.—From the Azores; found on an insulated rock on the east coast of Flores by Capt. Vidal. Introduced in 1851. Flowers through the summer, but beat in August.—(*Gard. Mag. of Botany*.) It requires a mixture of two parts sandy loam and one part leaf mould. It increases freely from seed, but the seedlings do not bloom until the following year. It does well upon rockwork, but is rather tender, and the colour of the flowers is rather dingy. The whole plant has so little the appearance of a *Campanula*, that it has been questioned whether it belongs to that genus, and it is suggested that it is nearer related to the genus *Musschia*.—(*Journal of Horticultural Society*, vol. vii.)

**CHRYSANTHEMUMS.**—The annual display of Chrysanthemums in the Temple Gardens promises this year to be very fine. The flowers will be in perfection during this and the following week.

## BRANCHES OF ORCHARD TREES DYING.

I FIND myself in a similar predicament with regard to some of my orchard trees, as your correspondent "A. B." does who wrote for advice in your *JOURNAL OF HORTICULTURE*, No. 77,

New Series. He complains of many of the branches of his Apple and Pear trees being dead at their extremities, whilst others again, he says, are almost unaffected.

Now, looking at your reply to his query, I presume his orchard has been cropped in some way or other, and I can imagine so far, it would to a certain extent be detrimental to the health and vigour of the trees; but how, then, stands the matter with regard to myself? My orchard is grass land, and, therefore, of course, is not cropped. The soil is of an unctuous nature, and yet several of the branches of the older Apple trees are dead for some length towards their extremities, the younger trees not showing the slightest appearance of any like decay.

Now, should the soil have nothing to do with the decay I am speaking of, perhaps the turf being allowed to grow close round the bases of the trees may. If so, do you think that the turf being removed for some few feet, as a radius, from the base, and the ground then well mulched with good manure and dug in, would be the means of giving new life and vigour to the trees, and so prevent further decay? When should this mulching be done—now or later?—A. K. H.

[Your case is far from being a solitary one, neither is it easy to prescribe a cure; but assuming your trees to be young, and as you say some of them are healthy and vigorous, there is reason to believe that those which are dying at the top are kinds not suited to the soil. In most parts of Kent, where large quantities of Apples are grown for the London market,

the Ribston Pippin is rarely met with in any other condition than that of which you speak. The Hawtbornden is falling fast into the same condition, and in some places the Blenheim Orange, and, most likely, other kinds; therefore, the cause of unhealthiness in your trees arises from the unsuitableness of the variety for the situation. It would hardly be advisable to disturb the turf in the way of renovating the ground, but you may apply liquid



*Campanula Vidalii.*

manure if you like, and a good dressing of dung all over the ground early in autumn. Continuous mowing and carrying off the produce is, of course, hurtful to an orchard, and must be recompensed accordingly. But orchards on grass often do well, and the trees attain a greater age and bear quite as well as when it is in tillage. Grass is more especially advisable for Cherries, but the other fruits bear the spade better. If your trees are covered with moss and full of useless wood, thin out the latter, and some mild damp morning in April scatter them over with quick lime. Some other particulars on orchard culture will, however, be given in a short time.]

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

As a general rule, ground that is deeply trenched should be manured after the trenching, and the manure forked-in, except in the case of fusiform-rooted plants—such as Carrots, Parsnips, &c., which will require the manure to be trenched-in deeply, and not incorporated with the surface soil. Trenching-up all vacant departments to be vigorously followed-up, taking care to trench-in all green and decaying vegetable refuse, which is much better than throwing such materials in a heap to decay, which entails a positive loss of fertilising matter. *Cabbages*, earth-up those planted for Coleworts for winter and early spring use. Look over the principal plantations frequently to see if slugs attack the plants. If they are numerous, lay a quantity of Cabbage leaves on the ground and examine them daily; a pail of hot water or some lime may be taken round at the time they are examined, and the slugs shaken into it: thus many thousands may be destroyed at this time of year by this simple method. *Cauliflowers*, lose no time in taking up those nearly fit for use; lay them in a frame so as not to touch each other, and keep them free from dead and decaying leaves. *Celery*, earth-up that intended for winter use to a good height, as soon as the soil becomes a little dry. It will be necessary to attend to this as early as an opportunity offers, as the frost may set in shortly, which, from the weather preventing the plants being earthed-up lately, will do much mischief. *Endive*, continue to blanch it by tying-up or by wrapping the leaves together, and laying two flat tiles on each plant, so as to form a slight ridge, one tile overlapping the other. *Lettuce*, pay similar attention to the autumn plantations as advised for the Cabbages. Give air to the young plants in frames daily; the Cabbage Lettuces in frames for winter use will not require much air. *Shallots and Garlic*, if not planted in consequence of the wet weather, this should now be done as early as possible.

### FLOWER GARDEN.

Where alterations are in hand, push them forward with all possible dispatch while the weather continues favourable for outdoor operations. Now, when this department is presenting a dreary and desolate appearance, a pleasing and lively effect may be produced by furnishing those beds which are not planted with bulbs, or sown with hardy annuals, with dwarfed specimens of shrubs. The beds next the residence to be filled with *Laurustinus*, *Aucuba japonica*, green and variegated *Holly*, *Arbutus*, evergreen *Berberis*, *Rhododendrons*, and *Box*; those at a greater distance with *Portugal* and common *Laurel*, *Arbor Vite*, *Phillyrea*, &c., filling each bed with one distinct kind. In removing them from their winter to their summer quarters, plant them in prepared beds in the reserve garden, and by regularly pruning-back the summer growth of some, and pinching-off the ends of shoots of others, a compact dwarf shrub will be obtained, and thus be in readiness for another winter. To keep them in pots for the purpose is unnecessary labour.

### FRUIT GARDEN.

When planting wall-fruit trees, it is advisable in the first place that the borders should be thoroughly drained, and not more than 2 feet deep. The soil, a yellowish-hazelly loam, from a sheep pasture, about 4 inches of the top only being used. This is sufficient without the admixture of dung. In planting, the top roots which proceed direct to be kept rather above the surrounding surface, every root to be laid out straight, and to be carefully covered with fine soil, to be slightly trod, well watered, and then mulched. If fresh trees are to be planted on old borders, let it be done with as much care as in new ones; a barrow or two of fresh soil to be put in each hole, and mixed

with the soil of the border. Let the holes be made sufficiently large for the roots when laid out straight. It is by inattention to this that suckers arise, which is in a great measure caused by cramping and twisting the roots. Cast an eye over the trees in the orchard, and see if there is a necessity for a judicious thinning-out of the branches. The work of thinning may be performed at any time from now till March, but the sooner it is done the better.

### GREENHOUSE AND CONSERVATORY.

Look over the plants here frequently, and examine things very closely that are liable to suffer from mildew and damp. The *Boronias*, *Gompholobiums*, and other such New Holland plants are very impatient of exposure to cold drying winds, and if they must be wintered in the same house with the hardier kinds of greenhouse plants, they should occupy a part of the house where they will not be exposed to cold draughts; but air must be admitted by the top sashes freely on fine days. Keep *Cinerarias* and other softwooded plants clear of green fly, and endeavour to secure stocky plants by affording them sufficient pot-room, and admitting fresh air freely whenever the weather permits.

### PITS AND FRAMES.

Expose the stock here freely to air on every favourable opportunity so as to check growth and to get the wood firm, in which state the plants will be less liable to suffer from the confinement which may soon be necessary than if kept close and coddled with too much warmth and moisture. Very little water will be required at the roots, but look over the stock every two or three days, withholding water until indications of flagging appear, and then give a moderate soaking, which is the only safe method of watering at this season.

W. KEANE.

## DOINGS OF THE LAST WEEK.

IN the KITCHEN GARDEN prepared for protecting *Cauliflower*, laying down *Broccoli*, securing *Endive* and *Lettuce* from frost. The frosts have not yet been severe enough after the heavy rains to loosen the hold of the leaves on the fruit trees, though *Dahlias*, &c., have been a little blackened. In-door work has been forwarded considerably, of which at this season I often leave more than we ought to do, in order that there may be always plenty to do, when from wet, &c., it is not pleasant nor profitable for men to be at work outside. When the weather was at all fine did a little draining, &c., and looked after slugs and insects. Looked over our *Mushroom* spawn, and thinking we might run a little short before midsummer, resolved to make a little fresh. Got, therefore, three barrowloads of horse-droppings, nearly one of cowdung, half a barrowload of drishy sandy earth, and two or three bushels of wheat straw cut into chaff, mixed altogether into a toughish dough, and made into bricks, as described some time ago. This is rather late, but we shall have plenty of room in orchard-houses presently to dry it sufficiently. There is no mistake about the spawn keeping well for years, if kept dry and cool. I once surprised a London nurseryman, by refusing to have his new autumn-made spawn at a gift, whilst I paid him for some cast-aside material in a loft, at least two years old. Some of the best spawn I ever handled was in a shed loft at Althorp, and Mr. Judd told me it was getting close on four years of age.

### FRUIT GARDEN.

Looked over the bunches of *Grapes* carefully, for if a single berry damps there will soon be several to bear it company, and, ultimately, the whole bunch would go to a certainty. Made little fires to avoid a moist stagnant atmosphere, and, unless in very severe frost, would leave a little air on the top of the house at night. Although the *Grapes* will hang long after the foliage withers, we think they hang much better if the foliage is kept green a little into the winter. This is greatly promoted by covering the borders early in the autumn when the roots are wholly outside as ours. We stated last week that the rains came and drenched the borders sooner than we expected. Drain as we will, there is a sponge sort of character about the soil here, that leads us to be best pleased when too much wet does not pass through such particular parts as a Vine-border. We waited, therefore, until a fine day had hazelled the surface, then we covered that with a thin layer of cowdung rather moist, and made a smooth surface; and on that surface we spread a thin, filmy layer of gas tar, and threw a lot of dry sand and sawdust upon it. This will prevent any more wet getting directly into

the border, and on this we put loosely from 6 inches to 9 inches of stubble. This so arrested the escape of heat by radiation, that a thermometer 3 inches below the surface that stood at 47°, rose in three days, and after frosty nights, to 51°. A little covering, therefore, of loose material, is of importance, to prevent the heat escaping, and a much safer and more economical proceeding than making huge mounds of fermenting material on the border before commencing to force.

We stated last week that we had burnt some sulphur in a Peach-house, next day all the leaves were limp and dead enough. Almost every year we manage to get a little spider, and, perhaps, scale, about the time the fruit is ripening, when we are debarred giving much moisture for fear of lessening the flavour, which had little need to be lessened this season, as the finest fruit were deficient in that respect as compared with former years. Well, this sulphur-burning with care tends to settle any insects that may be remaining, but it will not settle their eggs if there should be such a thing. After the leaves were brushed-off, removed, and burnt, the trees, rafters, glass, woodwork, &c., were syringed with soap water at about 160° of temperature, using a cloth for the hand on the syringe, and squirting the water into every crevice and cranny. Then the whole of the woodwork and trees were washed, using for the twigs of the latter a soft hair brush. When dry they will be painted with a mixture chiefly of clay and sulphur, and a little soot and soft soap, the main object being to shut-up all imperceptible eggs of insects, and destroy them for want of air. The walls will be whitewashed if wet to-morrow. The earth floor has been scraped, about 1½ inch of the surface removed, and when a fresh tree is planted, and the ground fresh-surfaced, the house will be crammed with bedding plants from top to bottom, until we wish to start the trees, and by that time the vineries will be getting empty. At present the bedding plants are chiefly in cold earth-pits, under old sashes, and will be better to be moved. In relation to insects, I may mention that two Peach trees in pots that had some twigs infested with the black beetle fly, were put into a box about 4 feet square, half a bushel of bruised laurel leaves put in with them, and the door or lid shut; and though the trees were not in the least injured, not a single insect was left with life to annoy us any more. We find that thrips are coming on the under leaves of Cinerarias, though standing on a cool bottom with plenty of air, and we will try the same dose with them. It is a good thing to use the Laurels as soon as bruised, so that none of the acid given off is lost.

#### ORNAMENTAL GARDENING.

Little has been done out of doors. Thinking we might want some more Calceolarias, and frost likely to come with the east wind of the 30th, took off a number of Calceolaria cuttings, and placed them in a shed before we could get time to make them. The Geraniums we thought we might want have been placed under protection before being frosted, and they will take no harm if we do not get at them to dress them as detailed last week, for a fortnight. Many of the tender things have been got into brick pits, &c., and we will move most as we can find room and time, as even the moving does them good. A few things that were not struck were put into a little bottom heat, and where dry heat could also be given when necessary. Any damped leaves have been removed, though few have made their appearance. Pelargoniums have been partially disrooted, and repotted mostly in smaller pots, as we do not wish them to have large leaves before the winter is over. These are placed in the vinery that was thoroughly cleaned, and on the stage they do much better than in pits, with only light above them. The conservatory has been mostly reset. Chrysanthemums have received manure waterings to give strength to the flowers, and stove plants are receiving all the light possible, and the temperature in dull weather allowed gradually to fall. Dahlias have had earth put to their stems to prevent them being injured by frost.—R. F.

#### TRADE CATALOGUES RECEIVED.

Narcisse Gaujard (successeur de Ad. Papeleu), Ghent, Belgium.—*Catalogue général des Cultures.*

J. R. & A. Pearson, Chilwell Nurseries, near Nottingham.—*A List of Plants, Trees, Shrubs, Flower Roots, &c.*

William Chater, Saffron Walden.—*Catalogue of Superb Double Hollyhocks.*

#### TO CORRESPONDENTS.

\*\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.,"* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

BOILER FOR VINERY (*D. G., Ireland*).—You would see the other week that we could work any boiler so as to make it best. A middle-sized conical one would suit you well, but we would not despise a saddle-back. Some of our greatest gardeners are going back to saddle-backs. We do not know what the pits are for, but you ought to have a flow and return in them. You ought at least to have three pipes in the vinery, two flows and one return to begin in February; if earlier, you should have four four-inch pipes.

TEN VINES IN FORTY-FEET HOUSE (*Idem*).—Select three Black Hamburgs, one Mill Hill Hamburg, one Victoria Hamburg, one Lady Downe's Seedling, one West's St. Peter's, one Royal Muscadine (or Golden Hamburg), one Buckland Sweetwater, one Muscat of Alexandria. If the ground is in good order we would plant at once, and keep frost and wet out of the ground all the winter. The roots will then be making way. If you cannot do this, defer planting until March or April, and, if not suitable then, defer it to May, and stand the plants in pots inside; but now, if all is favourable. There is no necessity for taking the Vines out in winter, unless you wish to make a hothouse of the house then.

PLANT CASE (*J. S., Forest Hill*).—We do not know the size of the case, and therefore can only guess that Chrysanthemums, Cytisus, Cinerarias, Primulas, Violets, and bulbs such as Snowdrops, Crocuses, Tulips, Narcissus, Hyacinths, with a dwarf Camellia, Daphnes, &c., would answer. If the case were heated the seeds could be raised very well, and be hardened-off in the greenhouse.

ARBOR VITE HEDGE (*C. Lee*).—The American Arbor Vite is the fastest grower, but not the best for a hedge inside a garden or pleasure ground; and we said it was not so good as Yew against assaults from without. The more dwarf, more regular, and more close-growing Chinese Arbor Vite is the best for an ornamental hedge for screens, up to from 7 feet to 10 feet high. Nothing is more easy now than to devote three whole days to the getting-in of a hedge of Arbor Vite 10 feet high, and not quite 2 feet through at the bottom.

FUCHSIAS IN BEDS DURING WINTER (*S. N. E.*).—It is always the best plan to cut down Fuchsias in beds quite close to the ground, and before they are much frosted. We have cut ours last week. Very little covering will then keep them safe enough, and fern is the best, of which you have abundance at Hampton Court. Work the soil well between the Fuchsias with a fork, and you may put Tulips there and an edging of Crocuses.

GOLDEN CHAIN GERANIUM CUTTINGS (*Idem*).—You did wrong as an amateur to make cuttings of it in the autumn. We have often advised not to do so. Never make such cuttings except in the spring and in the cucumber-bed, and every morsel will root and be ready to put out in May. A Golden Chain will take up as much room in winter though all the tops were made into cuttings, as if all the shoots were left on; then the old plant will carry the shoots through the winter ten times more safely than young roots produced just before the winter sets in.

CALCEOLARIA CUTTINGS (*A. K. H.*).—Some instructions the last two or three weeks will have put you in the way of saving these; but a correspondent of ours, who strikes very little short of 10,000, says he puts them into a cold frame of four-and-a-half inch brick work, 6 feet wide, and about a foot high in front, and double that at back. He puts them in rows about 3 inches by 2 inches, and if the weather be moist, which it often is in the middle and end of October, he leaves them quite exposed; if it be dry and windy, and likely to wither them, he puts on the lights and shades them; but he leaves them fully exposed in all mild weather day and night all through the winter, putting on the lights on frosty nights only, or when it is likely to be so, and he says he does not lose one per cent., except in *C. amplexicaulis*, which he says ought to be put into pans or boxes, and be removed to some place secure from frost. A little frost does not hurt the others, and it is not more than once or twice in an ordinary winter that anything but the lights are over them; and these, he assures us, are often not more than perhaps thirty or forty days or nights in the season.

TWENTY-FOUR STANDARD ROSES (*A Constant Subscriber*).—The very thing you want we published last week, page 568. That, we affirm, is the best selection of twenty-four Roses that has ever yet been made for growing as standards or on their own roots, all but Madame Furtado, and from what Madame seems with us, we should say that she is reverse to being put so high in the air as a full standard. But of all the Roses she holds the highest place in our affections, and we would advise our friends never to work her higher than on eighteen-inch stocks. If we ever worked Roses (which we never do), we would work Madame Furtado no higher than 4 inches from the ground: therefore, for Madame Furtado take Eugène Appert, which, being amongst the stronger, we have marked in the list referred to.

DIVIDING VALLOTA PURPUREA (*H. B.*).—This Vallota may be parted now if you wish to increase it. Were it one, and a fine specimen our object, we would carefully remove the smaller bulbs and keep them by themselves, and the chief bulb we would repot, but in a small instead of a free shift. Your friend will have a better choice of books upon tobacco and cotton-culture when he reaches America. None to suit him have been published in England.

**EATABLE GOUBES** (*R. S.*).—We know of no mode of ascertaining which are eatable except by cooking and tasting them. If any of our readers can point out which are best for kitchen purposes, we shall be obliged by the information being sent to us.

**ASPARAGUS-BEDS** (*Edward Wootton*).—Do not put soil to the beds of either old or young plants until next March. Sprinkle about a pond upon each square rod once a-month from that time until the stems die in the autumn. Remove the earth from over the crowns of the old plants, and replace it with about 2 inches deep of very rotten stable manure; leave this on all the winter, and fork it in slightly in March. Cannot you drain your beds? Wet soil, forking the beds deeply, and burying the plants deeply will ruin any Asparagus-beds.

**COVER FOR HARES** (*Inquirens*).—You and your gardener are equally wrong. Unless you can keep out hares and rabbits for five and twenty years from your proposed "cover," your plan is entirely hopeless. The only way to get up a game cover in such lands (Beau soil) as yours, is to plough it as deep as possible, bring it to a good tilth, and sow it with Barley; but, before sowing the Barley, sow a crop of Broom, Gorse, Bird Cherry, and Privet, or else get up 3000 Privet plants first from cuttings, and 2000 Berberis aquifolium from seeds, both to be put in after the Barley is cut, and when the Gorse is knee deep—say in two years, you can plant any kind of forest or copse trees in the centre of tufts of living Gorse, and no living thing can touch the trees. We would not plant Nuts or Filberts in game covers for the double temptation. Ash, and Spanish Chestnuts, to cut for poles would be the best after the ground was covered with Gorse. The Holly-leaved Laberry and the Privet hares never touch, and Gorse they detest.

**VARIOUS** (*An Old Subscriber*).—*Liliums* may remain many years in the same pots if top-dressed with rich compost every year. If potted, it should be done just before they begin to move in spring. *Achimenes* may be dried-up and shrivelled, but will hardly be so kept in soil in pots, or in saucers covered over with sand in a dry place not below 45°. They should be started by the middle of March to be in perfection in June and July. *Amaryllis* need little repotting, but when done part of the old soil should be removed. The potting is best done with established plants when they are growing. If the pots stand on a dampish floor, the roots will not get too dry when at rest. You must not fumigate ainery with sulphur for red spider unless the fruit is all cut, and the wood hard and ripe. See "Doings of the Last Week." Sulphur, in such cases, is a good servant but a destructive matter. If you have Grapes, dab the heating apparatus with sulphur and lime as a wash, and see the flue or pipes are not above 170°.

**GREENHOUSE LAVENDERS** (*Omicron*).—Our correspondent says that he cannot meet with any of the species requiring greenhouse treatment. Will some of our readers say where they can be procured?

**FRUIT TREES FOR A S.W. WALL** (*J. A. W. P., Glastonbury*).—Your wall, 10½ feet high and 7½ yards long, will give space for twelve dwarf trees of stone fruits. The wall you propose to add another year, 100 yards long and from 8 feet to 9 feet high, facing S.E. and East, will not require the trees to be planted so closely as it is lower. You will be doing quite right by digging-in a liberal dressing of mortar rubbish into the stiff border, and especially about the collar of each tree. If your situation is a favourable one, as the locality indicates, both the present wall and that which is to be built might be planted in a great measure with the best class of Peaches, Nectarines, &c. But if you require Pears and Plums with a few Cherries also from the same walls, you may select from the following kinds, which are all good—viz., Peaches: Noblesse, Early Newtown, Walburton Admirable, Royal George, and Late Admirable. In Nectarines: Pitmaston Orange, Violette Hative, and Elrange. In Apricots: the Shipley, Royal, and Moorpark. In Plums: Green Gage, Jefferson's, Washington, and Golden Drop. In Cherries: Black Tartarian, Elton, and Myrdake; and for a late place, Morello. In Pears: Jargonelle, Calveshase Grosse, Duchesse d'Angoulême, Marie Louise, Glon Morcean, and some others; but if you have the means of growing Pears and Plums as standards, you had better plant the whole of the wall of both seasons with the more tender fruits. Apricots are invariably useful, a few more Peaches may also be had, and one or two Morello Cherries are always worthy a place. Pears and Plums ought to be wider apart than Peaches or Apricots, as they grow to a larger size. Your wall is not high enough to require standards, although alternate standards 4 feet high between the dwarfs would do no harm for two or three years, when they might be cut away as the dwarfs advance. Be careful the roots of the forest trees behind your wall do not penetrate underneath, as we have seen much mischief done that way. The sooner that fruit trees are planted after the leaf is fallen the better. By an oversight your communication was mislaid, or it would have been answered sooner.

**MANETTI ROSE** (*Oates*).—There is but one variety so named, and which can be purchased from any of the large Rose-growers. The Manettia mentioned in the Dictionary is not a Rose but a stove climber.

**TOBACCO RAG**.—*H. H.* wishes to know where this can be had wholesale.

**QUERCUS ILEX INJURED BY FROST** (*T. C. P.*).—The directions we gave last week for treating the Holly will apply to the Quercus Ilex.

**MILL HILL AND DUTCH HAMBURG BLACK GRAPES** (*S. W. G.*).—They require no cultivation different from that needed in forcing other Grapes. You can obtain them from any of the nurserymen who advertise Vines for sale in our columns.

**LAURUSTINES IN TUBS** (*A Subscriber since 1856*).—As the standards are doing so well and the boxes are 18 inches in diameter, we would be inclined to pick away a lot of the surface soil, and top-dress with rich fresh compost. If you prefer shifting into larger boxes, the sooner it is done the better.

**CAMELLIA BUDS BREAKING** (*Item*).—Move the Camellias into the greenhouse—they will be much injured if the soil should be frozen in the pots. Do not trouble yourself about flower-buds starting here and there and chiefly appearing from the wood of the old stems. That is a good sign.

**TROPEOLUM AND MAURANDYA IN A WINDOW** (*Constant Reader, Dublin*).—When the *Tropeolum Lobbianum* is fully established and has a number of healthy shoots it will not need much watering at the root; but it will be greatly benefited in the window of a room where there is constant fire by having the leaves sponged or damped with a syringe or fine rose, and fresh air given, whenever the outside temperature is not below 40°. When lower

than that, give air with care. The *Maurandya* will require three or four times the watering of the *Tropeolum*, and if the pot is rather small it would be better to stand in a saucer, only the water in the saucer should never be allowed long to be deeper than a quarter of an inch. The moistening of the foliage of this will also be eagerly enjoyed, and keeping them free from dust. Are you sure there are no insects that cause the curling of the leaves? Do not hurry *Tropeolum azureum* and *Jarratti*. Let them have their time and give little or no water until the shoots appear, and then very carefully. Before then, to prevent the soil being dried too much, cover the pot, and let it stand on damp moss.

**HEATING A SPAN-ROOFED HOUSE** (*A Subscriber*).—When you ask for information you should write clearly in ink, and not make a mixture of ink and pencil—it gives our eyes unnecessary trouble. We think we know the position, &c., of your house. If all the houses are to be heated separately, we have often mentioned the various modes of doing so. There is just one point on which you need a hint, and that is the brick rubble under and over your pipes for bottom heat. It is of no use having two feet of bats below the pipes; we would be satisfied with 2 inches, and a firm bottom. The rubble or bats above may be from 6 to 9 or 12 inches, the middle thickness perhaps the best, and finished with fine gravel. There ought to be room over that for 18 inches of soil, and then the plants should be 16 inches from the glass. If there is anything else you want, write again.

**GLOXINIAS NOW IN BLOOM** (*E. J. C.*).—With successions *Gloxinias* may be in bloom all the year round. Those that bloom late will naturally start late. Water your plants as long as the leaves keep green; when they begin to get yellow lessen watering and then stop. Cut the leaves off when faded and allow the tubers to remain in the pots, and keep them anywhere out of sight in a temperature of from 45° to 50° and 55°, or thereabouts. Examine them about February, and as the plants begin to grow shake the old dry soil from them, pot afresh, and water as they need it. Give at first about 60°, and increase gradually to 65° and 70°, with a rise from sunshine.

**GERANIUM** (*M. D.*).—Your *Geranium* is *Pelargonium citrodorum*, a wild species from the Cape. Much obliged for the specimen of the new *Gaaphium*.

**LAUREL HEDGE** (*Tyro*).—Our correspondent has Laurel plants of some age, which are bare of leaves for 3 feet from the bottom; and he asks if they would do to remove and be put where he is going to make a bank 3 feet high, and to be buried 3 feet deep, so as to have a hedge of them at once. Now this is a valuable practical question, which practice alone could decide. The Laurels must have been too much crowded, or the soil is desperately poor for them, else they would not go so bare at the bottom. But, if these Laurels were to be left where they are, they might be evergreened to the bottom by the plan which *Tyro* proposes—that is, to raise a bank of good soil round them. But it ought to take two years to make the bank; a foot of earth this winter, 6 inches more next August, and 18 inches at once when the roots were fairly brought up to the fresh soil. Old Cedars, old Yews, and almost all very old trees can be renovated that way, and much easier if cocoa-nut fibre refuse (not the fibre itself) is used in the first instance; but to remove those bare-legged Laurels to another place, and bury the roots 4 feet under the ground and the stems 3 feet, at one time would be folly. And when a bank is made for Laurels, by far the cheapest and the best way would be to plant young healthy plants about a yard high, to plant in October or November, and to mulch them with mild, littery, stable dung.

**LILY OF THE VALLEY** (*M. F.*).—Your bed of this "nice old plant," now leafless requires nothing to be done to it until you see the leaves pushing through the ground in the spring, then stir the whole surface, and put an inch of some light, sandy, rich compost over it—say one-half very rotten leaf mould, the other half of very rotten cowdung and fresh sandy soil in equal parts. The present is the best and proper time for making fresh beds of Lily of the Valley. A shady situation and fresh sandy soil, with a little rotten leaf mould but no dung, makes the best bed; but this flower will do in any garden soil that is not too stiff. The place should be dug very deep, and the soil well broken into a smooth tilth. The best way to get plants is to cut off about 9 inches from one end of an old bed, and shake away the mould from and unravel the roots, and plant the pieces singly all over the surface a few inches apart, and quite flat on the surface; then put 2 inches of soil all over the roots, and they will cover the bed in one season, but they will not flower as they do in an old bed until the second season, and if it is a dry summer they should have abundance of water.

**ARBOR VITAE** (*A Subscriber*).—Your plant is the American *Arbor Vitæ*, and although it makes "a standard tree of considerable size" with you, that size is not one-tenth, probably not one-twentieth, of the size of a Yew tree, and yet the Yew makes a hedge ten times better than the *Arbor Vitæ*, and will take ten times more time to do so. All hedge plants, be they evergreen or not evergreen, are "made to furnish below" by one other method but "by clipping." The Oaks, and the Elms, and all other forest trees could be made hedges of by clipping; and at the beginning every tree was fenced for a hedge, and the Yew was discovered to make the best evergreen fence against man and beast, and the *Arbor Vitæ* to make the cheapest and the readiest hedge, but not against beast or man.

**CALVILLE BLANCHE APPLE**, &c. (*F. H. S.*).—Your Apple is quite correct, but it never acquires the same appearance in this country grown out of doors that it does on the continent. If you try it under glass you will succeed. The Grape vine for it is *Chasselas Rose de Falloux*. Apply to any of the respectable nurserymen who advertise in our pages. The Nova Scotia Seedling is not yet in this country, but the Horticultural Society intend introducing it. Prune the Roses and the Japan Honeysuckles in the spring, because then you will be able to judge where to prune if they should have sustained any damage from a severe winter.

**NAMES OF FRUITS** (*H. N. S.*).—Your Pears are 1, *Beurré Rance*; 2, *Beurré d'Arenberg*; 3, *Bezi Vaet*; 4, *Louise Bonne de Jersey*. (*G. F. W.*).—We are sorry to say we do not know either of your Pears. Neither of them is first-rate.

**NAMES OF PLANTS** (*A Five-years Subscriber*).—1, *Selaginella flabellata*; 2, *S. cuspidata*; 3, *S. Martensii*; 4, imperfect; 5, *Nothochloa nivea*; 6, *Cheilanthes microphylla*. (*B. D., An Amateur*).—Common *Tamarisk*. Plant cuttings of the old wood as you would Curant cuttings. (*A Constant Reader, Dorking*).—*Dracopetalum virginianum*, or *Virginia Dragon's-head*; and *Cornus mascula*, Male Dog-wood, or *Cornel*. (*Polypodium*).—They are slightly varying forms of *Polypodium vulgare*, approaching *acutum*, but neither of them genuine examples of that variety.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

BIRMINGHAM AND CRYSTAL PALACE  
POULTRY SHOWS.

"Among useful pursuits must be classed the occupation which consists in rearing poultry, in studying the different breeds, in seeking their amelioration by judicious crosses; and, above all, by seeking to improve those classes that are more intimately connected with agriculture.

"We know that other breeds offer a thousand attractions by the variety of their forms, habits, and plumage, and we are far from advising they should be given up, as they satisfy a natural feeling—that of curiosity. But the more useful breeds are quite as varied, as admirable in their shapes, as curious in their habits; and, besides, they unite the useful and agreeable—they not only provide beautiful animals, but excellent and copious food. Exhibitions develop this attractive taste, and supply all classes with the means of employing their leisure usefully, if not profitably."

So says M. Jacque when writing on exhibitions, and so say we. The above, which met our eyes when we opened the book, appeared particularly appropriate. We wished to speak of the Birmingham and Crystal Palace Shows; they, too, unite the useful and agreeable. It is our duty to inform our readers that if they have not made their entries when this reaches them, they must do so without delay. We are obliged to use the imperative mood to those good, easy, well-disposed, insufferably lazy people, who, when walking round Bingley Hall, Monday, December 1st, will declare they have better fowls at home, that they meant to enter them, that somehow they were too late, or they forgot, or they were busy, or nobody told them the entries were closing, and so they did not. We leave them without excuse.

No one who takes any interest in poultry, cattle, or useful enterprises, should omit seeing Bingley Hall during the Exhibition. Those who have been, are sure to go again; those who have not, have little idea of the beauty or magnitude of the spectacle. In many minds the idea of such a show is connected with close dark buildings and passages where there is scarcely room to move; of animals suffering from painful discomfort, and a place which all are glad to leave. Bingley Hall is as airy and clean as a drawing-room, every animal has a large space to itself. Between the rows there is a very wide and well-kept passage. The building is immense and very lofty, and nothing is omitted that can add to the comfort of the visitors. And the poultry! "Who has not seen Seville has not seen a wonder," says the Spaniard. The speech may be paraphrased, and Bingley Hall substituted for Seville. Whether we consider the numbers, merit, or the value of the birds shown, it is equally marvellous. It is the *fourteenth* annual Show, and with the recollection of past years in our minds we give it hearty greeting, and wish it continued and increasing success.

Time runs round; we are approaching Christmas, and the Smithfield Club Cattle Show tells us by its placards the Crystal Palace Show is at hand. The two Shows are held at the same time, we believe to their mutual benefit. Our predilection for the Crystal Palace is no secret to our readers. It gives to amateurs a show that is altogether *sui generis*. It is a first-rate show of poultry, over and above all the attractions of the Palace, without any increase of admission money. It should have a great claim on all Londoners, as it is the London Show. It is the only important show in the east, or south-east, or south, and the counties to which it belongs almost have the monopoly of the best poultry. They should be liberal contributors. The Crystal Palace caters for all tastes. "Hast thou an ailment or a grievance?" quoth Jock Pudding, incontinently; "My master, the learned Aldovraudo, hath a cure. Is any vexed with hollow teeth, smoky chimney, or scolding wife? he hath a remedy." So the Crystal Palace addresses all classes and all tastes. If tired of the crowing of cocks, music awaits you above; if sick of walking about, seats woo you in every direction; if you have seen enough of animated nature, everything that is beautiful in stateliness is at hand. Gardens, statues, music, courts, and poultry, all for 1s.! Cheap John at the fair is nothing to it.

## GAME BANTAM CLASSES.

In only three or four show lists that I have seen has there been more than one class for Game Bantams, while there have

been separate classes for Gold-laced, Silver-laced, Blacks, Whites, and, lastly, Any other variety. Now, as to the merits of the different breeds, opinions vary, though I must say I infinitely prefer the Game. But I think the numbers shown in a class ought to determine its claim to a prize. As far as I have seen, the classes would be much more equally divided as follows, in respect of number:—

## GAME BANTAMS.

1. Black-breasted and other Reds.
2. Duckwings and other Greys and Blues.
3. Gold-laced and Silver-laced.
4. Any other variety of Bantams.

The Duckwings have reached such excellence that I think they deserve a class to themselves, if any breed do so.

Perhaps, if you do not think this subject worth an article, you would let my letter appear, for I think this opinion is shared by many others, and they might be led to express it.—  
W. LAWRENSON.

[We think the suggestion deserves the attention of committees, for the entries of Game Bantams are usually more numerous than the entries of other varieties.—EDS.]

## CALNE POULTRY AND PIGEON SHOW.

OCTOBER 28TH AND 29TH.

THE second Exhibition held by this Society took place on the 28th and 29th ult., beneath a couple of tents erected on the private grounds of Mrs. Gabriel, a concession this lady kindly permitted also on the like occasion last year. Being very conveniently situated, and the grounds exceedingly well kept (so great a boon to the Committee), drew forth a most unanimous and hearty vote of thanks to the proprietor. The day previous to the opening, as also the first day of exhibition, was unfortunately of a most decidedly unpropitious character, the rain being incessant, and the temperature very low.

As the distance at present from the nearest railway station (Chippenham), is fully six miles, and very hilly, the difficulty of transporting nearly the whole of two hundred pens so far needs scarcely be told; but certainly great credit is due to the management, for with all the adverse circumstances mentioned to contend against, not a pen was wetted or a specimen injured. Neither did any delay ensue, covered spring waggons being called freely into requisition. We hear by next meeting the rail to Calne will be complete. The quality of the birds generally this year shown at Calne greatly surpassed those exhibited at the institution of the Society last year, besides which, the entries proved an increase of about thirty pens. This year two prizes were appointed for Pigeons, resulting in the gathering together of a small but very excellent collection. On turning to the prize schedule, it appears that Classes A and B were reserved especially for the competition of local exhibitors; T. H. Poynder, Esq., and Mrs. Poynder respectively offering five-guinea prizes as an inducement to agriculturists to compete. The result was a good entry. Class A was restricted to Dorkings, Spanish, Cochins, and Game fowls; the latter breed proved successful, our impression being we have seen the same birds exhibited in the northern counties previously; they were Black-breasted Reds. Class B was devoted exclusively to Rouen or Aylesbury Ducks; the Aylesbury breed readily taking precedence. All the remaining classes were open to universal competition.

In *Spanish*, Mr. Lane, of Bristol, had evidently made up his mind to show the strength of his poultry-yard, and certainly so good an entry from any one exhibitor is rarely witnessed; for, notwithstanding he had to cope with Messrs. Rodbard and Fowler, either of whom in the Spanish breed stands as a host, Mr. Lane succeeded in securing all the principal prizes. The condition of all the birds exhibited in the Spanish classes was better by far than we anticipated so early after moulting-time. Lady Holmesdale (formerly Lady Julia Cornwallis), took her accustomed position at the head of the *Dorking* class, with birds closely approaching to perfection. In Class 3, confined to Dorkings of "Any variety or age except Grey or Silver Grey," were some entries of chickens of unusually high worth, but unhappily wrongly entered. So very regular and excellent pens of chickens as those shown by Capt. Seymour, of Crowood, Hungerford, really deserve our highest expression of approval; and we understand the Judges themselves deeply regretted the unfortunate wrong entry made respecting them.

Next in order are the *Cochins*. Here Mr. Bates left anything

approaching competition far in the rear. It proved a complete "walk over," so excellent was the pen, as also to receive at the hands of the arbitrators the additional triumph of the five-guinea prize for the best pen of "Any description of poultry exhibited." The pullets are marvellously good, the "clip" of the wings surpassing anything we have seen for years past, colour and condition being perfection. The colour of the cock's hackle (which was still incomplete from moulting), we hope may improve, although we have grave doubts on this point. Should the next month bring about this desired result, we little doubt we shall find Mr. Bates' name figuring in the zenith of our prize lists for Buff Cochins during December—at least, to see their betters, will be a treat to any breeder of poultry.

In *Brahmas*, though a good entry, nothing of note occurred. Mr. Archer, of Malvern, exhibited some capital *Game* fowls, as did Messrs. Dras, Briery, and Wakefield.

The *Hamburgs* were good, but as yet barely restored from moulting.

In *Polands*, Mrs. Blay, of Worcester, stood far in advance with an almost perfect pen of Silvers; so much so as to run Mr. Bates' Buff Cochins uncomfortably closely for the five-guinea special prize; Miss Milward's Norfolk Turkeys being but slightly behindhand. Such a trio of pens must add to the notoriety of any show.

In *Bantams*, save the Silver-laced Sebrights of Mr. Bayly and Mr. Jones, and not less the single Birchton Grey Pantam cock exhibited by the well-known Mr. Forrest, of Eagle Cliff, nothing of great superiority was shown.

The *Turkeys* were capital, and the pen of Miss Milward's referred to above, contained as good a Norfolk hen as the most anxious Turkey-breeder could desire. Mrs. Fookes' second-prize pen (Cambridge breed), was most excellent, and being entered so low as five guineas would most probably never pass by unclaimed.

In *Geese* Mr. Fowler, of Aylesbury, proved beyond question his yard would still hold their superiority, Mrs. Fookes being but little in the rear. Some good Chinese Geese figured in this class, but against an overwhelming competition with the prize-takers.

Rouen *Ducks* were almost without exception good throughout an extensive class. In Aylesbury Ducks Mr. Fowler's noted pens had to cry second to those of a local exhibitor—Mr. Brinkworth, of Calne. Strange to say, that they stood ahead fully a pound when tested by scale, all three pens being perfect in other respects—so unusual a circumstance, that a second test of weighing was resorted to, as a prevention of the possibility of error, with the like result. As we believe this is the first time Mr. Fowler has fallen before the trial of weight in Aylesbury Ducks, that gentleman will do well to look to his colour; and Mr. Brinkworth, whose birds were entered at only £2 10s., may place additional value on so unexpected a success. In the class for "Any other Variety" of Ducks, Buenos Ayrean were present in strong force, and proved successful; the Decoys, both White and Grey, being very perfect likewise.

Some poultry shown as the Pheasant Malay, being, however, the Indian Game, were the best we have seen for a long time past, and shown in the most perfect possible condition.

The *Pigeons* contained some entries of newly-imported "Toys," at the present unnamed; and their classes throughout seemed very popular among visitors.

In conjunction with the general arrangements we may briefly allude to a new feature, that evidently gave the most ready of all opportunities for reference to those purchasing catalogues—viz., spaces were left in the margin when the catalogues were first printed to be afterwards filled-in when the decisions of the arbitrators were completed: thus at a single glance any intending purchaser might realise all the information he could possibly require. A completed catalogue was also posted to the address of each exhibitor by the same evening's post, and we hope this really-unexpected attention will elicit approval, and that exhibitors will show the Calne Committee how much they value it by preventing a loss to the gentlemen so doing.

Although the opening day proved a drenching rain from day-break to nightfall, the second was one of those lovely days that make all autumnal scenes so covetable; the Show was, consequently, well filled with visitors, and we trust the permanency of this Meeting is now secured.

The following is the list of awards:—

DORKING, SPANISH, COCHIN-CHINA, or GAME (A prize of Five Guineas, given by Mr. and Mrs. Poynder, of Hartham Park, and limited to Farmers).

—Prize, H. Waller, Calne (Black-breasted Red Game). Highly Commended, J. P. Coleman, Beversbrook House (Dorking, and Black-breasted Red Game). Commended, W. Bridges, Calne (Black-breasted Red Game).

ROUEN or AYLESBURY DUCKS (A prize of Five Guineas, given by Mr. and Mrs. Poynder, of Hartham Park, and limited to Farmers).—Prize, J. P. Coleman, Beversbrook House (Aylesbury). Highly Commended.—Gough, Calne (Rouen). Commended, J. P. Coleman (Rouen, and Aylesbury).

SPANISH.—First, H. Lane, Bristol. Second, J. R. Rodbard, Wroughton. Highly Commended, J. R. Rodbard. *Chickens*.—First, H. Lane. Second, J. R. Rodbard. Highly Commended, J. R. Rodbard.

DORKINGS (Grey or Silver Grey).—First, Lady Holmesdale, Linton Park. Second, C. H. Wakefield, Malvern Wells. Highly Commended, Lady Holmesdale.

DORKINGS (Any variety except Grey, or Silver Grey).—*Chickens*.—First, W. T. Everard, Bardon Hill, Leicestershire (Grey). Second, Lady Holmesdale. Highly Commended, Mrs. H. Fookes, Whitechurch (White); C. H. Wakefield. Commended, H. R. Seymour, Crowood, Hungerford.

COCHIN-CHINA.—Special Prize, H. Bates, Birmingham (Buff). Second, C. H. Wakefield, Malvern Wells. Commended, Mrs. H. Fookes, Blandford (Buff). *Chickens*.—First, W. H. Beadon, Taunton (Partridge). Second, Mrs. H. Fookes. Highly Commended, R. Adams, Harborne Heath, Birmingham (Partridge). Commended, Mrs. H. Fookes (Buff); R. H. Nicholas, Malpas (White).

BRAHMA POOTEARS.—First, J. Hinton, Hinton, near Bath. Second, W. Hargreaves, Bacup.

GAME (Black-breasted and other Reds).—First, E. Archer, Malvern (Black-breasted Red). Second, A. B. Dyas, Madely, Shropshire. Highly Commended, C. W. Briery, Roehdale. *Chickens*.—First, S. Matthew, Stowmarket, Suffolk (Black-breasted Red). Second, S. Dupe, Evercech (Black-breasted Red). Third, E. Archer, Malvern (Brown-breasted Red). Commended, J. H. Lamb.

GAME (Any variety except Reds).—First, C. W. Briery, Roehdale. Second, W. Beadon (Duckwing).

HAMBRENS (Golden or Silver-pencilled).—First and Second, C. H. Wakefield, Malvern Wells (Golden). Commended, Rev. C. W. Edgell, Easts Hill, Frome (Golden).

HAMBURGS (Golden or Silver-spangled).—First, Miss E. M. Dansey, Tetbury (Golden). Second, Lady Holmesdale, Linton Park (Silver). Highly Commended, Lady Holmesdale.

POLANDS (Any variety).—First, Mrs. Blay, Worcester (Silver). Second, J. Hinton, Hinton, near Bath (Silver).

BANTAMS (Any variety).—First, T. H. D. Bayly, Ickwell House. Second, E. Jones, Clifton (Sebrights). Commended, R. Brothwood, Bristol (Black); E. Jones (Duckwing).

ANY OTHER VARIETY.—First, P. P. Cother, Salisbury (Pheasant Malay). Second, J. R. Jessop. *Chickens*.—Mrs. Blay, Worcester (Silver). Second, G. Ray, Minestead (White-crested Black Polands). Third, R. H. Nicholas, Malpas (White Silkies). Highly Commended, J. Hinton (Brahmas); J. Pares, Chertsey (Light Brahmas). Commended, J. K. Fowler, Aylesbury (Brahma Pootars); Lady Holmesdale (Silver-spangled Hamburgs); R. H. Nicholas (Black Hamburgs and Coloured Silkies).

TERKEYS (First, Miss J. Milward, Bath (Black). Second, Mrs. H. Fookes, Blandford. Commended, J. Tanner.

GEESE.—First, J. K. Fowler, Aylesbury. Second, Mrs. H. Fookes, Blandford. Commended.—Brown, Blackland Park (Chinese).

DUCKS (Rouen).—First and Second, T. R. Hulbert, Badgenden, Cirencester. Commended, H. Garlick, Chippenham; Mrs. H. Fookes.

DUCKS (Aylesbury).—First, J. O. Brinkworth, Calne. Second, J. K. Fowler, Prebendal Farm. Highly Commended, J. K. Fowler.

DUCKS (Any other variety).—First, E. C. Phillips, Chippenham (East Indian). Second, J. Phillips, Calne (White Decoy). Commended, T. H. D. Bayly, Biggleswade; J. R. Jessop, Hull (East Indian).

GAME COCKS.—Prize, W. T. Everard, Bardon Hill House. Commended, J. Keable, Newbury (Black-breasted Red). *Cockerels*.—Prize, S. Matthew, Stowmarket, Suffolk (Black-breasted Red). Commended, A. B. Dyas, Madeley, Salop.

GAME BANTAM COCKS.—Prize, W. S. Forrest, Greenhithe.

SINGLE COCKS (Any variety except Game, or Game Bantams).—Prize, H. Lane, Bristol (Spanish). Highly Commended, Lady Holmesdale.

POROUS.—*Carriers*.—First and Second, Major F. C. Hassard, Hilska (Dun and Black). Highly Commended, A. L. Sylvester, Birmingham. *Pouters*.—First, H. Yardley, Birmingham. Second, A. Heath, Calne. *Tumblers*.—First, A. L. Sylvester. Second, F. Elsc, Westbourne Grove, Bayswater. *Fan-tails*.—First, P. Elsc. Second, Miss J. Milward, Bath. Highly Commended, H. Yardley. Commended, Hon. and Rev. E. Talbot, Evercech, Somerset. *Any other Variety*.—First, A. L. Sylvester. Second, H. Yardley. Highly Commended, W. H. Beadon, Taunton (Turbits); A. L. Sylvester; A. Heath, Calne (Isabels). Commended, W. H. Beadon (Black Magpies and Porelains); A. Heath (Isabels).

Mr. Edward Hewitt, of Sparkbrook, Birmingham, and Mr. G. S. Sainsbury, of Devizes, were the Judges.

## FROME POULTRY EXHIBITION.

THE third annual Exhibition of poultry in connection with the Frome Agricultural Society's Show was held on Wednesday the 15th ult., and though the number of entries was not large, the quality of the birds exhibited was vastly superior to any previous show. This is in a great measure to be attributed to the competition having been thrown open this year, whereas last it was confined to the district.

Game fowls headed the list, the first prize going to a pen which had travelled from Roehdale, and in spite of their long journey they appeared in good condition and obtained an easy victory; Mr. Elling being second with another pen of Black Reds. In *Spanish* Mr. Rodbard was again triumphant, taking both prizes with two of his well-known good pens. Mr. Muspratt's highly commended pen of chickens are very promising, but scarcely old

enough for competition. *Dorkings* were represented by two pens only, the first prize going to a noble-matched pen of chickens, but they were small. The Silver-pencilled *Hamburghs* were not particularly good, as sufficient attention had not been paid to the selection of birds with good combs and earlobes.

The two prizes given for *Ducks* of "all breeds" produced a very spirited competition, the first prize going to a very good pen of *Rouens*, the second to *Aylesburys*; whilst two beautiful pens of East Indian had to be content with high commendations. The pen of this breed exhibited by Lady Bath were small and of a beautiful colour, but it is hardly fair for these to have to compete with the larger varieties.

The prize pens of *Turkeys* and *Geese* were very fine.

In the "extra class" was exhibited a very pretty pen of Gold-pencilled *Hamburgh* chickens.

The weather was not favourable, the attendance therefore was not quite so large as might have been wished; but, as is usually the case to the most of those who were there, the poultry appeared to be the greatest attraction.

**GAME.**—First (the gift of the Rt. Hon. the Countess of Cork) C. W. Brierley, Rochdale, Lancashire. Second (given by the Society), Miss A. Elling-Sutton Parva. Commended, W. Harding, Marston.

**DORKINGS.**—First (the gift of the Rt. Hon. the Countess of Cork). E. Baily, Caloe. Second (given by the Society), J. Card, Norton Ferris.

**SPANISH.**—First and Second (the gift of the Rt. Hon. the Countess of Cork, and the Society), J. L. Rodhard, Wrington. Commended, J. Muspratt, Hovebury.

**HAMBURGHS.**—(Silver-pencilled).—First (the gift of the Rt. Hon. the Countess of Cork),—Grant, Spring Gardens. Second (given by the Society),—Porteous, Marston.

**DUCKS** (Any breed).—First (the gift of the Rt. Hon. the Countess of Cork),—Coleman, Calne. Second (given by the Society), Marchioness of Bath. Longleat. Commended, Capt. Edgell, Northfield House; The Marchioness of Bath, Longleat; E. Pointing, Whatley.

**GEESE.**—First, Marchioness of Bath, Longleat. Second, I. Cox, Whatley. Commended, I. Cox, Whatley; S. Giblett, Bollow Farm; Marchioness of Bath, Longleat.

**TURKEYS.**—First, Miss Millward, Newton Street, Loc. Second, Marchioness of Bath, Longleat.

The Judge was Mr. George Saunders Sainsbury, of Devizes.

## COLLINGHAM POULTRY SHOW.

THIS Show affords an example of what may be done by judicious management, even in a locality removed from any large or populous town. Collingham is a very large agricultural village, having a flourishing farmers' club and an annual ploughing match. The Poultry Show is held on the same day as the latter, and is always well attended. The tent and pens are the property of the Committee, so that the expenses are not much more than the prizes, and the result is that there always remains a balance on the right side of the ledger. The prizes are open to general competition, and as the birds are kept only one day, very good fowls are entered for competition.

The Show is always strong in the *Game* classes, as might be expected in a locality where so many *Game* cocks are kept, and where they have so often to prove their merits by the most practical of all tests. Amongst the Black and Brown Reds, the first prize was awarded to a Brown Red pen of Mr. Doncaster's. The cock was one of the finest birds we have seen for some time, hard, close-feathered, muscular, the very picture of strength, courage, and activity. The same exhibitor also took first in *Duckwings*. In the *Game Bantams* the competition was remarkably strong, the prizes being divided between two splendid pens, one of Black Red belonging to Mr. Harvey Bayly, and the other of *Duckwings* from Mr. Hawksley. Mr. Cann's highly commended pen of *Duckwings* had one of the best-coloured cocks ever exhibited, but he was somewhat heavier than the winner.

In *Aylesbury Ducks*, the winning pen of Mr. J. Smith's contained two of the largest birds that we have ever seen. They were claimed at six guineas a few minutes after the sale opened.

The single *Game cock* prize was awarded to Mr. Swift, who also took the cup for the *Game Bantam cock*, with one of the best-marked, smallest, and handsomest little Brown Reds that were bred.

In *Pigeons*, Collingham Show has always been superior to every other local country exhibition. Birds that have there gained their first honours have always added to them at Birmingham and Halifax; and this will, doubtless, be the case the present season. The first prize for *Carriers* went to a very good stylish pair of Duns from Mr. Sylvester. The first *Powders* were from Mr. Simpson, of Newark, who, though not a frequent exhibitor, possesses a large and valuable stud of these birds. In

Short-faced Mottles, the first went to Mr. Oates' well-known Reds, that won here last year, and again at Birmingham; in colour, marking, head, and beak, these birds are exceptionally good. Mr. Edge won in *Balds*, with a Short-faced pair of unusual excellence. Ten pens of *Owls* were shown. A pair of *Blacks* were highly commended, but the prize went to an exquisite pen of *Whites*, belonging to Mr. Else, that also took the medal for the best pen in the Show. Mr. Oates exhibited in *Trumpeters*, consequently it is needless to say that the winners were very good. Mr. Key's second-prize *Blacks* were the best we have seen of that colour. In the "Other variety" class there was a very strong entry of first-rate birds. Mrs. Domenichetti's pair, which may be described as miniature White Toy *Owls* with black tails, were excessively pretty and very short in face. Mr. Sylvester won the second with a pair of Short-faced White birds with peculiarly-coloured chequered wings. The third went to a good pair of silver-chequered rock-headed, that under the name of *Icelanders* took first at Sheffield and the Crystal Palace. The fourth to a very good pair of *Blaue Priests* with white bars.

The Judges were Mr. Challoner, of Burnt Leys, and Mr. Tegetmeier, of Muswell Hill.

We append the prize list.

**SPANISH.**—First, A. Brahamon, Swinderby. Second, Miss C. George, Beeston Podge, Notts.

**DORKING** (Any colour).—Prize, H. Child, Birmingham.

**COCHIN-CHINA** (Cinnamon and Buff).—Prize, J. Staley, Collingham.

**COCHIN-CHINA** (Any colour).—First,—Chase, Birmingham. Second, J. Staley (Partridge).

**GAME** (Black-breasted and other Reds).—First, J. Doncaster, Ollerton Hill, Southwell. Second, R. Swift, Southwell. Highly Commended, H. Mantell. Commended, T. Carless, Hoveringham, Notts.

**GAME** (*Duckwings* and other Greys and Blues).—First, J. Doncaster. Second, J. Parker, Barber Nook, Crooke Moor, Sheffield. Third,—Staley. Highly Commended, T. Carless.

**GAME** (White and Pile or any other variety).—First and Second, J. Cann. Highly Commended, J. Smith. Commended, J. Cann.

**HAMBURGH** (Gold-spangled).—Prize, W. Cannan, Adolphus Works, Bradford.

**HAMBURGH** (Silver-spangled).—First, W. Cannan. Second, J. P. Carter, Long Bennington. Highly Commended, J. Cann.

**HAMBURGH** (Golden-pencilled).—First, P. W. Bowne, Bull Bridge, Derby. Second, W. Cannan. Highly Commended, P. W. Bowne.

**HAMBURGH** (Silver-pencilled).—First, W. Cannan. Second, H. Marshall, Cotgrave, Notts. Highly Commended, E. Cope.

**BANTAMS** (Gold and Silver-laced).—First, Master R. Swift. Second, R. M. Stark.

**BANTAMS** (Game).—First and Second divided, T. H. D. Bayly; R. Hawksley, jun., Southwell. Highly Commended, J. Cann.

**BANTAMS** (Black, White, or any other Variety).—First, T. H. D. Bayly. Second, Rev. S. Reynolds Hole (Black). Third, W. Cannan.

**DUCKS** (*Aylesbury*).—First and Second, J. Smith.

**DUCKS** (*Rouen*).—First, W. Cannan. Second, J. Cann. Third, J. Bradwell.

**DUCKS** (Any other Variety).—First, R. M. Stark (Black East Indian). Second, Mrs. Cooper. Third, T. H. D. Bayly.

**BARNDORF FOWLS.**—First, R. Cooper. Second, W. Wright. Third, S. Decket, Collingham.

**GAME COCK** (Any colour).—First, R. Swift, Second, J. Fletcher.

**GAME BANTAM COCK** (Any colour).—First, R. Swift. Second, T. H. D. Bayly. Third, J. Cann. Highly Commended, C. Anklard; J. Cann. Commended, T. H. D. Bayly.

**PIGEONS—Carriers.**—First, A. Sylvester, Birmingham. Second, W. Cannan. *Powders.*—First,—Simpson, Newark. Second, W. Cannan. Highly Commended, H. Yardley, Market Hall, Birmingham. *Almond Tumblers.*—First, A. Sylvester. Second, H. Yardley. Highly Commended, W. Cannan. *Short-faced Moths.*—Prize, W. H. C. Oates, Besthorpe (Reds).

Second, F. Else, Westbourne Grove, Bayswater. Very Highly Commended, J. Percival. *Balds or Beards.*—First, J. W. Edge. Second, W. H. C. Oates. *Tumblers* (Any other variety).—First, Mrs. Oates. Second, A. Sylvester. Highly Commended, J. Percival; W. Cannan. *Barbs.*—First and Second, A. Sylvester. *Jacobins.*—First, W. H. C. Oates. Second, W. Cannan. Commended, F. Else. *Owls.*—First, F. Else. Second, F. Key, Beverley. Highly Commended, W. H. C. Oates, Besthorpe; W. Cannan. *Trumpeters.* First, W. H. C. Oates. Second, F. Key. Highly Commended, W. H. C. Oates. Commended, Mrs. Oates. *Turbits.*—First, W. Cannan. Second, F. Else. Highly Commended, W. H. C. Oates. Commended, F. Else. *Fantails.*—First, W. Cannan. Second, J. W. Edge. Any other variety.—First, Miss Domenichetti (Black-tailed Owls). Second, A. Sylvester. Third, H. Yardley (Icelanders). Fourth, R. Swift (Priests). Highly Commended, A. Sylvester. Commended, Miss Domenichetti (Isabells); F. Key (Dunts); G. Boothby (Victorias); W. Richards (Magpies).

## POWLS ATTACKED BY ROUP.

SEVERAL of my fowls have a running at the nostrils with a frothy appearance at times. When first attacked, they appear very red about the head with much heat there, and they make a sound in their throats as if they were obstructed with phlegm; one so diseased which we killed had scarcely any lungs left. It seems to be infectious, and the young fowls especially suffer from it, and waste away in flesh very rapidly. Food—oats, barley, potatoes, and bran, &c.—J. W. D.

[Your fowls are suffering from roup. Either use Bailey's pills

or give them castor oil freely, a tablespoonful to every bird every other day. Feed on stale crusts of bread steeped in very strong ale, and keep them in a dry warm place. Separate all the sickly from the healthy birds. Feed on ground oats and barley. A few potatoes for a change once per week, not oftener. They do not want brsn.]

## TERMINATION OF THE LEEDS AND WEST-RIDING

### HORTICULTURAL AND POULTRY SHOW.

THIS Society, which was ushered forth as being under the patronage of the distinguished noble and aristocratic families of the county, and of several of the most influential gentlemen of this district, wound up its speculation on Thursday, in the Leeds County Court, before Mr. T. H. Marshall, the Judge, under the following circumstances. An action was brought by Mr. B. W. Sharp, of Briggate, printer, against George Newton, son of Mr. Councillor Newton, and John Wade, the Hon. Secs. of the Association, to recover £6 6s. for the printing done by the plaintiff for the Association, in connection with the Exhibition held in the Music-hall, in July last. Mr. Grainger appeared for the plaintiff, and proved that the order for the work was given by the defendants and a person named Holdsworth, and that the order was executed. Mr. Simpson appeared for George Newton, who pleaded infancy, thus throwing the whole responsibility upon the defendant John Wade. Mr. Ferns, who represented Wade, said, if Mr. Councillor Newton, father of Mr. Simpson's client, and one of the Vice-presidents of the Society, would pay the sum of £15 which had been handed over to him out of the funds of the Association, as he (Mr. Ferns) was instructed, the action would be settled. His Honour strongly urged that, with such a list of patrons, the action should be settled. Although the plea of infancy, if proved, might protect the defendant Newton against the responsibility in law, yet in honour he had entered into the undertaking, and the printer ought to be paid. Mr. Councillor Newton was called, and proved that his son was only eighteen years old. In answer to Mr. Ferns, he said that his son had paid £107, and had only received about £60. This however, was denied by Wade. His Honour said that, as between the plaintiff and the defendant, that was no answer. The verdict must go against Wade for the amount, less 15s. 6d., ordered by a person named Holdsworth, one of the previous Secretaries. Wade stated that he had not received one penny of the funds.—(*Leeds Mercury*.)

[Although we regret very much that the Leeds and West Riding Show was a losing speculation, yet out of that evil, as usual, a good has arisen, for it has afforded an opportunity to a man with sufficient spirit to demonstrate, by obtaining a legal decision in his favour, that the committees of such shows can be compelled to liquidate the debts they voluntarily incur in furtherance of their speculations.

We hope it will teach the committees of such exhibitions, what ought not to require to be taught them—that not only in honour but in law they are bound to pay all just demands connected with such exhibitions, whether such exhibitions are remunerative or unremunerative.—Eds.]

## BEE SEASON IN BERWICKSHIRE.

I PURPOSE giving a brief outline of our bee season in this locality (Berwickshire) with its results. We bee-keeping Britons to the north of the Tweed, after two unfavourable seasons, were rather elated to find the remnants of our stock, which we had fostered and fed with no little care and expense during the last winter, enter the spring generally in a very healthy state. Although in not a few instances slack of bees, yet with the spring so favourable for their increase in the end of May, they were generally in a forward state for the time of year, and in a very few instances swarms issued in the end of May. However, our prospects were doomed to be but shortlived, for early in June the weather suddenly changed, when it set in a continuation of cold ungenial winds, with an almost uninterrupted absence of sunshine, and what with wet and cold, which continued during June, July, and the early part of August, this proved a most disastrous ordeal. At its commencement the hives generally were getting completely filled with brood in an advanced state, besides having their complement of royal larva in the cells,

indicative of their intentions of giving their possessor an addition to their stock. The change of weather, however, overtaking them at this stage, caused a complete cessation of breeding ere a week or two had passed, and the workers got into a very listless state. Those of them which ventured abroad in a great many instances never returned to bring in their report to their respective hives; it being quite a common occurrence for weeks together to find the grounds adjoining the apiary literally strewed with benumbed bees, which had been overtaken with the cold during their flight; and this could not be attributable to weakness from the want of food, as those which happened to be well stored with food shared the same fate. It could easily be foreseen what such a constant thinning of their numbers would result in. Evidently on finding that they could neither supply the brood with warmth nor food, they instinctively commenced an onslaught on the larva at the various stages, including queens, and cast them overboard in great numbers, almost invariably beginning with those at the under side of the combs, and gradually working up as their numbers decreased. Of course bee-keepers who fed liberally partly prevented the brood from being destroyed, but could in no way prevent the constant thinning of the adults. And ere a few weeks passed hives that had been hanging out from overcrowdedness were found to be entirely silent at evening, not even a hum could be heard at the entrance; and owing to the lowering of the atmosphere both internally and externally in not a few instances large quantities of the brood were perished in the combs, the evil effects of which will not be fully ascertained until the ensuing winter. We know of several instances where the combs have been taken out when discovered as the only likely way of saving the hives.

The effects of such a lengthened testing ordeal may easily be conceived; fully one-third of those which promised well at the beginning of June were dead in the end of July, there being neither heat nor food either out or in, both of which are so essentially necessary for their prosperity in midsummer: consequently, the beginning of August found our hives materially lighter than they were ten weeks before, and, as a matter of fact, the most hopeful were beginning to get hopeless now.

It may be stated that in this locality during last summer there was an almost entire absence of clover, as well as a like scarcity of other honey-producing flowers; the bloom on the heath on the Lammemoors was little better, there being little or no new growth on the heath on the open exposed moors, especially where the soil was to any extent composed of moss or other damp soil. To use the expression of a shepherd, who had passed some fifty summers on the moors, in answer to the remark, there is evidently going to be little or no bloom on the heather this season, his reply was, "It's na wonder, for this summer's been over could even fer growin' heather;" and the only exceptions were in the sheltered dells, where the subsoil was more dry than the open mossy moors: consequently hives placed in such localities, with favourable weather, still had the prospect of gaining a supply for winter use, as the idea of looking for an extra supply of honey was now out of the question. However, for about two days, from about the 20th to the 31st of August, a very considerable increase was made in weight. This being the only time during summer in which they might be said to have wrought well. About the above last-mentioned date a strong frost for several nights in succession destroyed the remainder of the bloom, a quantity of which on the tops of the stalks did not open at all. The bees again resumed the lethargic state which they had assumed during the greater part of summer, and bee-keepers consider themselves fortunate under the circumstances who have the remainder of their hives weighing from 20 to 30 lbs., as, with a little care, they still have the prospect of preserving a stock for the future, although there is no doubt but that autumn finds Scotland with fully one-third fewer hives than spring, and the greater proportion of them also but scantily supplied with inhabitants. However, it is to be hoped that with favourable seasons they will again rally, and become as numerous as heretofore.—JAMES SWAN, *Dunse*.

## HONEY HARVEST ON THE LANCASHIRE MOORS.

I AM afraid you will not receive very favourable accounts from Lancashire, as to the amount of honey made this year by hives sent to the moors.

I sent one hive, an early and strong swarm of this year, on

the 12th of August, and received it back on the 22nd of September, only 1 lb. heavier than when it left.

About fifteen hives went from this neighbourhood to the same place (near Bolton), and I do not hear that any of them have done much better. I believe very few have gained any weight, and some have lost as much as 3 lbs. or 4 lbs. I suppose the rain, and the little bloom this year on the heath, is the reason of this bad luck.

The place to where the hives were sent appeared as good as could be desired, for close by was a large extent of moor entirely covered with heather.

I hope others of your correspondents may have a better account to give, and that the same bad fortune may not happen another year to—A LANCASHIRE PARSON.

## HONEY HARVEST ON THE EAST LOTHIAN MOORS.

THE following account of the honey gathered by our bees when at the moors here (East Lothian, N.B.) may be interesting to your correspondent "A. W." and others.

They were taken to the heather on the 16th of August, and brought home on the 17th of September. They were weighed when sent away, and again when they returned, and were as follows, not including weight of hives, only the bees, comb, and honey.

	Weight when sent to the heather.	Weight when they came from heather.
	lbs.	lbs.
No. 1. A Ligurian, received from Mr. Woodbury, and noticed in former Numbers of THE JOURNAL OF HORTICULTURE	25	41
No. 2. Eight-bar combs, taken from No. 1, with common black bees added	20	21
No. 3. Six combs taken from No. 1, with common bees added	14	21
No. 4. Took bees of, for No. 2 had not swarmed	31	37
No. 5. Got two swarms from this	27	33
No. 6. A first swarm of No. 5	22	38
No. 7. A second of No. 5	20	37
No. 8. Did not swarm in 1862. A young queen of 1861	34	50
No. 9. Did not swarm in 1862	33	48
No. 10. In one of Neighbour's cottage hives, and from which we took the bees for No. 3, Ligurian	21	32

It will be seen from the above statement that, notwithstanding the bad season, they have done wonders, and I only know of another person in all this neighbourhood who has done equally well. He had nine at the moors, and got five tops or supers weighing in all 40 lbs., and has now six stocks remaining. I took four supers, weighing 32 lbs. in all, from the above, and had ten stocks remaining, all in good condition, some with more honey in them than I wish, but being in common straw hives I cannot take it out.

With the exception of these, all the others in this district have done nothing, and many have died while at the moors, and of those brought home few will survive the winter. In places on the moors where there used to be four hundred hives in former years, this year there were about sixty. Some old bee-keepers who had a stock of thirty and forty have lost the whole, and say they will not keep them again. It may be asked how it is that ours have been so comparatively successful. I may state that, during the wet summer here, when they could not get out to look for food, we fed them with sugar and honey, and so kept up the breeding. When they got to the moors they were comparatively strong in bees, and were able to take advantage of any fine weather. They made all the excess of honey in ten days. Had the weather and heather remained good they would have increased very much.

It will be seen from the above statement that No. 2, the first artificial Ligurian, has not done so well as No. 3, the second I made, which was ten days later, and had only six combs given to it, while No. 2 had eight, and both about the same number of black bees. The reason of this was that the young queen, which was hatched in No. 2, only laid drone eggs. Seeing this, I added another bar-frame of young brood from No. 1 on the 9th of August that they might rear another queen. On the 23rd of August I introduced other two combs into No. 2 while they were on the moors, not being satisfied with its appearance, and again on the 8th of September other two. When we examined them on the 27th of September we found young brood in No. 3, but none in No. 2. We looked again on the 13th of October,

and found brood in both. In No. 3 numbers were sealed-up in worker-cells, but in No. 2 they were new-laid, so that I cannot be certain yet that they are not drone eggs, as I have found the queen to lay drone eggs in worker-cells, and the weather has been so unfavourable that we could not examine them since.

I have every reason to be satisfied with the Ligurians I obtained from Mr. Woodbury. The queen must be extremely prolific, I having taken such a number of bars from her all full of brood; and I can still bear testimony to all I said in their favour in a former communication, with the exception of their docility—they are perfect savages, especially the old ones, so much so that we are almost afraid to touch them in any way.—ALEX. SHEARER, *Yester Gardens.*

## PUTTING STICKS INSIDE HIVES.

IT has often been recommended in THE JOURNAL OF HORTICULTURE not to put sticks across a hive; but your humble servant once, having but two, lost the best by the comb giving way with the weight of honey, and the bees were completely smothered in their own honey and destroyed, so that all the advice I can receive will not make me adopt the plan again. My way is this: after the bees have commenced making their comb, I thrust one stick crossways of the comb, about 4 inches from the bottom, leaving an inch or two on the outside of the hive, which can be laid hold of with a pair of pincers, turned round, and pulled out.—G. C., *Gloucester.*

[Our correspondent does not state why the combs fell in the case to which he refers, but we may pretty safely assume that the accident arose from one of two causes. They either collapsed from excessive heat, or were shaken down by rough usage. Now, we once lost a stock from the former cause, but instead of resorting to the use of cross-sticks (which, moreover, would not even have palliated the evil), we determined to take care to keep our hives cooler in future. We have also had an occasional comb drop during the removals to the heath. This is, in fact, the only valid reason that can be urged for their adoption. In large apiaries where periodical removals to and from the moors take place, it may be difficult if not impossible to take sufficient care altogether to avoid accidents, and in this case the use of cross-sticks may be admissible as the lesser of two evils. That they are an evil no one can doubt who has been in the habit of observing the proceedings of bees within their hives, and the manner in which an apparently trifling obstacle or irregularity will often interrupt or thwart the breeding powers of the queen. The mode which our correspondent adopts is probably as little obnoxious as any that can be suggested.]

## QUEEN BEE'S AGE OF FERTILITY.

IN reply to the query of "A. T.," at page 601, and in confirmation of the remarks of "A DEVONSHIRE BEE-KEEPER," I believe that the time which intervenes between the birth of a queen and the laying of her first egg, varies very considerably, according to season, and the influence of weather and temperature.

Having raised a large number of artificial queens during the last two seasons, I have been able to notice a great difference in the egg-laying age of the queens, even in cases subjected to the same influences. Three boxes were started with royal cells just sealed-up, and cut out from another stock on the same day. Two of them possessed newly-deposited eggs in about seventeen days; but in the third, after the lapse of a month, no eggs were visible. As, after a searching investigation on two separate days, no queen could be discovered, I determined to unite the hive to another, but when on the point of lifting out the frames for that purpose, I caught a sight of her. The frames were returned to their box, and the intention of breaking-up the stock relinquished. In a few days subsequently, the first batch of eggs was deposited, so that five weeks must have elapsed, in this instance, from the time the sealed cells were placed in the hive until the queen commenced egg-laying.

Again, in another hive, earlier in the season, the weather being warmer, I do not think ten days had elapsed before a young queen, given to me the day after its birth by Mr. Woodbury, had filled a large space of comb with eggs.

But the most singular instance of an opposite character to the last, occurred in a stock which lost its queen on the 20th of

September, 1861. Royal cells were immediately commenced, and a young queen hatched-out some time about the 1st of October. I had not a single drone in my apiary; therefore, the hive was sent out to a garden in the close vicinity of Mr. Woodbury's bees, he having still a few left. Although the hive was closely examined several times between that date and February of the following year, yet never could I discover a single egg, and expected nothing more than to find the bees dwindle away, or the queen take to laying the eggs of drones only. It suggested itself as possible that impregnation might have taken place in the autumn, late as it was, and that the queen had the power of withholding any eggs until the spring; but I must confess it hardly appeared probable that such should be the actual state of the case, and I was very agreeably surprised to find on a subsequent inspection, that she had not only been duly impregnated, but was in reality a very prolific breeder, for in March there was an immense quantity of brood in all stages of development.—S. BEVAN FOX, *Exeter*.

### BIRDS FOR AN AVIARY.

To gratify the taste of a helpless invalid, whose amusements are necessarily very limited, some information respecting aviary birds is earnestly solicited. A roomy, ornamental cage, sufficiently portable to be lifted by two persons, to occupy a stand nearly filling an ordinary drawing-room window, is desired; and the description of such birds as will afford pleasure from their form, colour, and song, is wished. One or two Canaries only could be tolerated, as their song would be too loud, with, perhaps, the same number of Linnets and Goldfinches. Would Lovebirds, Australian Grass Parquets, Java Sparrows, and Bullfinches agree with them? and could Grey and Scarlet Cardinals be safely added? The writer is aware that many interesting but less known birds are to be purchased in London, and descriptions of and information respecting them are desired. The inquirer is not ignorant of the management of birds in separate cages, but fears that a pugnacious character may be developed when many of his favourites are united in one general domicile.

He is induced to take this opportunity of asking if any of the ornithological readers of the *Journal* are acquainted with the St. Helena Canaries. He had three, two cocks and a hen, but has lost all but one of the former; they are charming cage birds, and their soft notes, somewhat resembling a Lark's, would not distract the most sensitive ear. The cock birds are of a subdued greenish-yellow, delicately shaded, the hens nearly as dull as a Sparrow. They refused to breed either with their own mate or a home-bred hen Canary, and appear to be very delicate, as the writer has only one cock bird left. Bullfinches appear to be particularly fond of the seed of the wild hedge mustard, called in Devonshire "charleek;" but, as it is rare in the writer's district, he wishes to know if white mustard seed will answer as well.—A DEVONIAN.

[The forms of aviaries are so numerous, that it would be loss of time to give a description of one most suitable for a room; it must, in a great measure, depend on the size of the window and also of the apartment. One about 7 feet long, 3 feet wide, and high in proportion, with a dome in the centre and at each end, would be a convenient size, and would hold about fifty small birds.

British birds, in our opinion most suitable for such an aviary, are the Goldfinch, Linnet, Redpoll, Siskin, and Canary; and those of the foreign birds most desirable for beauty of plumage and interesting habits, and which would live sociably with the above, are the Diamond bird, South African Canary, Broad-tailed Whidah bird, Australian, African, St. Helena, Orange, and the exquisite Zebra Waxbills and Silverbeaks, and the Firefinch, which is of a most brilliant colour.

There are, also, some very pretty Avadavats, which are very small but most beautifully pencilled: these would all agree together extremely well.

When there is a large number of birds associated, attention is necessary to see if there be any of a pugnacious disposition, and if so they should be taken away immediately. All the birds named can be purchased of Mr. Hawkins in Bear Street, Leicester Square.

The little Australian Grass Parquet might be safely added. The Java Sparrow sometimes turns out mischievous, but by watching it could soon be ascertained if they agree. Lovebirds

and Grey and Scarlet Cardinals would not harmonise with the other small birds.

A variety of food should be given in order to suit the taste of each bird, consisting of canary, hemp, rape, and millet; the last-named is most essential to foreign birds.

The St. Helena Canary is, we believe, the wild Canary of the Canary Islands: it is rarely to be purchased here. White mustard seed is not good for birds, as it is of too hot a nature.]

### MIXING VARIETIES IN ONE CLASS.

ATTENTION having been called to this important point, if you do not consider that enough has been said on the subject, I would add a word on behalf of the Pigeon classes; for, although not so important as fowls in point of utility, they add much to the appearance of a show, and afford an innocent pastime to many, who, from want of space, are unable to keep fowls.

The birds I would speak in behalf of are Blue Carriers. It is well known that they cannot compete in the same classes as the Blacks and Duns, being somewhat inferior in points; and yet, with the exception of Halifax and the Crystal Palace, they never get a chance: consequently, exhibitors must soon give them up. This will be much regretted, especially by the ladies, who, I have remarked, generally prefer the beautiful colour of these birds. I am quite convinced that if a class was added for them it would be well filled, as all Carrier-fanciers had the difficulty of showing in pairs, and prefer the single bird-lists; but as Blue is paired with Blue, this difficulty is overcome. Many splendid specimens of this variety are to be found in England, but it is hardly to be expected they will be continued if no encouragement is given to them at poultry shows.—BLUE CARRIER.

GLUE FOR READY USE.—To any quantity of glue use common whisky, gin, or other spirit, instead of water. Put both together in a bottle, cork it tight, and set it for three or four days, when it will be fit for use without the application of heat. Glue thus prepared will keep for years, and is at all times fit for use, except in very cold weather, when it should be set in warm water before using. To obviate the difficulty of the stopper getting tight by the glue drying in the mouth of the vessel, use a tin vessel with the cover fitting tight on the outside to prevent the escape of the spirit by evaporation. A strong solution of isinglass made in the same manner is an excellent cement for leather.

### OUR LETTER BOX.

WARNING.—We have received several letters giving details of a man calling upon some of our breeders of the best exhibition fowls, representing himself to be some other well-known breeder of poultry. In every instance he managed to assume the name of some one unknown to the gentleman he called upon; and conducted himself so circumspectly, and evinced such a knowledge of poultry, as to deceive, in every instance, those he has called upon, and under various pretences to swindle them out of money. In each case he borrowed the money.

FOOD FOR BANTAMS (*R. B.*).—Your feeding is very good. There is nothing better than ground oats, and the ground barley is a good change. We do not think the cayenne necessary. The only extra feeding should be the scraps from your breakfast, luncheon, and dinner table, and now and then the cooked knuckle of a leg or shoulder of mutton, chopped very fine.

CINNAMON COCKIN-CHINAS (*T. Y.*).—A dark Cinnamon cock can be shown with Silver Cinnamon hens. As the classes are for Cinnamon and Buff, there is no doubt he might be shown with Buff hens. He would not be disqualified, but his chance of success would be very small. A dark Cinnamon cock will breed beautiful chickens with Buff or Silver hens, especially with the former.

WHAT QUANTITY OF FOOD DO POULTRY REQUIRE? (*A. P.*).—This question has been repeatedly answered in our columns by some of the best practical poultry-keepers, and they all agree that no specific quantity can be assigned. Not only do the varieties differ in the amount of food they require, but individuals of the same variety differ in the quantity they need, and the same fowl will eat more during one day than it will during another. The best mode of giving no more food than fowls require is to scatter it before them, a little at a time; and so soon as some of the fowls go away, and the others do not run eagerly after the morsels, or grain, scattered, then have they all had enough at that time.

HOOPED BELGIAN CANARIES (*G. C.*).—First-class birds, such as you require, are about 50s. or 60s. a-pair, with good plumage, fit for showing, can be purchased at Mr. Hawkins, Bear Street, Leicester Square.

PARROT MOULTING (*A Constant Reader, Ross*).—Your bird is moulting. Do not give it at any time hempseed, for it is very heating. Your other food is correct; but you may also give bread softened with milk, and any fruit the bird will eat. Above all let it have a bath daily. Fill a soup-plate with tepid water, and let the bird bathe in it. If the bird does not take to the bath, pour the tepid water over it through the rose of a small watering-pot.

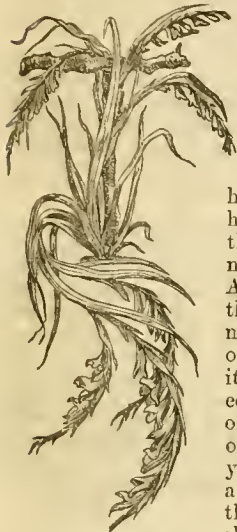
WEEKLY CALENDAR.

Day of Mnth Week.		WEATHER NEAR LONDON IN 1861.														
NOVEMBER 11—17, 1862.		Barometer.	Thermom. degrees.	Wind.	Rain in Inches.	Sun Rises.		Sun Sets.		Moon Rises and Sets	Moon's Age.	Clock after Sun.	Day of Year.			
						m.	h.	m.	h.	m.	h.	m.		h.		
11	Tu	Citriobatus multiflorus.	29.631—29.545	54—24	W.	.01	13	af 7	15	af 4	4	8	19	15	49	315
12	W	Correa speciosa.	29.730—29.677	46—28	S.W.	.08	15	7	14	4	9	9	20	15	41	316
13	Th	Corouilla glauca.	29.637—29.912	43—34	N.E.	1.16	17	7	12	4	18	10	21	15	33	317
14	F	Cytisus Attleana.	29.280—29.276	48—32	W.	.03	18	7	11	4	26	11	22	15	24	318
15	S	Daphne indica.	29.489—29.421	47—17	N.W.	—	20	7	9	4	morn.	—	23	15	14	319
16	SUN	22 SUNDAY AFTER TRINITY.	29.582—29.552	43—24	W.	—	22	7	8	4	37	0	24	15	3	320
17	M	Echeveria Scheerli.	30.047—29.837	34—14	W.	—	24	7	7	4	49	1	25	14	52	321

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 49.2° and 34.7° respectively. The greatest heat, 63°, occurred on the 12th, in 1841; and the lowest cold, 15°, on the 16th, in 1841. During the period 133 days were fine, and on 112 rain fell.

CHRYSANTHEMUMS, AND CALCEOLARIA CUTTINGS.

MR. BIRD'S, GREEN LANES, STOKE NEWINGTON.



HERE is nothing, perhaps, more really and more perfectly attended to, from first to last, than the business of a practical man when he himself superintends it, and can do any turn in it with his own hands as handily as any hand in that line he could hire to assist him. Yes, there is another turn which could make the thing more real still. And pray what may that thing be the reader may inquire. Well, you must ask "D., Deal," what that one thing can be, for he has seen it often over in France. You recollect Madame Laffay Rose, the oldest and yet the very best of all our very late blooming Roses; if you have it on its own roots, and allow it a place near a wall facing the south, and let the yearly shoots attain to 5 feet, 6 feet, or 7 feet, or even more, in the early

part of the season, it will give a crop of as good blooms in November and December as any of the Perpetuals would do in the end of September. Well, when the Rose Madame Laffay came out first, Mr. Rivers declared it would turn out just what it has proved, and told us the reason why it must be so. He said, that over in France the Rose-growers' wives assisted in cultural operations; and as wives all over the world are sharper than their husbands, they can see before their lords which is and which is not to be the best seedling, and, as far as their foresight can go, the best is called Madame so-and-so, as the name may be. All this we have in black and white, on Mr. Rivers' authority, which authority will be a good precedent for me to say that Madame Bird's share in the practical parts of this business makes it "the still more real." And to tell you what I have seen with my own eyes will add a Bird's feather into Mr. Fish's cap—he to whom we are all indebted for the first thorough-going way of propagating Calceolarias properly, and he, too, who has stuck to the real way ever since, till that last ten thousand of last week's correspondence.

Well, Mrs. Bird was putting in the middle number of her ten thousand Calceolaria cuttings of this season, when I called on the 4th inst., the middle day of the month of propagating that part of the stock; so that by adding the four days to the middle of November, we may say Mrs. Bird finishes her ten thousand Calceolaria cuttings by the 20th, and it was about the 20th of October she began them. But her mode is different from our mode—more

like what was familiar to me in my kilt-growing days; two dairymaids going along as fast as two Strawberry-carriers for Covent Garden, with their milk-pails on their heads, gossiping and laughing at the turns of the war in the Peninsula, and their fingers going at a rate you could not count them, knitting stockings. Nor could I count her fingers at putting in Calceolaria cuttings. First of all, she made a row of holes for the cuttings, across the breadth of one light, as quickly as a spinning machine, and as regularly as print, in depth and distance about an inch both ways, then took up as many entings, by guess as I take it, as would fill the one row of holes, dropped one in each faster than saying so, and so left them loose, and went on with the next and next to the last row at the front.

Here, then, were one thousand cuttings in one thousand holes, each an inch deep, and each cutting as loose in the hole as the ramrod in a gun barrel. Then a dash with a rose waterpot filled, fixed, and settled one whole light in one minute, and the next minute she was on to the next light. I took out my watch and reckoned the old slowcoach go of fifteen years since, when it would take just ten of my propagating hands to do the same quantity of work in the time. I did not ask what the master Bird expects, but Madam allows herself only one death in one thousand cuttings.

As long as the weather is damp and muggy the lights are left off day and night, up or down, to the end of February, then the whole are potted into No. 60-pots, and when the balls are as firm as bullets, and each wrapped, without the pot, in a quarter of a page of the Times, with two folds under the ball, and the folds over the plant loose, the whole put into a strong wooden case would go to New York, or New Orleans, as safe as lead balls and bullets, and ten times more safe in the un-packing and handling of them. Fifty thousand General Tom Thumb Geraniums will be ready for the same journey just in the same way of packing, by the time of the April-fooling; and now there are 150,000 Cyclamens ready to go and bloom on the persium model, also 100,000 Crocuses showing well up already, 50,000 Tulips ditto, and 30,000 Hyacinths the same, to say nothing of Narcissuses and Liliums. But of the Liliun lancifolium rubrum, the deepest and the best of the Japan Lilies of Siebold, there are 500 potted for Covent Garden alone, and, perhaps, twice as many of Liliun eximium, which, I believe, we owe to M. Van Houtte; this eximium being none other but a sweet-scented chalice bulb of our dear old Liliun longiflorum of Japan, and the sweetness has not yet departed from any one of the bulbs which have so been obtained either in Belgium or at Yeddo, and thereabouts.

But the Crocuses got over me more than the flying fingers putting in the Calceolarias. Not one of the 100,000 has been potted at all, and now they are all in pots. The pots were first placed where they stand, in brick pits, to save the roots from mice; the bulbs were then placed on the surface of the soil, and no more; the roots soon came and took possession, and one or two kinds had a little of the hempseed husks, in which they pack them in Holland,

thrown over the bulbs when so placed. And it is, also, possible that one pair of hands could work off, at this rate, as many as some ten hands have done this very autumn, in the retail way, as one might say, of garden potting, as compared to wholesale potting and "putting-in."

I forget if it were 1000 or 10,000 plants of Gauntlet Geranium for cut flowers I saw; but the way I do know. The plants are got from cuttings in July, August, and September, and at the beginning of October three plants are put into one No. 12-pot, on what you might call the one-shift system; the flowers begin to come in February, with very little or no forcing, and the same big pots continue to produce flowers for cutting to the end of September, then the plants are thrown away as quite useless. All the scented-leaved Geraniums and Cherry-pies are in the same proportions.

A whole generation of Indiarubber-plants, *Ficus elastica*, from eyes like Vines, for drawing-room decoration, and fancy-leaved Begonias the same the whole of the winter, and full demand for them; and a more full cry after Golden and Silver Ferns, and gynoerankums in that line; and a new house for each kind since this time last year, besides another long lean-to house for more Chrysanthemums, a new propagating-house, and a house just begun to be put up to meet the demands of the market.

Mr. Bird, by his ready-money business and his advertising, has more than tripled his business, his glass, and his hot water in four years. He has all his pipes and the saddle boiler from Mr. Jones; his red deal he buys in the rough, and has it cut to his sizes by the steam mill, brought home, and made into hot-house work in his own sheds to his own liking; his bars are a foot apart, and his glass is thicker than the 16-oz. to the foot; his squares are a foot broad and 14 inches long, all in cases of 100 feet for 11s. 6d., and the putty at so much per cwt. direct from the mills.

All that I learned as no one knows how, while Mr. Bird and his men were packing eighteen specimen plants of his biggest Chrysanthemums for one of the members of our Floral Committee. Every flower was wrapped in a square of wadding at double the usual price of cotton wadding, the whole head then tied to a stake stout as a broom-handle, and all put into a spring van to go with them just eleven miles, all for one set sum of money, and that is just how I should decorate my conservatory here if I had one and could afford the money.

And now the van is off, and I take Mr. Bird by the wing to see the blooming stock of Chrysanthemums. The first thing that struck me was the enormous quantities he had of *Jardin des Plantes* Chrysanthemum, and the next the immense size he had induced the flowers to attain. You may judge what they are like from the fact that Mr. Buck, of Covent Garden, is now selling cut blooms of the "*Jardin*" for 1s. 6d. a-piece as fast as they come to hand. A good strong plant of such kinds is allowed to carry twelve blooms; from five to twelve blooms are the allowance for the very large kinds throughout the collection, the rest are picked-off in the bud. Even then the blooms would not get to the largest size if the plants were grown bushy, as specimen plants, or if they were not stopped at the right time and to the proper bud. This season the plants have been grown on the one-shift system, and the flowers were never so large before, yet there was no liquid manure to give them. The water is now from a water company with a strong pressure from the "main," which pressure, through the hose, will water the grounds, houses, pots, and all, as for a house on fire.

Madame Poggi, which I first had from Mr. Mackie, of Norwich, about twenty years back, has not yet been beaten in size or in its dark purple colour. This year the flowers are enormous, with ten or twelve to a plant. Prince Albert with seven flowers, and *Beauté du Nord* with five flowers to a plant are the next to it in size; and *Jardin des Plantes*, with twelve blooms to a plant, was the most perfect-shaped flower of the same size, and of the very colour of the *Buttercup* of our fields. The *Golden Heronion*, a sport in gold and orange, improves in size as the kind gets older, and is a most perfect flower. The *Queen of England*, with all the sports of it—such as *Alfred Salter*—golden, and pure white, and striped, are all up to the mark of the pure original *Queen*. *Progne* is still the highest-coloured in the family—the nearest to crimson, and *Dr. Rosas* is the next shade to it. *Julia Lagrave* is the nearest to *Madame Poggi*, purple; and *Grand Turk*, new last year, is the next to *Dr. Rosas*, a splendid flower. *Novelty* was very early this season, and of the largest size. It was in Covent Garden, along with double

white *Camelias*, by the middle of October. *Lady Hardinge* this season is the finest of the lilac race, it is also tipped or turned-up with a gold shade; and *General Hardinge*, which is one of the darkest, has also the finest floret, not petal, in the whole family.

The best new ones out this last spring are really very fine, the following in particular:—*Madame Leo*, ivory white; *Little Pat*, a darling bluish white flower; *Queen of Lilacs*; *Nil Desperandum*, a magnificent flower of a rosy amber colour; *Orange Perfection*; *Lady Russell*, very chaste two-shaded flower in lilac; and *Putoni*, one of the largest dark red turned up in a shade of lilac. The three purest whites are *Madame Damage*, *Snowball* or *Gueidres Rose*, and *Virginia*. *White Formosum* is nearly as pure, and *Cassandra*, stopped at the second "show," or bud, is quite as pure a white; so is *Vesta* when stopped at the second bud; but stop both of them at the third show—or say, send their heads higher up, and every bloom on them will come with a rosy tip or shade, when *Cassandra* and *Vesta* are the two most ladylike flowers in the family, and, after *Jardin des Plantes*, are most sought after in Covent Garden. *Amazon* is of a beautiful violet crimson, with a large flat-faced flower. *Rifleman*, which we had new last year, turns out a much finer thing this season, after the shades of *Dupont de l'Èure*; *Pandora*, a soft creamy yellow flower; *Anaxo*, better than I ever saw it.

But as we shall have another turn at them next week from the Exhibition at South Kensington, and that without competition at the Crystal Palace, and, if all be well, also at the *Versaille* Nursery, I shall say nought of the novelties of this season just yet, but go on to say there is a partner here for *Little Harry* called *Little Anne*, a beautiful shade of yellow, next to that of *Jardin des Plantes*, and just such another flower as that of *Little Harry* itself.

The *Pompones* are not much in demand as cut flowers in Covent Garden, and Mr. Bird does not grow them in such numbers as the large kinds, only for country and foreign orders for spring distribution; but the quantity he grows of the best for cut flowers is what surprises most people; and where can they all go to? is the usual exclamation. Why, go to London, which is a bottomless pit for quantities. What would you say to four hundred cut blooms of *Jardin des Plantes* alone in one week? that was just the number for the week I was there, and you could hardly miss them. Wonderful is nearly in as great demand; and if *Cassandra*, *Vesta*, and *Novelty* could be kept to Christmas week, a thousand blooms of each could be sold in four or five days; and if that is not cut-and-come-again I know not what else it can be said to be. D. BEATON.

## HEMSTEAD PARK, ITS FLOWER GARDEN AND OTHER FEATURES.

THIS new and beautiful mansion is situated on one of those gentle eminences which form so pleasing a feature in the landscape of the southern portion of the county of Kent. The undulating country which surrounds it extends some three or four miles northward, where it settles down into the level plain called the Weald of Kent, while a few miles further south is the still more level district washed by the English Channel, called Romney Marsh—a tract more rich in its agricultural produce than picturesque in its landscape. The well-wooded and highly-cultivated district which intervenes between the Weald of Kent and the Marsh is composed of gentle hills with smiling valleys; and if we are to be guided by the general character of the timber, the hedges, and the crops, a more than ordinary share of fertility or good management may be accorded to it. The neighbourhood is well, if not profusely, wooded; and the commanding position of this mansion, and, more especially, the view to be obtained from the more elevated parts of it, must carry the eye in a circle for many miles.

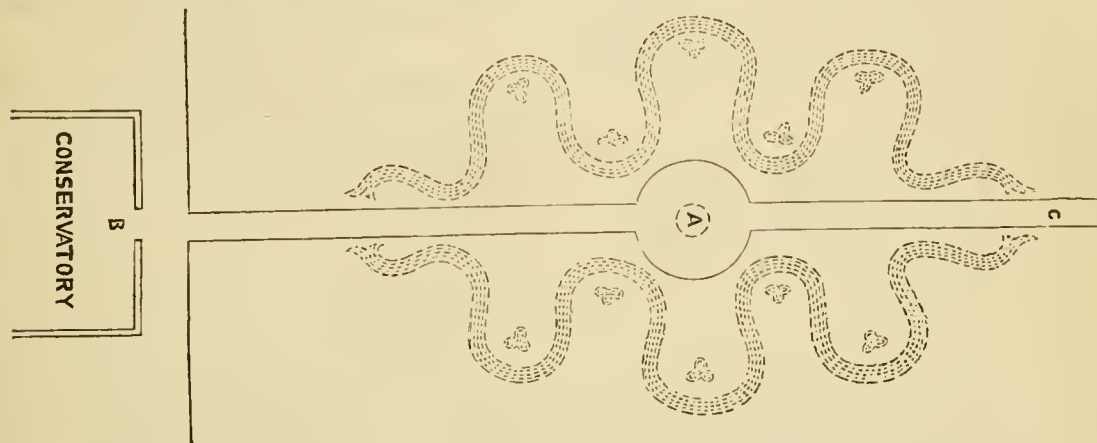
The mansion, which has recently been built by the spirited owner of Hemstead—Gathorna Hardy, Esq., M.P., is near the site of a former edifice, which, in accordance with the mutability of earthly affairs, had in its turn superseded a still older building; thus carrying the antiquity of Hemstead back to a period to which it is not our province to follow it. The liberality of former possessors is exemplified by the quantity and age of the timber by which the park and neighbouring woods are studded. One was pointed out as affording a useful sea mark, and in a sheltered valley some Silver Firs had attained an unusual size.

One is said to have measured, some years ago, 127 feet high, and from their healthy condition a still greater altitude might be looked for. As it is proper always to state the character of the soil and situation where large trees are found, it is right to say that the Silver Firs formed a little group on the side of a damp wooded valley, they being several feet above its lowest level, and the soil is a sort of yellow sandy loam; the sand so very fine as to retain water rather than allow it to percolate, and from its appearance I should think that iron abounded. The healthy appearance of Rhododendron and similar shrubs indicated its presence. There were several other large trees, as Oaks, Ash, &c.; but leaving them alone we will introduce the reader to the pleasure ground, which extends to a considerable distance on the south and west sides of the mansion, and when complete will encircle the whole.

Of late years, the number and size of the various specimens of Coniferae have often been regarded as one of the points of merit in a pleasure ground, and certainly such features ought to rank higher than mere bedding plants. In this respect, therefore, Hemstead is in no way behind situations of similar extent. A

Taxodium sempervirens was 40 feet high, and a Cryptomeria japonica the same. There was also a very fine Cupressus Urdiana: the exact height I omitted to take, but it must have been considerably upwards of 20 feet, as also that of some other Pinuses. But not the least important feature in the grounds were some of the largest specimens I ever saw of hybrid Rhododendrons. Many of them were said to be of the choicest kinds, as likewise were the Azaleas, and both exhibited that luxuriant health which indicates the place they live in as being suitable. They had been planted some years ago to form a sort of irregular frame or back to the dressed grounds, which position they still occupy, though they have been several times thinned.

Several other objects of interest were to be met with, but these must be omitted, and a short explanation given of the accompanying engraving of the flower garden, or rather that part of it which is represented, for some others exist, and the formation of more is contemplated. The design, differing as it does from most that have appeared in THE JOURNAL OF HORTICULTURE, is certainly deserving a place, as being of a character but little known or little brought into use elsewhere.



It is some years since the old-fashioned striped borders of our forefathers received the more fashionable name of "the ribbon-border;" but this title is certainly anything but appropriate in many instances in which it has been applied—so much so, that I am not acquainted with more than two or three places where I would give the name. Cliveden, the seat of her Grace the Duchess of Sutherland, is one; the irregular serpentine form of a long border, of uniform width, displaying the true character of a "ribbon;" and the present case, where the ribbon has been rearranged so as to assume a form adapting it to the space it is wanted to occupy, is another.

The general features of the ground may be thus summed-up. A is a central plot to be occupied as may be deemed best hereafter. Hitherto it has been a basin of water. B is a conservatory in the course of construction, which by its dimensions no doubt will be a noble one. C is a point much further in the straight line of walk, where it abuts against some noble trees, and, doubtless, some suitable summer-house or alcove will be erected hereafter. But the main feature which displays the serpentine-like curves of the long flower-border to advantage, is the declination of the ground on all sides to the central point A. The fall in the space occupied by the ribbon-border I should think is not less than 6 feet. This enables the observer to clearly see the outline of that part of the ribbon which is farthest from him with great exactness, and there being ample space between every part, it shows itself clearly and effectively. The plan given is certainly not to scale, but sufficiently near to convey a good idea of the effect, which was much better on the ground than on paper, which is generally not the case with purely mathematical figures.

The width of the ribbon is about 5 feet, and it was planted very effectively by Mr. Pring, the intelligent gardener. I regret having mislaid a note I made of the different lines of colour; but a continuous line of Perilla in the centre, and one of a white-edged Geranium on each side, were prominent features which could not be improved; and looking in whatever direction you chose, the winding snake-like form of the bed showed these

colours to great advantage. The tri-lobed beds in the recesses were planted with bedding things not found in the stripes, and in all cases lower, so as not to interfere with the outline of the more important part of the display, which, as before stated, could be advantageously seen from all quarters, but, perhaps, best of all from the centre, A, from which the whole rose in an amphitheatre-fashion on all sides.

Having devoted so much space to the above description of the flower garden, I am obliged to merely give a hasty glance at the kitchen garden, which is well sheltered and surrounded by good walls, and contains Grape and other houses all in good condition, and which, it is needless to say, would be well filled when cold weather sets in. Mr. Pring was endeavouring to obtain a quantity of that most useful white-leaved plant, *Centaurea candidissima*, and for that purpose had planted some in the Vine-border, where they formed a number of side shoots, that showed that this plant with liberal treatment may be increased faster than is generally supposed. Some other things not very plentiful were also treated in a similar way, and all seemed equally prosperous and good.—J. ROBSON.

### JUDGING GRAPES.

I MUST confess that I am very much surprised to find by an article in your Number, dated October 28th, that an authority like Mr. Thomson should attach so little importance to the art of Grape-colouring as to assign it only a secondary position in his list of qualifications, when all growers are quite aware that it is the most difficult operation in the successful cultivation of the Vine; as a proof of this, how seldom do we see at any of the principal metropolitan exhibitions more than, at the most, two or three first-rate-coloured dishes of Grapes, though not uncommonly hearing the inquiry, "Are those Red Hamburgs?" If the rich amber of the Muscat and blackness of the Sloe in the Hamburg is wanting, the beauty, "like Othello's occupation," is gone, and the eye does not care to rest on them; and if a

certain want of colour in the Grape produces a better flavour, why should not the same rule hold good with other descriptions of fruit? Premising this theory to be correct, would it become finer, more aromatic, or keep better if its natural hues were undeveloped?

As a cultivator of Grapes, "and I flatter myself not an entirely unsuccessful one," were I to fill the unthankful office of judge, I should consider colour as the first point, size and evenness of berry the second, bloom third, weight and symmetry of bunch the fourth. Were these attributes combined in perfection, I think the possibility of excellent flavour being absent would be very remote indeed.—G. J. O.

I AM glad Mr. Thomson has deemed this subject worthy his consideration, and at the same time given us his opinion as to what points judges should be guided by when deciding the merits of Grapes upon an exhibition table.

Whether all Societies will agree with the eight points time alone will prove. Be this as it may, I consider it the duty of all Societies when printing their schedules to insert a rule to guide the judges when deciding the merits of Grapes. Whether such rule embraces only a portion or all Mr. Thomson's points is not of great importance, so long as they know upon what points to give judgment. Such a rule would be of equal benefit to the competitor, as he would then know upon what points his productions would be judged.

Our schedules are, I consider, somewhat vague. For instance: "the best bunch," "best three bunches," as the case may be, is not sufficient. One may consider colour the principal point; a second, size of berry; a third, size of bunch; and on through the whole of the eight points as laid down by Mr. Thomson.

As far as my experience goes, I am bound to confess that too frequently the best-flavoured Grapes at an exhibition table are passed by without any notice, just for the cause that they were not so highly coloured as the successful ones.

Grapes with a brownish tinge, in my opinion, are invariably highest flavoured and far more fleshy than those which are intensely black. I have a striking instance of such here this season. My earliest house was not so highly coloured as two later houses, but the earliest house is, without any doubt, the highest flavoured, and by far the largest and most fleshy berries, and at table would be considered superior to those with a blacker skin.

As the present judging of Grapes goes it would be most damaging to any judge's reputation to award a prize to Grapes which were slightly deficient in colour in preference to those that were black, if the former were perfect in all other points. But now that the subject is started by such a really practical grower as Mr. Thomson, I hope that something of a definite character will be arrived at, enabling those who take upon themselves the unenviable position of judges to know upon what points to give their decision.—JOHN EDLINGTON, *Gardener to the Earl of Erne, Crom Castle, Ireland.*

### JUDGING GRAPES AND MELONS.

SEVERAL years ago I suggested in the *Gardener's Chronicle* a somewhat similar plan for judging Grapes by points to that recently proposed by Mr. Thomson in your pages. I cannot just now explain the number or nature of the points I proposed, but I know that they did not agree with Mr. Thomson's.

For instance: I did not include flavour, although that is an essential quality in good Grapes, because as Grapes are sent to public exhibitions for the express purpose of being looked at, it is not advisable to mutilate or disfigure them in any way, which must be the case to a certain extent if they are to be tasted. As to firmness of flesh, I believe that judges would differ quite as much on that point as they would about flavour; for while one would prefer a firm-fleshed berry, another would favour a pulpy juicy Grape. As to thinness of skin, I do not see how that point is to be satisfactorily ascertained even by tasting; for when Grapes of one kind compete against each other, as Hamburg against Hamburg, Muscat against Muscat, &c., the difference in the thickness of the skins would scarcely be appreciable. In the matter of colour I differ totally from Mr. Thomson, holding that colour is essential to perfection in a Grape; while Mr. Thomson would seem to be of opinion that a thoroughly black colour indicates inferiority. If a Grape which ought to be black is not black, that surely must be considered a defect.

It will certainly prevent much bickering and unpleasantness between judges and exhibitors if some simple rules can be agreed upon for the judging of Grapes; and I hope that Mr. Thomson's proposal will elicit the opinions of Grape-growers, or, rather, Grape-showers, on this matter.

While on the subject of exhibiting, I will ask why the Melon should be the only fruit to be judged by flavour alone? Of all other fruits, the finest and best-looking gain the prizes; of Melons, it is not uncommon to see the shabbiest little thing upon the table take the first prize, because two out of the three judges happen to be of opinion that its flavour is a degree better than that of the noble fruit which stands beside it. Granted that flavour is the most important quality in a Melon, still I maintain that other properties, such as good growth and beauty, ought to have some weight in the decision. At any rate, it will be a step in the right direction when horticultural Societies fix upon a certain minimum weight (say 2½ ozs.) to make a Melon eligible to compete for a prize.—J. B. W.

### CLAIM OF THE DISTRESSED WORKINGMEN BOTANISTS OF LANCASHIRE

ON THE GARDENING PUBLIC.

IT would certainly be out of place if party politics or subjects of controversy unconnected with horticulture were to find a place in your Journal; but the cause of humanity, being one in which all parties must alike feel equally interested, may with perfect propriety be allowed a place—nay, more than that, it becomes the duty of every one, in so far as he is able, to plead the cause and assist the innocent sufferer. I for one can, therefore, hail with pleasure the design of Mr. John Hague, mentioned in No. 83, of affording some worthy admirers of nature the means of encouraging a study of botany amongst a class in more affluent circumstances, by disseminating amongst them specimens which none but the ardent botanist can have the patience to procure.

Mr. Hague's plan for the Lancashire collectors of wild plants forming collections to be sold at the reasonable rate he speaks of will, I trust, meet with the liberal support it so much deserves, and I have no doubt but the subscribers to a fund for so worthy a purpose will be amply repaid by the receiver in the manner explained; so that, apart from the consciousness of having assisted poor men struggling against a misfortune they had no means of averting, the subscribers are likely to receive each a donation of specimen Ferns and Mosses, in return for the loan of the few shillings they may hand over to the sufferers.

To enable this to be done well requires, like most manufacturing operations, to be done on rather a large scale. The collector of plants could almost as easily procure a dozen or more specimens as one, and these could be assorted, named, and dried by others in the same calling, not, perhaps, so able to undergo the fatigue of a march through a morass or over the moors, and who could, nevertheless, assist in the home arrangement. Care should, however, be taken that every plant sent out from such a source should be correctly named if the numbers were ever so few, as those qualified to give an opinion would be the better pleased if this were well done. But the matter will easily arrange itself into working order if the funds be only forthcoming.

Of the untiring zeal that many of the Lancashire operatives have for gardening and botany we have many examples, and I believe I am right in saying that shows for heavy Gooseberries were held in Lancashire before any horticultural society now in existence was thought of, and most of our popular garden favourites have been largely cultivated there. I have the testimony of a valued friend for saying, that in no district that he was ever in did he meet with so many ordinary labouring men who were so well versed in structural and systematic botany. Though I am but imperfectly acquainted with the habits and customs of the mill hands from not having ever resided amongst them, I have, nevertheless, known young men, ardently fond of following their favourite pursuit of botany, take two or three day holiday, and in a band of three together (never more), make a pilgrimage to the Welsh mountains, climbing and making their way to the almost inaccessible places in the pursuit of some plant that report said was to be found in such a situation, and, perhaps, finding several other plants in their rambles. Some useful treatise on botany, with a small pocket compass and map of the country to guide them on their exploration, was all their luggage, with the invariable bread and cheese, which for tourists is, perhaps, after all the best food that can be carried.

Another time a trip would be taken to the Dorbyshire hills for a similar purpose, the students taking some cheap railway journey as far as they could, and sturdily travelling the rest on foot. I remember some years ago crossing one of the wild bleak mountains to the north of Bolton, with a friend residing in the neighbourhood, who repeated the name of every plant we came in contact with, and assured me that there were plenty of factory people who could do so also. In our journey we came upon the garden of a gentleman connected with the district, in perhaps as uninviting a situation as could well be imagined, but in which I was never more surprised in my life. The gardener, whose age could be little short of sixty, was as great an enthusiast in his calling as the most energetic young man of twenty-five. Florists' flowers of various kinds were done to a nicety, and the little stove he had contained the most select plants that could be obtained, and these too in excellent order, and this on the edge of Bolton Moors. That he follows his calling yet I have no doubt, unless he has been called to his long home. It is not for such as him that I now plead, but for the distressed weaver or cotton-worker whose ordinary calling has been taken away; but who, while under more promising circumstances, patronised the humanising calling of horticulture, or pursued with scientific perseverance the study of botany. That such men should be allowed to starve will, I hope, receive the unanimous verdict, No! and the circumstances of the case admit of no delay.

I at once send my little subscription to the address indicated by Mr. Hague, with whom as well as all others I may say I am totally unacquainted, but in times like these ceremonious observances are out of the question. I hope, therefore, that the remarks of your leading article with those of Mr. Hague will be the means of putting several small sums into the treasury for these deserving sons of toil.—J. R.

I BEG to return the thanks of the humble botanists here for the ten shillings worth of stamps I received through you from "F. H. A.," of Tunbridge Wells. I have handed the money to John Whitehead, R. Schofield, and James Pickering, to be divided in seven parts, there being seven botanists in distress in this neighbourhood. Whitehead has also received twenty-five stamps from a friend at Dewsbury, and I have received two orders, each for two guineas worth of Mosses; one from Lady Cotton Sheppard, and the other from Lady Dorothy Nevill, whose children will also send 5s. to be divided between Whitehead and Schofield.

I will acknowledge in your Journal all sums sent to me, and how distributed.

I may say that Schofield has had no work since last February, and since that time has had twins born to him, so that his distress must be had.

November 7th.—Since I wrote to you about the distressed botanists of Lancashire we have received eight applications for Mosses and other things. Three of the orders have been supplied, and the others will be in a few days. A few of the correspondents wish for other things than Mosses, but it is difficult to get anything now save roots of Ferns. But with your permission we will give a list of a few things they could get—that is, the roots of them, for there will be few of them that could be got now as green specimens. Some of the botanists have fairish collections of Grasses, and some few other things. The following plants are found within a short distance of here—viz., Ferns:—*Polystichum angulare*, *aculeatum*, *lobatum*. *Polypodium vulgare*, *dryopteris*, *phlegopteris*, *calcareum*. *Cystopteris fragilis*, *dentata*, var. *Scolopendrium vulgare*. *Asplenium adiantum nigrum*. *Lastrea Filix-mas*, *oreopteris*, *spinulosa*, *dilatata*. *Asplenium trichomanes*, *ruta-muraria*. *Blechnum boreale*. *Alosoras crispata*. *Osmunda regalis*. *Hymenophyllum Wilsoni*. *Lycopodium clavatum*, selago, and *inundatum*.

There are many other plants; but the botanists, not knowing which are common in the other parts of England, will be happy to tell any lady or gentleman whether they can get the particular kinds of plants they may want; for to give a list of all that grow in this neighbourhood would, I fear, take too much of your space, but I will give a list of the most rare here next week under your permission.—J. HAGUE, 36, Mount Street, Ashton-under-Lyne.

P.S.—The distressed botanists beg to thank you and all the ladies and gentlemen who have put a gleam of sunshine through the dark cloud that now hangs over them.—J. H.

## SEEDLING POT MARIGOLD.

I SEND some flowers and buds in different stages of growth to show its free-flowering character. It is also dwarfer in habit than the common sort, and reproduces itself true from seeds. I have grown it two seasons and find that it makes a good ribbon-border plant, and brings up a colour which is telling, and not very common amongst the modern style of bedding-out plants. You will perceive its early tendency to reproduce flowers by examining the back part of the one full blown.—J. WEBSTEL, Gordon Castle.

[This pot Marigold is the best example we have seen of that form of morphology commonly called "Hen-and-Chickens," from eight to twelve "chicken" flowers on three-inch stalks come round each bloom. We sent it to Mr. Beaton for his opinion of it as a flower-garden plant. He says it is a decided hit, and that it might also be now made a "pot Marigold" in another sense, and come in-doors in pots late in the autumn to push against the Chrysanthemums. The next best strain of pot Marigold known to us is with Mr. Whiting, of Deepdene, near Dorking.]

## GRAPES SWELLING AND KEEPING BADLY.

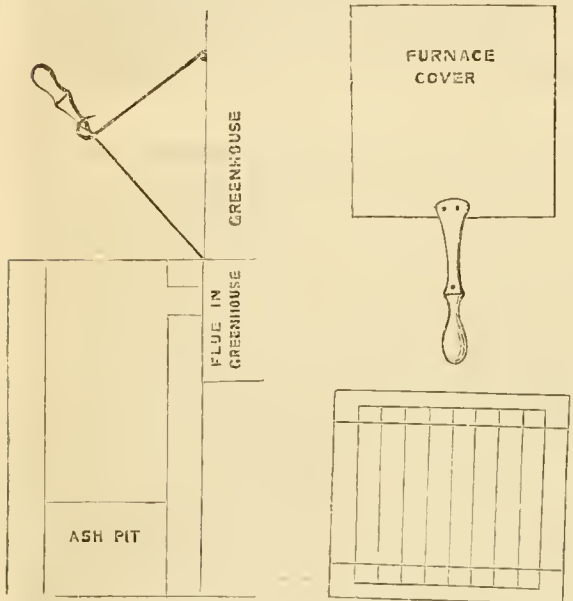
CAN you tell me why it was that our Lady Downe's Seedling Vine did not do well in our late house, although it succeeded very well in the early one? The berries, in very many cases, did not swell at all, but shrivelled-up, and some are still doing so, thus giving the bunches a very miserable appearance. Will you also say if it is a common complaint this season that Grapes are not keeping well? Ours have kept very ill indeed, the Muscats of Alexandria having become brown before being quite ripe, and the Black Hamburgs have got quite mouldy and soft. There was no fire heat in the autumn, and very little air, except from the back ventilators. Could this be the cause? Fire heat has been given to some extent lately, and plenty of air from the front sashes, but the work of destruction still goes on.—DUMERES.

[We suspect that there is something wrong with the roots of the Lady Downe's Grape in addition to the want of the same care which the early crop obtained. This latter fact alone explains why there is often such a difference in the appearance of late Grapes and early ones, and in some respects that difference is aimed at by the gardener. The very large swelled berries that are delicious to eat in July and August, would not be the best to keep as they lolled on each other as thickly as possible in November: hence not only do late Grapes receive more thinning, but it is found that the berries keep better if they are not extra large, because they have more saccharine matter. This will not do much to explain, except indirectly, why your Hamburgs are rotting, and the Muscats are getting brown before they are ripe, and that giving fire heat now does not stop at once the rotting, moulding, &c. If you have read some notes on this subject in "Doings of the Last Week," and then read over what you state, you will have the clue to the whole mystery. "There was no fire heat in the autumn, and very little air except from the back ventilators," and we might add, perhaps, not too much from them; for we do not often in lean-to houses give a great amount of front air, and very likely the houses were shut up close some sixteen hours out of the twenty-four. Now, though the autumn was a fine one in the south, so far as we make out by the public papers, it was extra dull and wet in your part of the country. The Grapes naturally would be more surcharged with watery matter than was good for them. A fire then and more air would not only have ripened them earlier, but would have made them firmer in consistence. As respects thorough ripening, one bushel of coals then would do more than six bushels now. Autumn Grapes always keep best and longest when thoroughly ripe before November comes. It is the worst of all economy to keep Grapes back as long as possible, and then begin forcing them in the end of October. If you can keep the inside of the house thoroughly dry, and the roots from being soaked with wet, it will be all in the favour of the Vines, and in all dull weather you will need a fire on, and air on night and day, unless in foggy and frosty weather. This will be all you can manage now, except never allowing a spotted or damped berry to be seen twice. The chief causes of your disappointment we believe to be no fires, and too little air in autumn. Of course even in that we may be all at sea; but that is our impression, and at least it points to the course to be adopted in future.]

## FURNACE FOR GREENHOUSES.

ABOUT three years since I built a new furnace to heat the flues of my greenhouse, which answers much better, is more economical, and easier to manage than the old furnace I had before built on the ordinary plan.

The ash-pit is 9 inches deep; the furnace is 10 inches square inside, and 18 inches deep; the fire hole that goes into the greenhouse flue is 2½ inches high, and 4 inches wide, one brick from the top of the furnace. There are two iron bars built in, one near each side at the bottom of the furnace, on which a loose grate is supported. The top of the furnace is covered by a cast-iron plate, 13 inches by 13 inches, and half an inch thick, with an iron handle riveted on one side, with a socket in which a piece of wood is inserted in order to lift it by.



Section of the side of furnace, showing a piece of hooked iron fixed to the side of the wall to support the cover while the fuel is put in, which is easier than lifting the cover off.

Bottom of furnace with the grate resting on the iron supports.

The advantages of this new furnace are, that it is more cheaply and simply constructed than the ordinary furnace; there are no hinges, fastener, or cast-iron frame to support the door required; nothing but the simple plate to cover the top of the furnace. The draught is much better than that of the ordinary furnace. The fuel I commonly use is cinders sifted from coal ashes, which answer capitally; coke broken small is still better, but the cinders cost nothing but the labour of sifting—a great consideration with many amateur gardeners who now possess small greenhouses.

Several parties who have seen my furnace have adopted the same plan with perfect success.

My greenhouse is 18 feet by 11 feet inside. During the intense frost in December, 1860, at eleven o'clock P.M. on the 23rd the thermometer was at 8° in the open air. I then filled the furnace with sifted cinders, and attended no more until daylight next morning, when the thermometer was at zero in the open air, and had never been below 40° in the greenhouse. Thus, you see, my simple furnace and cheap fuel kept out one of the most intense frosts we have on record in England.—J. S.

## A SELECTION OF GOOD OLD ANNUALS.

A SCHOOLMASTER asking one of his boys in a sharp winter's morning what was Latin for cold, the boy hesitated a little. "What, sirrah!" said he, "can't you tell?" "Yes, yes," said the boy, "I have it at my fingers' ends." So when writing in this way to THE JOURNAL OF HORTICULTURE we suppose we perceive a little requirement, or we fancy some of the many

readers of our favourite Journal say, "Could you not give us an article on this little wish of ours?—Cannot you make and publish for us a list of good or useful plants for a mixed border? We like the beds upon the gay parterre; but we should so like to know what are really pretty or ornamental of the many we see in every nursery catalogue, called by varied names." We hesitate in the midst of our self-chosen task. We have many at our fingers' ends, but will they suit? will they meet others' wishes as of yore they pleased us? They now again rush with strange force to our mind and thence to our pen, giving us a strange delight—a wish that it were our lot again to join their fair forms and faces as once seen by us, as we plainly trace their outlines with this bit of metallic mechanism now. Moderating our flight, we mean in this, our last paper, to bind ourselves reluctantly to sorts enumerated in catalogues of the current year; yet, though such be the case, many of the few given below are great strangers at the present day.

We will commence with a plant, one of those often wanted, to fill and make look gay a cold wet piece of ground, under or near a shady north-east or west aspect—something that will grow where nothing else will to do well—a plant that if once sown will year by year rise, phoenix-like, from its own decay—and this is no other than the singular *Nemophila*-like

*LIMNANTHES DOUGLASSI*.—It is an exceedingly free-blooming decumbent plant; in habit, form of flower, and partly in its leaf not unlike a *Nemophila*. Colour of the flower white, with a centre ring of yellow. Altogether it is a pretty, interesting, old plant, flowering very prettily in May. It should be sown in July. Native of California.

*SCHIZOPETALON WALKERI*.—This, a white singularly-flowered plant, forms a very pretty companion to *Saponaria calabrica*. It is also very sweet. The singular flowers are cut, and again, apparently, cross-cut across the individual petals. I have used this plant as an edging in the flower garden to *Purple King Verbena*. It looks pretty and is very interesting, but not quite gay enough, perhaps, for this purpose in these days of extremes. It does best treated like *Phlox Drummondii*—either sown in patches where it is to stand, or in pans to be pricked-off into thumb-pots, thence turned out with a ball where it is to flower. Generally flowers from June. Native of Chili.

*CLINTONIA PULCHELLA*.—An exceedingly pretty dwarf annual (half-hardy), being in colour the trio—blue, white, and yellow. General height, 6 inches or 7 inches. I cannot do better than inform the reader, if this plant is a stranger, that it is in habit, form of flower, &c., not unlike *Lobelia speciosa*. Generally flowers June, July, and August. Native of Columbia.

*NOLANA PROSTRATA*, *PARADOXA VIOLACEA*, and *ATRIPLICIFOLIA*.—A very showy genus. Of the two last-named I know not to which to give the preference, as *violacea* is so beautiful and an improvement upon the last. They are *Convolvulus*-like in the form of their flowers: sown in a rich loamy bed in April, or first week in May at latest, they will form a very striking object in August and September. From Chili and Peru.

*DRACOPHALUM CANESCENS*.—A bright-leaved, rather strong-growing plant, having very dark purple flowers, or rather the lip of the same is tipped with deep purple; the exterior of the *Salvia*-like flowers being in colour an indistinct rose. Sow in March, giving each plant at least 2 feet of growing room. It flowers generally in July and August. Native of the Levant.

*DATURA CERATOCALON*.—A fine plant, having very large white flowers striped with purple, running something in the way of *Petunia Madam Ferguson*. It is rather fragrant. Sow in a warm situation (with protection by a hand-light), where it is to flower, first week in April. Generally flowers in July and August. From Mexico.

*SCHIZANTHUS RETUSUS*.—A not-very-frequently-grown plant, with pretty orange and scarlet flowers. When sown in good fibrous sandy loam and leaf mould, about the last week in March, it grows fast, and becomes a splendid object from about the middle of June to October. Native of Chili.

*CALANDRINIA DISCOLOR*.—It does not seem to be generally known that there are other species of this beautiful genus besides *umbellata*. *Dicolor* has beautiful rose and purple flowers, which are large and pretty numerous. The plant is a very fast grower. Generally flowers July to September. Native of Chili.

*CALANDRINIA SPECIOSA*.—Another pretty species, with bright crimson flowers when the true kind is obtained, though I have received in lieu a dull rose-coloured variety. This plant is best suited in fine summers for edgings; generally sown in rocky patches. It has one drawback (being a truer subject of the sun

than of man), that of closing its flowers about noon. It should be sown where it is to flower. Generally flowers June and July. Native of California.

**GILIA TRICOLOR.**—A pretty interesting annual, and one of those tenacious sorts of plants which, when once sown, become seemingly perennial, as it generally comes up each successive season, being self-sown, as 't were

"To recompense the hand, the generous mind,  
That pleasure took to sow its humble kind."

Flowers in July and on to September. Native of California.

**NIQUELLA HISPANICA.**—A fine annual—the so-called Love-in-a-mist. Poor precarious being, what reverses he meets with! Though I cannot explain the complicated ideas which were the original cause of this plant's strange christening, I will endeavour to explain the plant as grown, leaving the reader to conjecture the other. Independent of the pleasing hue of its flowers, it has somewhat singular seed-vessels, which show themselves very prominently before the flower is past its best. Its colour is of a pleasing blue. Sow it thinly in a warm corner, leaving each plant abundance of growing room. The leaves are rather ornamental; in fact, the plant is by some named the garden Fennel-flower. Generally it flowers from June to August. Native of Spain.

**CLEOME SPECIOSISSIMA.**—This is a beautiful flowering plant with light red flowers, doing tolerably well with us at the present date, as it will occasionally ripen seed. It generally grows about 12 inches high. *C. pentaphylla*, a white-flowered species, is also very showy. This latter should be treated as a tender annual. Both flower between June and August. Natives of Mexico.

**LOASA LATERITIA AND OTHER SPECIES.**—This, an ornamental semi-climbing plant, has curiously-formed red flowers, followed by equally singular seed-vessels, which from their very singular mode of growth and formation are very interesting. This, as also two or three other species, will do tolerably well in good garden soil, but best raised in a little warmth, to be turned out of pots where it is to flower. It will cover any space within a compass of 3 feet or 4 feet, and looks well with its lively blossoms amid a decidedly soft green prettily-cut foliage when trained upon any artificially formed object. It should be sown about April, and flowers about the first week in July. Native of Tucuman.

I next refer to the various varieties of the genus **MARTYRIA**, of which I note in our catalogues five distinct sorts. They are each of them showy pleasing plants. In choosing I give the preference to the following, with respective merits corresponding with the order of their names. Well, first, the flower with two-fold merit—namely, fragrant. The name tells you it has at least one good string to its bow. Next (the colour of the above being purple, a sweet purple), lutes, with yellow flowers; proboscidea, light blue with beautiful markings. Now, I am informed that this last should be first, but when I grew it (perhaps badly), it did not do as I inferred it would; but I mean to have a more just settling with it at a future day if possible. They are, I believe, respectively natives of Mexico, Brazil, and North America, and generally expand their first blooms in July, lasting till August.

In conclusion, if a singular, free-blooming, rather original-coloured creeper is wanted to train around an archway or rustic entrance with a north aspect, or even up a solitary pole, amid any of your favourites as contained in my lists as above, give a trial by all means to **CLEMATIS HENDERSONI**. In close companionship plant the little white sweet-scented *Clematis*, with, in spring, a plant of **TROPEOLUM COCCINEUM ELEGANS**; and you will admit the contrast of crimson, white, and purple-blue can vie with any other for effect and pleasing harmony.—**W. EARLEY, Digswell.**

### SMALL PIT FOR VARIOUS USES.

I INTEND building a small pit, of brick, 9 feet long by 5 feet 6 inches wide, and about 3 feet high at back, and I want you to tell me how I can heat it by glazed flue-pipes at the least possible expense, as I am an amateur not overburdened with cash. I want the pit in winter for keeping the less hardy greenhouse plants and cuttings, and in the spring for propagating and growing Cucumbers, so I shall want bottom heat. What sort of stove should I have which will only require being made up once in twelve or fourteen hours? Would brick or iron be the cheaper, and can I have it built into the wall at one end of

the pit (to be fed from the outside), without the heat being too great for the plants on that side? Must the fireplace or stove be below the level of the flue, and should I require for so small a pit top heat as well as bottom?—**A SUBSCRIBER, II.**

[We should only deceive you if we led you to believe you could do so much as you suppose under the circumstances. In the first place you say nothing of fermenting material for bottom heat, and, therefore, we presume you mean to get that from the glazed pipes acting as a flue. In either case you would not have room enough for pipes, covering of pipes, earth, and leaves of Cucumbers, as, if 3 feet at back, it could not well be more than 2 feet in front. Unless, then, your heating pipes and their covering were placed beneath that level, the walls at the very least would require to be from 9 inches to 12 inches higher. Again, for such a small pit to keep out the frost, a small brick Arnott's stove placed close to the middle of the back wall, with a funnel through that wall, and a small furnace-door outside would be quite sufficient; but no such stoves will work well with much length of horizontal piping or flues from them, and the heated air from them will not go down to give you bottom heat. For this purpose, and using pipes, you would have to sink your stove considerably at one end, so that the bars of the stove should be from 15 inches to 18 inches below the bottom of your pipes and the floor; but, then, that would just be the same as a common flue. Again, there is no advantage in having a stove that only wants looking to in fourteen hours. To have one such you must have fuel that will burn very slowly, or that will be prevented doing so by a damper, or the fireplace must be large for the heat wanted so as to retain a quantity of fuel, and this is generally attended with waste, as the combustion is less perfect. And, once more, glazed earthenware pipes do not stand fire best well, common earthenware stands it much better, and Portland cement better still. Now, were we required to do all these things you specify in a nine-foot pit, and use pipes or flues, we would have a little furnace at one end in the usual way, low enough for the flue or pipes on the floor as stated above, that furnace or fireplace 1 foot wide, 18 inches long, and 15 inches to 18 inches high, the whole inside the pit, and the top covered with stone, or better, with brick supported on iron. For a yard from that fireplace we would have a flue of brick on bed, the rest of it going along within 15 inches of the front wall brick on edge, two bricks on each side with a tile for top forming the flue, and returning about 18 inches from the back wall. If it would be much cheaper, which I doubt, after a yard of brick on bed, earthenware pipes not less than 9 inches in diameter might be used, and pipes of iron or of earthenware might form the chimney. You have now the means of heating; the what remains is how to regulate. Well, fill the whole space between the flues as loosely as possible, making a chamber of it, in fact, with clinkers, stones, or anything most convenient, finishing with a layer of some finer pebbles or gravel 6 inches above the top of the flue. Here, now, you have the means of giving bottom heat to whatever you put above that floor, but top heat is wanting. Now, we have used the rubble and stones, &c., as a rough chamber through which the heat of the flues will not only have free passage, but be also kept to a certain extent as a reservoir of heat. For getting top heat when wanted we would fix four earthenware pipes 18 inches in length upright, equally distant from each other in the space between the flues, and so that the heated air would have free access to the openings in their bottoms, and the top could be left open or be stopped by a wooden plug at pleasure. Were this rubble of stones not handy, and strong slabs of wood more comeatable, we would fix these slabs 5 inches above the flue or pipes, leaving 2 inches or so between them, which opening we would fill with small stones and a little plaster, and secure the upright earthen pipes in the same way. For ourselves we would prefer the first mode. You will observe that we do not recommend the upright pipes for top heat being placed over the flue. The reason is, that we not only want top heat from these when desirable, but we want moist heat too. Now, pouring a little water down these pipes, if right over the flue, might not only injure the flue but give off steam at times that would be too hot to suit the plants. When poured on the stones lying loosely between the flues, none of these evils are likely to happen. This is the best way we can think of from our experience, if you are resolved on using pipes, and we go into particulars because it will suit several other cases where the pit is to be double and three times your length.

But, now, for such a small affair as a nine-foot pit, and if, as an amateur, you will bestow a little nicety, we should just have a

two-feet-square brick Arnott's stove, and from 30 inches to 36 inches in height, placed either at the end, or middle, at back, with a funnel from it into the open air furnished with a damper. The top of this stove we would cover with an iron plate, with a layer of bricks above it, and on that a vessel of water, with a door in the wall to examine that vessel at pleasure. Now, in your case, the only singularity that must be in this—the stove must be sunk inside and the doors be outside, that the top of the stove shall not be much above the top of your floor inside, but the whole of the brickwork of the stove free of earth, &c. This done, you may make a rough chamber of clinkers, stones, &c., or a more perfect one with slabs, with the joints between filled with stones, and a more perfect one still with slates; but in either case you must have the upright pipes spoken of, either in the middle or at back and front, and these supplied with plugs, &c.; and with the door that gives access to your evaporating-pan you can have bottom heat or top heat, moist heat or dry heat, pretty well at your command, and little danger of smoke troubling you, as might be the case with earthenware pipes, however carefully managed and well jointed. We prefer greatly brick to iron for such a purpose, as the heat is so much more kindly to plants, and it will also cost less. Very lately we described the mode of making such, and in a previous volume fuller details are given. As far as we recollect, Mr. Rivers first introduced these brick Arnott's stoves. If our subscriber wishes to please himself and astonish his neighbours with what he can do with little expense, we would say, Adopt such a course; but before doing so, let him carefully read what Mr. Beaton said about such arrangements this time last year. We have not a word to say against £20 and £30 for a boiler for doing good work with its great quantity of pipes, but for small pits and houses standing by themselves, not to speak of flues, the most economical of all modes of heating, if much heat is not wanted, is these brick stoves, whether lighted inside or outside of a house. We were lately asked about the heating of a handsome lean-to, and we recommended a good-sized brick stove close to the brick wall, or nearly so, where there was just a nice place for the funnel to come out, and coke being used, as ought to be the case in these stoves, there would hardly have been any smoke. The idea of lighting in the house was an insuperable objection, and a flue was resolved on, which from the peculiar circumstances will cost many times as much, and we are rather doubtful if it will answer as well. The only reason why, in small greenhouses we would prefer a nice iron stove with a flat head for water, is that it can be removed in summer. Against this is the fact, that all these funnels of iron soon wear out. With a stove near a back wall there would be little funnel required, and after all its obvious utility would constitute no great eyesore in summer which could not be hidden by a large plant. Thousands and tens of thousands of little places would be erected to keep, or attempt to keep, plants in winter; but the keeping the frost out is the great drawback. We as yet know nothing so simple as an iron stove, nothing so good combined with economy as a brick Arnott's stove. Many of our experiments even with an iron stove surprised us, though much of the heat escapes up the chimney. The humblest means to secure a desired object is not to be despised, however much we may value heating by hot water, &c.—R. F.

N.B.—“A READER,” “D.,” “AN AMATEUR,” “SIGMA,” and “DELTA,” will find answers in the above to their various queries.]

### POTTED PEACHES AND NECTARINES IN A VINERY.

HAVING eighteen Peach and Nectarine trees in tubs, the only place for growing them is under Vines in a span-roofed house 20 feet wide, and a raised bed 5 feet wide on each side. These beds are planted with Vines. The path is 10 feet wide, and the Peach and Nectarine trees are placed along the centre of this path. The roof is occupied with Vines as before stated, a rod to every 4 feet, so that the trees are quite deprived of sun—in fact, almost of light. We had only a thin sprinkling of fruit on the trees this season, and, worse than all, the wood is very far from being ripe: therefore, I think it quite useless to attempt to grow even Peaches, and much less Nectarines, in such an unfavourable place. This, of course, is very unsatisfactory.

Now, as we have the trees, I shall be ever grateful to you if you can give me a hint what to do for the best and cheapest to construct a more appropriate place for growing the above fruit. We have a good wall 12 feet high, with south aspect. I will

endeavour to give the outlines of a passage suitable to the situation named—say a passage 6 feet wide, and 6 feet high in front from the surface; then excavate 2 feet for a brick wall; build the wall 2 feet 6 inches high—that is, 6 inches above the surface; then have shutters 18 inches deep, hinged in six-foot lengths to work with an iron handle to each (an iron rod from end to end would be much better, but would be too expensive), and the remainder of the front glazed with large panes of glass, say 1 foot wide, the roof to be a fixture also, with a board on the top a foot deep, and hinged in lengths to act as ventilators. We cannot ventilate through the back wall on account of out-houses being on the north side. I think in such a structure Peach trees might be planted against the back wall, and the present trees in the tubs and pots planted out, along the front, as bushes.—A. R. M., *Ireland*.

[Your letter is one of those the subject of which ought frequently to come before gardeners and their employers. We are constantly hearing of cases in which gardeners are getting into trouble, and sometimes forced to leave their places because they cannot perform impossibilities. We walk through some splendid garden where everything is in its place and a right place for everything. Plants ought to flourish in such places as these. Gentlemen, however, do not confine their visits to such places; they go to some where a clever gardener has to make one place serve many purposes. They at once generalise, which is all very well, but after all is of no great value when there is no thorough mastering of particulars. Many things may be grown in one house if attention to their requirements is given, and the shade of the one does not interfere with the well-being of another. There is often such a haste in jumping at conclusions as to be unpleasant to all concerned. Not so long ago a gardener got the promise of some pits to winter his bedding plants. His employer happened to see some of our earth pits filled with such plants, without any covering, in a fine day in the end of March. He came at once to the conclusion that they had stood there all the winter, and went home and told the gardener he might get some earth or turf pits like other folk, but that he should have neither bricks nor glass! Here is another case that came in our way not so long ago, showing how little knowledge exists in such matters. In a rather large vinery, where the fruit was not wanted until July and August, the Vines could be taken out by a mode similar to that described at page 612, and the house was turned into a forcing-house for the winter. There, by the new year, we have noticed Mushrooms, Rhubarb, Sea-kale, Asparagus, bulbs, Privets, &c., and from the end of February and onwards good crops of Strawberries from a number of shelves. These were eaten, and praised now and then as they deserved to be; for a little commendation occasionally gives an earnest worker such a pleasant filip, that he could do ever so much more and not feel so tired either afterwards. But unfortunately, though the Strawberries were liked well enough, they did not come in at the time when they were especially wanted. The great thing was to get an extra fine supply of these about the beginning of May; and this could only be done by having the plants set before the house was rendered dense with the foliage of the Vines, and then the flavour was uniformly complained about. It was long before the proprietor could see he expected impossibilities, and that with a roof densely covered with foliage fine Strawberries could not be had beneath them. It was ultimately arranged that 3 feet at the top of the house—the best part for Strawberries—should be kept free of Vines until the Strawberries came in from pits or the open ground.

A rather singular case, bearing on that of “A. R. M.,” came under our notice some time ago. To the inquiry of a correspondent whether he might not cultivate Figs under Vines in a vinery, we gave the reply that no doubt they would grow well enough; but that if the roof was at all densely clothed with foliage, the Figs would do less and less every year in the way of fruiting, and that to secure good crops of Figs the Vines stems must be from 4 feet to 5 feet apart, and a space left clear between each two Vines from top to bottom, and that the whole of the front glass must be clear. A gentleman, who will read this, wrote stating that he supposed I gave the answer in question, but politely informed me that in the present case I was quite in error; for, whatever else might not do, Figs would not only grow but fruit well in pots under a rather thick shade of Vines, and informing me where he saw this result year after year, and where also I might see the same. Well, I could not go to the place, but I got a friend to go and let me know exactly how the

case was, and he wrote to this effect: "There is no doubt a good crop of Figs every year, at least very fair, in this shady vinery, though the Figs seemed deficient in high flavour; and now I think I ought to make you pay for the secret, which is this:—A great many Figs are kept in pots, more than double of what are seen in this vinery. As soon as they have finished fruiting, the roots are pruned and the plants repotted, plunged in litter, and roots and tops protected for the winter; a good pruning is also given. Next summer they are placed under glass if it can be afforded, but out of doors at the foot of a wall facing the south in summer, mulched, and duly attended to with watering, housed in good time, and then when they show fruit the best are retained. And so the plan is continued, the main features of which are to grow and ripen wood one season and then fruit it the next." As corroborative of the above, I may mention that a friend of mine clothed the back of a lean-to vinery with Fig trees of a prolific character. He never got a fruit on the back wall owing to the dense shade of the roof, but could get plenty at the top where the wood of the Fig was allowed to occupy a little of the space that the Vines claimed as their right.

Now, with respect to "A. R. M.'s" case, we would say that this has been a bad season for deciding what could be done on the floor of that span-roofed house. Our own impression is, that if there is much upright glass at the sides of the span, and the Vine shoots from the stem are so thin as to admit of a clear space of 15 inches or so in the centre of each light, then with frequent moving Peach trees in tubs, with heads not too large, will both ripen fruit and ripen wood underneath the shade of the Vines; but, on the other hand, if such a crop of fruit is taken that the side-bearing shoots meet each other, and the roof during the summer is pretty well clothed all over with foliage, then the trees will become more unfruitful every year, and even if the wood is sufficiently ripened for the bloom-buds to stand, and they should even open and show well, few of them will set, because the great proportion will be imperfect, many wanting anthers, and more wanting germens. With such an extra house as our correspondent proposes, to which the trees could be removed to ripen their wood, crops might be got in this vinery by pruning some of the trees back, because the Peaches would be set before there was much shade from the Vines. The next best would be to choose a shady day, and take the trees out as soon as the fruit was gathered, place them against a south wall that the growth might be perfected, and the wood well hardened by exposure to the sun, along with a diminished supply of water.

Mentioning these last plans more for others than "A. R. M.," we cordially approve of his proposal (see page 609.) There are just two things which we would dare to give a hint on in the way of improvement. The first is the width. We would have it at least 10 feet or 11 feet, or 12 feet. According to the plan there seems to be a great lot of glass for a small space enclosed. We would sooner have less height in front—say 4 feet or 5 feet.

Be assured that the back wall will be one of the best cards in your hand; but if your plants in tubs are any size, and you enclose only 6 feet, they will be apt to shade the wall too much, and give a little of the bother of the vinery over again. The extra roof would cost little more, and the extra width would give you so much more room to move about. The next is, that a wooden ventilator will answer admirably at front as you propose, and so it would at back, a foot wide, but it will look heavy, and if of the same slope as the glass from the apex under the coping, it will shade the top of the back wall. No doubt, however, it will answer; but if going to the expense of brick foundations for such a nice-looking house as it would be, we would recommend glass hinged ventilators at top. We shall be glad to know what you decide upon, as we are sure your plan will answer.—R. F.]

### ROSE CATALOGUES.

There are few things connected with the literature of the garden of more value and interest to the amateur than a collection of good catalogues. They not only keep him well informed as to the progress and popularity of his favourites, but afford a never-failing amusement, whether in the retrospect of past trials and successes, or in the anticipation of future triumphs. They should also be valuable guides and assistants in planning and arrangements, which they too often are not, being mere meagre price lists. As the most favourable season of the year

for planting and alterations is now progressing, perhaps a few words on the current Rose catalogues may not be considered out of place by the patrons of that favourite flower. For the benefit of such, therefore, I shall proceed to point out those which I consider, and in what features, to be most complete and worthy of notice among the lists of the most eminent Rose firms, by consulting which intending purchasers, experienced or beginners, cannot fail to satisfy their requirements, however diverse or extensive these may be. It may be premised that all the under-mentioned have valuable introductory observations and cultural remarks.

Messrs. W. Wood & Sons (Woodlands Nursery, Maresfield, Sussex), have adopted the most desirable plan of affixing the number of the nursery-tally to every variety. This not only saves time in writing orders, but enables a visitor provided with a catalogue to examine and note plants at his leisure without the necessity of taking a man from his regular employment to accompany him for explanations; the consciousness of doing which by no means adds to the pleasure of inspection.

The catalogue of Messrs. J. & J. Fraser (Lea Bridge Road), may be noted for the judicious and copious selections of first-rate varieties, new and old; the prices, too, are moderate for such superior plants as the firm is known for sending out.

Mr. J. Cranston (King's Acre, Hereford), presents the excellent feature of specifying the habit of each variety, a most efficient auxiliary in the arrangement of borders and beds. He has also his very extensive assortment of H.P.'s and Bourbons into two sections according to merit.

Mr. Wm. Paul's catalogue is extensive in varieties, and in addition to describing the habit of each, it points out certain kinds suitable for cultivation in the neighbourhood of towns; and Messrs. Paul & Son (Old Nurseries), besides the above features, have adopted a separate tariff for half-standards, an accommodation and saving to those who prefer that style of plant. Mr. Cant, of Colchester, has most of the above points, with a smaller selection; and Mr. Rivers has much improved upon his last year's list by adding some interesting information upon individual Roses. Unfortunately from its size his catalogue is not suited for binding-up with others.

Now, what an excellent catalogue might be made were all the above good qualities united into one; still would it not be possible to effect a more satisfactory system of classification for the purposes of cultivators? For instance: suppose that certain well-known varieties decidedly distinct in form of flower and habit of growth should be selected as types of classes, and those possessing similar characteristics arranged under them, colour and minor peculiarities would follow as additional details. Every novelty could then be referred to its appropriate section, and those sufficiently novel and distinct might stand by themselves as heads for future divisions. Some few, of course, would at present stand *sui generis*, but this would not materially militate against the principle of the system. By means of some such arrangement amateurs would be enabled to realise something like an accurate idea of any given flower. At present, without actual sight, purchasing is a mere lottery, too often followed by disappointment and discouragement.

The following, I think, might be taken as representative flowers; each has very prominent characteristics, and a great many of the best sorts might be collected under them:—H.P.'s, Baronne Prevost, La Reine, Lord Raglan, William Jesse, Comtesse de Chabrilant, Jules Margottin, Erêque de Nîmes, Général Jacqueminot, and so on. Among Bourbons, George Peabody or Paul Joseph, Louise Odier, Sir J. Paxton, and Souvenir de la Malmaison. Noisettes, Aimée Vibert and Narcisse. I hardly know which to select for types among the Teas, but any of the large globular flowers and strong growers, and the small flowers with weaker growth might be selected for the purpose.

In throwing out these suggestions I must beg they may be taken merely as hints for the consideration of more experienced and skilful adepts than myself: indeed, it would require a long and intimate acquaintance with the Rose, and wide opportunities for observation and experiment to thoroughly carry out the plan.

I would just venture to hint, in conclusion, that whenever a catalogue is applied for through the post a stamp should be enclosed for its transmission. It is too great a tax upon nurserymen, who present gratuitously to applicants such elaborate and well-put-up pamphlets as modern catalogues usually are, to subject them to the expense of postage in addition.—W. D. PRYOR, *Homerton*.

## GREENHOUSE PLANTS.

*SALVIA GESNERÆFLORA* (Gesnera-flowered Sage).—*Nat. Ord.*, Lamiaceæ. *Linn.*, Diandria Monogynia.—A magnificent greenhouse softwooded sub-shrub, growing from 4 feet to 6 feet high, and bearing throughout the winter months a profusion of large brilliant scarlet flowers, which render it very ornamental. It

has been compared with *Salvia fulgens*, which, however, it does not much resemble, except in the general form and colour of its flowers, and in its habit of growth. It is a stouter plant than *S. fulgens*, having cordate-ovate leaves with an acuminate point, a, more bullate than those of *S. fulgens*, the latter being also



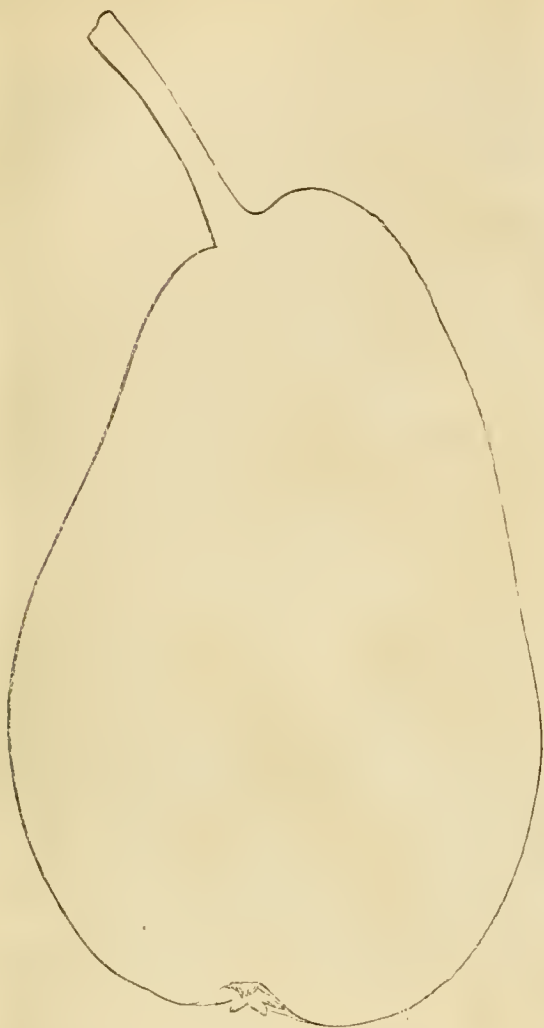
*Salvia gesneræflora.*

much narrower, elongate-ovate, but slightly cordate at the base, and not at all acuminate, *b*. The flowers grow in whorled, simple panicles at the ends of all the branches, and are of a brilliant light scarlet, larger than in *S. fulgens*, but nearly of the same form; the upper lip, however, of the corolla flatter, and less

shaggy, the tube longer, and the style less feathery. From Central America. It was introduced about 1847. Flowers through the autumn and the winter. Introduced by Mr. Purdie, and was first flowered at Syon.—(*Gardeners' Magazine of Botany.*)

## THE FRUITS OF GREAT BRITAIN.

No. 1.—CONSEILLER DE LA COUR PEAR.



SYN.—Maréchal de la Cour; Beau de la Cour; Bô de la Cour.

THIS very excellent Pear was raised by Dr. Van Mons in 1841, and is worthy of the origin from which it sprung.

The fruit is generally above medium size, but that from which our figure was taken is an unusually large one. It is pretty even on its surface, sometimes a little undulating. Skin at first yellowish-green, strewed with dark green dots, thickly covered with cinnamon-coloured russet on the exposed side; so much so as to form almost quite a crust, and permitting only a very little of the ground colour to be shown through it. On the shaded side there is not so much. Eye large and open, with long, stout, and somewhat woody segments, set in a moderate depression. Stalk from an inch to  $1\frac{1}{2}$  inch long, inserted obliquely on the end of the fruit without depression, sometimes by the side of a fleshy lip. Flesh yellowish, very tender, melting and buttery, with an abundant, richly-flavoured juice, which is quite sugary and sprightly, with a fine perfume.

This is one of the best Pears in cultivation. It ripens about the end of October and beginning of November, and is well deserving of general cultivation.

Our figure was taken from a remarkably fine specimen grown upon a standard, and sent us by Mr. George Lee, nurseryman, Clevedon, near Bristol, where it seems to succeed to perfection.—H

SYSTEM EMPLOYED BY M. GREGOIRE-NELIS,  
OF JODOIGNE, IN REARING PEAR TREES

FROM SEED.

THE extraordinary collection of new kinds of Pears exhibited by M. Grégoire-Nélis at the International Fruit Show, on October 8th to 18th, must be fresh in the recollection of the Fellows; and many must have been puzzled to comprehend how one individual should have succeeded in raising so many good kinds. Their wonder will certainly suffer no diminution when it is known that M. Grégoire's plants have not been grafted, but raised on their own roots.

It is notorious, that for one good kind raised by seed a forest of bad kinds appear. It is almost equally so, that it takes nearly half a century to bring a fruit tree grown on its own stock into bearing. The mode in which this long-protracted period of expectancy has been shortened by cultivators has been by grafting the young plants on older stocks, and so endowing them with fictitious age. Yet M. Grégoire's life has not been extended beyond the ordinary span allotted to mortals. He is not an old man. No doubt he has been engaged for a considerable period in prosecuting the experiments whose results have now been exhibited, but not for a period greater than many others. His experience extends over thirty-two years. He ought not, therefore, according to rule, yet to have had a single crop from any of his young trees; but the fact is, that he has tried and adjudicated upon tens of thousands, and from among them he has kept 150 kinds as really good and deserving of preservation. That many of these were so is proved not only by the various kinds raised by him which have already acquired celebrity, but also by many of those now exhibited, whose excellence was acknowledged by the International Pomological Congress at Namur, and by those who saw and tasted them at the International Fruit Show at South Kensington.

He has now communicated his system to this Society for publication. His account is short, and to the point—

1, "He chooses his seeds about the middle of December and January—that is to say, when the Pear is at maturity. He takes the largest."

2, "He sows them in boxes (frames) at the end of January or beginning of February, and when the young shoots have shown four leaves—that is, the two cotyledonous leaves and two others, he pulls them up and cuts away the tap root, as far up as the beard of the root (*recoupe le pivot jusqu'au chevelu*), and replants them in good soil."

3, "He then leaves them for two years in the same place; after that he takes them up again, and again cuts the tap roots (*retranche encore les pivots*). The same operation is repeated every two years, and in this manner he has succeeded in making them produce fruit so early as in six, seven, or eight years."

It is curious to see on how many points our British mode of cultivation corresponds with M. Grégoire's system without having touched it. M. Grégoire attaches much importance to choosing large seeds. He finds that large seeds produce healthy strong plants, and small seeds weaklings, or to use an expression of his own, "*Gros pépins, gros sujets—petits pépins, petits sujets.*" So does the English cultivator. Like M. Grégoire also, they adopt the same time for choosing and sowing the seeds. The usual way here is to take up and pot or replant the seedling when it is about a year old, and in doing so the root is trimmed either accidentally or by design—a treatment which comes very near to M. Grégoire's cutting off the tap root. Again, the young plants are very commonly transplanted every two years, but the roots are not again cut. The system, however, of encouraging the surface roots and preventing the descent of the tap root, if not as old as the hills, is at least as old as the monks who placed flagstones below the roots to compel them to spread. But it does not appear ever to have been applied at the early stages and in the stringent fashion adopted by M. Grégoire-Nélis.

M. Grégoire's experience throws light on a variety of points. For example, he finds that the development, size, and shedding of the spines or thorns borne by the young Pear tree varies much in different trees—some ceasing to produce them in six or eight years, while others do not do so for double the time, and some cease to produce them so early as even three years. He compares their presence and absence to the period of puberty in man, only it is shown in a converse fashion. Man gains his beard on his arrival at puberty—the Pear tree loses its spines.

M. Grégoire's great experience enables him to diminish considerably the period of suspense as to the quality of his seedlings.

In many cases he can tell from the appearance of the young plant whether it is worth giving it a trial or not. If the wood is clear and grey it will probably turn out well; if red or yellow, most likely not.

M. Grégoire's investigations have also enabled him to pronounce with authority upon various questions which have agitated the horticultural world; for example, the system of Van Mons, which found its origin and was mainly supported in the district adjoining the residence of M. Grégoire. This, as most of the Fellows know, was founded on the theory that the successive raising of plants by regular descent improved the breed; that the seed of A produced B, a better kind than A; that B produced C, which was still better; that D, the produce of C, was an improvement on it, and so on. For a time this fancy met with general acceptance. It has still some supporters—but M. Grégoire-Nélie is not among them. It has been already pretty well proved to be nonsense, and it will go near to be thought so shortly.

It only remains to add, that M. Grégoire's statements are free from the bias of personal or at least professional interest. He is merely an amateur horticulturist. By profession he is a tanner, by nature an amiable and intelligent gentleman.—(*Proceedings of Royal Horticultural Society.*)

## MARKET-GARDENING IN WEST CORNWALL.

(Continued from page 613.)

SINCE the first appearance of the disease in 1844 the cultivation of the later Potatoes has gradually declined, till at present it is limited to a small quantity of Scotch Kidneys and Flukes, both of which yield well, and, the latter especially, suffer least from the disease. These are grown, however, rather for private consumption than for the local markets, for the supply of which importation is found preferable.

Whatever may be the cause of the Potato blight, certain it is that no part of England has suffered more severely from its ravages than West Cornwall. The earlier maturity of our crops would, of course, lead us to expect its appearance before it fell on other districts; but here it acts with a power and a rapidity that I never saw equalled elsewhere. Many, indeed, have been the strongly-recommended systems for its prevention or mitigation; but here, carefully applied as they have often been, the result has proved throughout one and the same—viz., the failure of all remedial measures. The only general deductions that I am able to draw from a careful observation of many years are as follows:—that a certain height of temperature is requisite for the rapid spread of the disease; and this I infer from the fact that undoubted blotches of the mildew are constantly seen in April, but not till May do they appear to spread over the field at large. Again, after a few days of overcast moist weather a bright sun develops the blight in its most virulent and rapid form. Lastly, where the tubers are so planted as to have some 4 inches of earth above them, they are found on drawing to have far less disease than those nearer the surface, although the haulm would be equally burnt up.

The early Potato crop is now almost invariably followed by Broccoli, the seed of which is sown in March. The young plants should be pricked-out when 3 inches or 4 inches high, and dibbled-in as the Potato crop is cleared off from May till July. Two sorts only are grown, and the distinction between them is merely that of early and late; the former being ready to cut from the middle of November, and the latter keeping up a succession till the end of April. The rapid growth of the Broccoli plant encourages a slovenly habit of tillage, the Potato-haulm and weeds being seldom raked-off before dibbling, or, as it should rather be termed, spitting-in; as one person inserting his shovel opens the ground, and a woman following places the plant in its position, and fixes it by placing her foot upon it. One hoeing afterwards, and sometimes breaking-up with the shovel, completes the work, the rapid growth following on moist weather overpowering all weeds.

Within the last few years the cultivation of the Broccoli crop has rapidly increased, about 1000 acres being estimated as its extent during the past year; many situations, as will easily be supposed, proving suitable for its growth, where early Potatoes would not succeed.

The white or Cauliflower Broccoli is the only description in cultivation. In such cases, as where this crop does not follow Potatoes, lay ground is generally chosen; and frequently a crop

of hay is taken, and the skim-coulter employed, and the Broccoli then put in with guano. Heavy crops are thus obtained.

The market-gardener thus obtains within twelve months a double return; and the following is an approximate calculation, on an average of seasons, as to the respective costs and profits on his Potatoes and Broccoli:—

Land suitable for these two successive crops will not now be obtained for less than £8 or £9 per acre, and even this price is often exceeded; so that when to this is added the cost of seed, manure, and cultivation, less than £30 or £35 per acre, according to circumstances, cannot be put down to the expense of the Potato crop. The Broccoli, however, goes in, and is taken out at a small outlay; seed, dibbling, hoeing, and cutting not exceeding £3 or £4 per acre. The seed, it should be observed, is universally saved by the growers themselves, that which is purchased being seldom found trustworthy.

A very wide calculation must be made for the returns of the Potato in some years, a late frost causing such destruction that even the value of the seed is not returned. But from £50 to £60 per acre is a probable receipt, for as often would the value exceed as it would fall below these limits. The average produce of a good acre of early Potatoes drawn in the end of May or beginning of June would be from seventy to eighty Cornish bushels (each consisting of three Winchesters), at from 20s. to 28s. per bushel. From this must be deducted the cost of hampers and carriage to the London or the northern markets, with commission, in all not less than from 6s. to 8s. per Cornish bushel. The earlier crops would be worth more, the later less than the above. So uncertain, however, is the produce, and so varied the price realised, that this can only be taken as an approximate calculation. Should the grower, however, be merely recompensed for his outlay, he has his Broccoli to fall back upon. But here, again, his returns, though not influenced by the effect of weather on his own crops, are materially influenced by weather elsewhere. In the winter of 1860-61, for instance, when scarce a Cabbage but was destroyed in all other parts of England, the returns were very large—at least double what they had been in previous years. On one acre of ground the calculation of 9600 plants is near the mark; and this at 1s. per dozen, clear of all costs of carriage, gives £40 per acre. Often as this is exceeded, the average must be put below, and £25 per acre would be a price that growers generally would be well satisfied with.

During the last year production was greatly in excess of the demand, the high prices of 1860-61 already alluded to causing an unusual extent of ground to be put into Broccoli, and the markets were consequently thoroughly glutted. In many cases indeed the returns did not pay for the expenses of carriage.

I do not, however, think that this should be taken as any lasting discouragement, inasmuch as early Broccoli from its immense increase of price from the grower's to the consumer's hands, is yet considered a luxury within the reach of the higher classes only. But surely if the producer can sell with profit at 1s. or even less per dozen, increased facilities of carriage cannot be long in rendering it an article of much more general consumption than we now find it. The subjoined table of the quantities of Broccoli and Potatoes carried on the West Cornwall Railway during the last three seasons will throw much additional light on what has been said on this subject.—W.

WEST CORNWALL RAILWAY.—VEGETABLE TRAFFIC, SEASONS OF 1860, 1861, AND 1862.

Season of	BROCCOLI.		POTATOES.	
	No. of Baskets.	Weight.	No. of Baskets.	Weight.
1860	5,366	702 7 3 20	18,840	1043 10 0 20
ditto 1861	7,066	882 0 3 6	31,872	1788 4 1 8
ditto 1862	18,884	2,284 17 3 21	45,718	2336 13 2 9

(To be continued.)

## SMALL BIRDS.

I AM induced to bring this subject forward again, having a word to say in favour of small birds. I do not say they do no harm, but I think the good they do exceeds by far the damage done by them. In Switzerland, where small birds are relentlessly destroyed, caterpillars swarm. Whole trees are covered with caterpillar cocoons, and look as if a net had been spread over them. The fruit is all eaten, and drops long before it is ripe. Hedges also are covered with these cocoons, and present at times a strange appearance. We should all be extremely

sorry to see our beautiful English hedges spoilt in this manner I am sure, and the most effectual mode of keeping them nice is to protect small birds.—PATELIN.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

TAKE the opportunity of bad weather to tie-up mats, prepare label-sticks, store-up roots, and see that a good supply of covering material is at hand. *Artichokes*, immediate steps to be taken to protect the roots from frost if not already done. In some situations this may not be necessary, but it is best to be on the safe side. *Cabbages*, all that are sufficiently grown to admit of being earthed-up should have it done before severe frosts set in. Red Cabbages for spring use may still be planted. *Cauliflowers*, those now producing heads are very valuable: therefore, the greatest care should be taken to protect them from frost, either by digging them up and planting them in frames, or pulling them up and hanging them in a very cool shed. *Endive*, take up and plant in a frame some of the most forward, so that should severe frosts set in, they would afford a regular supply. *Radishes*, these in some places are required the year round. Where such is the case, it will now be necessary to sow on a slight hotbed; after they are up, air to be given at every favourable opportunity. If they are sown immediately, they will be ready to draw about the end of January. *Rhubarb*, a few old roots may be taken up and planted in boxes or pots, which may be placed in a Mushroom-house or any other place where the heat is about 60°. *Small Salad*, keep up a succession by sowing in boxes about twice a-week.

### FLOWER GARDEN.

The weather is still favourable for executing alterations, and where these are in hand they should be prosecuted with the greatest possible dispatch. Get in a stock of Briars for budding upon next season. Tulip-growers may be reminded that people begin to plant their blooming bulbs, and that if they want any particular sorts they must be quick in their application. All offsets should be in the ground now, and the main beds had better not be delayed. Continue to examine Auriculas, taking off dead leaves, and above all things seeing that the plants are well dried, and have no drip from the frames. Plant Anemones and Ranunculuses for early flowering, but the choice kinds for showing are not put in till February. Plant Hyacinths and early Tulips, Narcissuses, &c., in the open ground, and continue to pot and glass them for forcing. As tree leaves are always in request, either as a fermenting material or for leaf soil, they should at this season be carefully collected. If they are required only as a manure they may be stowed away in any by-place and left to rot; but if they are required as a cheap mode of affording bottom heat, they should be secured somewhere under cover until wanted for use.

### FRUIT GARDEN.

Make up all vacancies in the Gooseberry and Currant department. All trees of these kinds should have a clear stem of at least 18 inches high; the old plan of growing them near the ground is objectionable for many reasons. The plan of rearing some, pillar-shape, from 8 feet to 10 feet high is adopted by Mr. Tombs, gardener to Major-General Fox, Addison Road, Kensington, and is one by which a great saving of space is effected. They are kept spurred-in from bottom to top, and bear abundantly. Pruning to be now carried on in earnest with Pears, Apples, Plums, and Cherries, and nailing should be commenced. Lay the wood in regularly, using as few shreds as possible, and adapting the size of the shred to the size of the wood. The standards in orchards will also require attention. If the heads of these were kept well thinned-out, that the air and sun could reach the whole of the branches, there would be much finer fruit—a much cleaner and more healthy appearance.

### STOVE.

Let the resting section of Orchids settle quietly down towards their habitual repose, by withholding water at the root, and by diminishing the amount of atmospheric moisture, by permitting a liberal ventilation in favourable weather.

### GREENHOUSE AND CONSERVATORY.

Very little water will be required here at present, but the plants should be carefully looked over twice or thrice a-week, so as to be sure that no plant is allowed to feel the want of it. If not already done, get the plants tied with the least possible

delay, for it is rather difficult to tie a plant so that it will not look somewhat stiff and irregular, and the sooner such attention is paid to them the better they will look when in bloom. If such things as Geraniums, Cinerarias, and Calceolarias, must be wintered in the same house with Heaths and other hard-wooded plants, they should be kept as much as possible by themselves, as they will require a somewhat closer atmosphere than hard-wooded plants. Roses for early forcing to be pruned by this time, and placed where they will be safe from heavy rain. Where American and other shrubs are used for forcing, they should be taken up and potted without delay, placing them in a cold pit until they are wanted for forcing, or in a turf pit where they can be protected from severe weather by mats, straw, or other covering. Fires to be lighted occasionally in damp weather to dry the house, and air to be given only when it is dry outside.

### PITS AND FRAMES.

All stores intended to be wintered in these structures should now be finally arranged as soon as possible. A dry atmosphere with a liberal amount of ventilation when the external air is dry are the requisites. A useful hint may be taken from the Verbenas in the borders which remain out. How often do we see these plants green through a great portion of the winter. They are well established at the root, and would withstand a moderate dry frost much better than a damp and confined atmosphere.

W. KEANE.

## DOINGS OF THE LAST WEEK.

THESE have almost been a repetition word for word of last week. With the exception of getting Strawberries under cover, sulphuring an orchard-house, &c., little has been done except potting and moving plants so as to make them more secure; getting all flower-pots cleaned and under cover before frost should crack them in their wet state, and in fine days root, pruning a few trees which were rather strong. It has been too wet to do much out of doors. The Dalilias are now levelled, but I like the roots to remain a little in the ground afterwards. We will be at them the first fine dry day, and then clear the beds.—R. F.

## TO CORRESPONDENTS.

\*\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

FRUITS FOR JERSEY (*J. Levesque*).—Apples for kitchen use—Dumelow's Seedling, Golden Noble, Bedfordshire Foundling, Alfriston, Rymer, Hambleton Deux Ans, Yorkshire Greening, and Small's Admirable. For dessert use—Kerry Pippin, Cox's Orange Pippin, Golden Russet, and Nonpareil. You will find all the prize Lancashire Gooseberries described in Dr. Hogg's "Fruit Manual," which you can have direct from this office by enclosing forty-six postage stamps.

DIGGING GROUND BY THE ACRE (*W. H.*).—The Hop gardens in Kent are dug by the acre, the usual price being from 16s. to 20s. per acre. They are dug shallow with the fork, and the turned-over part is not touched again by the digger. To dig "very stiff" garden ground, if well done, might be worth nearly double the above amount, especially if dug a fair depth; much depends on the quality of the work done. The fork is a better digging tool than the spade in all soils except the very sandy and light ones.

ASPARGUS CULTURE (*A Constant Reader*).—From your want of success in past years we fear your soil is not suited to the growth of this plant. If it is a stiff clay, through which water will hardly percolate, a thorough draining will be the first thing; afterwards burn a part of the clay, and mix with the top soil, which ought to consist of about 18 inches of good staple soil. Digging in large quantities of sand or lime will be useful, and if you can get anything like a loose, open, sandy soil, you may then improve it much by frequent dressings of salt; but salt is far from possessing all the properties alleged of it when given to ground of a stiff, clayey nature, as it only increases the moisture, and renders the ground sour, and less likely to part with it. By first rendering the ground open and perfectly porous, you may apply salt, which, in addition to improving the plant, will destroy the wireworm you complain of.



head. All have largely increased their value in money. This is not the only advantage. Poultry was formerly thought unworthy the notice of any but those small and needy agriculturists who were driven to any expedient to eke out the rent, or to the happier class who having secured a competency in town, went into the country to spend it. But with exhibitions came different ideas, and men of education and judgment became poultry amateurs. The influx of the aristocracy and the list of names among the competitors proved the pursuit was not a degrading one, and numbers took it up. Professional men found it a pleasant relaxation. It was a relief for the overtaxed brain, or the weary frame; it broke the monotony of business or the office, and first-class men looked at the clock to see if the time was at hand when they were free to attend to their poultry. This could not be without its good effect. Medical men brought their knowledge to bear on cocks and hens; they gave their opinions to others who carried them out, and the result has been evident for years. In the early days of poultry shows it was a published rule that diseased birds would be removed, and we have a vivid recollection of a row of empty pens at the Show at the Surrey Zoological Gardens labelled, "These birds removed, being in a diseased state." Such a thing never occurs now: stock has been more carefully bred, and preventive measures have been adopted, so that it is rare to see a diseased pen at a show; and roup, such as used to call for removal, is never now seen. Fowls have been bred for every climate; gardens and societies of acclimatisation, here and abroad, have sprung up, many of them owing their origin to Bingley Hall. The meeting about to be held may be proud of the part, and fairly ask for continued and increasing support in future.

#### COTTAGERS' CLASSES.

A CORRESPONDENT asks why there are none of these in the Birmingham prize list. We are not in a position to speak in the name of that Council, but we know what the result has been elsewhere. We lately reported the Northamptonshire Show at Stamford: for a liberal cottager's prize list there was but one entry. In the early days of these shows proprietors of "cottage-ornées" thought themselves eligible, and the cottager often paid £50 rent, and inhabited a twelve-roomed house. Then the entries were numerous; but when competition was restricted to those who did not pay more than £6 rent, there were no entries. There are many reasons for it: one is that it is true of poultry shows as of churches—if they are to be devoted to the poor exclusively they will have nothing to do with them. Let there be a mixture, and they like both, but they do not approve of competing only with their fellows. We know in a camp that, owing to a schism, two houses were patronised exclusively, one by non-commissioned officers, the other by privates. The separation lasted but a short time; the privates were less numerous every evening, and those who left all went among their superiors. This may be one reason; another is that English cottagers are not poultry-keepers, with the exception of those who live near commons, and they keep Geese. As a rule they have no space for fowls; they trespass, and neighbours complain. Many employers forbid their men to keep poultry, thinking it a temptation to dishonesty, as the food is lying about, and encourages a beginning of "just a handful." When the prizes were awarded they seldom went to the class for whom they were intended, and for these reasons committees have almost everywhere ceased to offer premiums.

#### MIXING VARIETIES IN ONE CLASS.

HAVING seen several letters in the *Poultry Chronicle* under the above heading, perhaps I may be permitted to say a few words. I believe Mr. Ballance was the first; and as he has been so connected with the poultry exhibitions, one would have thought that he must have been aware of the difficulty a committee has to contend with in trying to please all parties in the drawing-up of their schedule of classes and prizes. Having been through it myself I know, or ought to know, something about it.

My view of the matter is this, that the main objects to be carried out in a poultry show are usefulness for table and egg-laying, and for the committee to give such prizes as shall cause a stimulus amongst breeders of such birds. Now, for instance, a committee (local) meet to draw-up their prize list. We will suppose they have from £50 to £60 to give away in prizes, and, of course, to give liberally. They pass unanimously the first five or six renowned classes of the day, then comes the trial

Mr. A. keeps Minoreas, Mr. B. Andalusians, and Mr. C. Malays. Now, of course, you must have a separate class for each, or else these three worthies will not support our show; but Mr. D. says, "I keep the Silkies, and, of course, you will have a separate class for them;" so that really the committee got so bewildered that they are compelled to throw them all into one class, not having sufficient funds, and not knowing where to draw the line, and finding it utterly impossible to please everybody.

Perhaps the parties who have found fault respecting the classification of shows after they have attended a few meetings may know better.—E. J.

#### POULTRY EXHIBITIONS CLASHING.

WE once more warn committees against holding their exhibitions simultaneously. Doing so diminishes the numbers of entries; the best birds cannot beat two shows on the same day; the most experienced judges cannot officiate at both; amateurs and dealers cannot hurry from one to the other; nor can we provide reporters gifted with ubiquity.

If a committee finds that it has fixed upon days for an exhibition that have also been selected by some other committee or committees, that committee should correspond with them upon the subject, and all should be ready to yield for alterations of date that may be most conducive to the success of each show. This is not only a dictate of common sense, but of self-interest.

#### GLASGOW POULTRY AND PIGEON SHOW.

THE city of Glasgow's first annual Poultry and Pigeon Show took place on the 4th inst. in the Trades' Hall. There was a large number of exhibitors, and the Show was a most excellent one.

The following is the list of awards:—

- DORRING.**—First, Viscountess Holmesdale, Linton Park, Staplehurst, Kent. Second, J. F. Newton, Kirby-in-Cleveland, Yorkshire. Third, C. Whitwell, Tolson Hall, Kendal. Commended, D. Logan, Netherton, Renfrew.
- CHICKENS.**—First and Second (Medal), J. Linning, Glasgow. Third, D. Dougal, M.D. Strathaven. Highly Commended, D. Dougal, M.D.; A. Paterson, Airdrie. Commended, J. Anderson, Meigle; D. Logan, Netherton, Renfrew.
- SPANISH.**—First, W. Wilson, jun., Beith. Second, F. Somerville, Edinburgh. Third, W. Jamieson, Busby. **CHICKENS.**—First (Medal), W. Wilson, jun., Beith. Second, M. Gilmour, Inchinnan, Paisley. Third, A. Paterson, Airdrie. Highly Commended, F. Somerville.
- GAME (Black, Brown, and other Reds).**—First, C. W. Brierley, Rochdale. Second, Miss E. Beldon, Bradford. Third, W. Robertson, Polmadie, Glasgow. Highly Commended, W. Robertson; J. London, aen., Wishaw.
- GAME (Any other variety).**—First, Miss E. Beldon, Bradford. Second, C. W. Brierley, Rochdale. **CHICKENS (Any colour).**—First, J. H. Mc'Nab, South Arthurrie, Barhead. Second, W. Robertson, Polmadie, Glasgow. Third, J. Anderson, Meigle. Medal, G. Baily, Waterloo Road, London. Highly Commended, W. Miller, East Bay, Gourcock.
- OLD SCOTCH BREED.**—First, J. Horner, Bosby. Second, A. Watson, Bosby. Third, T. Clarkson, Newmaids, Wishaw. **CHICKENS.**—First, J. Kilpin, Mearns. Second and Third, W. Thompson, Glasgow. Highly Commended, J. G. Brown.
- COCHIN-CHINA.**—Prize, A. Paterson, Airdrie. **CHICKENS.**—First and Third, A. Paterson, Airdrie. Second, J. Sharp, Johnstone.
- HAMBURGH (Golden-pencilled).**—First and Second, J. Lindsay, Thornhill, Stewarton. Third, J. Holborn, Stewarton, Ayrshire. Highly Commended, R. Cunningham, Stewarton.
- HAMBURGH (Silver-pencilled).**—First, A. Yuill, Airdrie. Second, W. Cannon, Bradford, Yorkshire.
- HAMBURGH (Golden-spangled).**—First, W. Cannon, Bradford. Second, J. Wilson, Glasgow. Third, W. Robertson, Polmadie, Glasgow. Highly Commended, J. Holborn, Stewarton, Ayrshire.
- HAMBURGH (Silver-spangled).**—Second, Viscountess Holmesdale, Linton Park, Staplehurst, Kent. Third, W. Cannon, Bradford. Highly Commended, R. Cunningham, Stewarton.
- HAMBURGH (Any colour).**—**CHICKENS.**—First, W. Robertson, Polmadie, Glasgow. Second, H. Pollock, Rutherglen. Third, J. Lindsay, Thornhill, Stewarton. Highly Commended, W. Robertson; J. Stewart, Springhill, Barhead.
- POLAND (Any colour).**—First, A. Yuill, Airdrie. Second, Miss E. Beldon, Bradford. Third, D. Brown, Glasgow. Highly Commended, J. Stevenson, Chapelhill, Airdrie; W. Robertson, Polmadie, Glasgow.
- ANY OTHER DISTINCT BREED.**—First, Mrs. M. Seamons, Hartwell, Aylesbury. Second, E. Hutton, Pudsey, near Leeds. Third, J. Jamieson, Corsehill, Stewarton.
- BANTAMS (Game).**—First, C. W. Brierley, Rochdale. Second, Miss E. Beldon, Bradford. Third, J. Anderson, Meigle. Highly Commended, M. Linning, Glasgow.
- BANTAMS (Any other variety).**—First, C. W. Brierley, Rochdale. Second, A. Paterson, Airdrie. Third, J. Anderson, Meigle. Highly Commended, E. Hutton, Pudsey, near Leeds; J. E. Linning, jun., Glasgow.
- DUCKS (White Aylesbury).**—First and Third, Mrs. M. Seamons, Hartwell, Aylesbury. Second, W. Robertson, Polmadie, Glasgow. Highly Commended, Miss W. Ogilvie, Meigle. Commended, T. Clarkson, Newmaids, Wishaw.
- DUCKS (Rouen).**—First and Second, Mrs. W. Whitehead, Kingsland Road, London. Third, W. Whyte, Glasgow. Highly Commended, J. Isaac, Drumpeller, Coatbridge.

Ducks (Any other variety).—First, Mrs. W. Whitehead, Kingsland Road, London. Second, J. Anderson, Meikle, Third, E. Hutton, Pudsey, near Leeds. Highly Commended, J. Jamieson, Corschill, Stewarton.

TURKES.—First and Third, W. Robertson, Glasgow. Second, D. Brown, Glasgow.

GESE.—First, J. Jamieson, Stewarton. Second, D. Brown, Glasgow.

SWEETSTARS FOR GAME COCKS.—First, J. Mollison, Meikle. Second, J. London, sen., Wishaw. Third, W. Robertson, Glasgow. Highly Commended, H. Chaworth, Musters, Dunnach, Oban.

FIGHTONS.—*Powers*.—First and Second, J. Miller, Camlachie. Third, J. Paton, Stewarton. Highly Commended, W. Neilson, Johnstone; W. Ranken, Glasgow. Commended, W. Neilson, Johnstone. *Carriers*.—First, W. B. Haansbergen, Newcastle. Second, H. Martin, Glasgow. Third, J. Miller, Camlachie. Highly Commended, J. Sharp, Johnstone; A. S. Sylvester, Birmingham. Commended, J. Miller, *Fantails*.—First, J. Miller. Second, A. Paterson, Airdrie; Third, H. Yardley, Birmingham. Highly Commended, J. Kinloch, Glasgow. *Jacobins*.—First, A. S. Sylvester, Birmingham. Second, A. Morrison, Glasgow. Third, J. Miller, Camlachie, Highly Commended, J. R. Rennards, Helensburgh. *Short-faced Tumblers*.—First, J. Miller, Camlachie. Second, A. Sylvester, Birmingham. Third, W. B. Haansbergen, Newcastle. Highly Commended, H. Martin, Glasgow. *Common Tumblers*.—First, F. Pinkerton, Calton. Second and Third, A. Morrison, Glasgow. Highly Commended, J. R. Rennards, Helensburgh. *Any other variety*.—First and Second, J. Miller, Camlachie. Third, H. Yardley, Birmingham. Highly Commended, A. S. Sylvester, Birmingham. Commended, W. B. Haansbergen, Newcastle.

EXTRA STOCK.—*Game Cock*.—Prize, J. James; also, Highly Commended, for one Silver Hamburg cock; and Commended for two Game hens. *Turbits*.—Highly Commended, J. McGraw; also, one *Powder Cock*. *Golden Pheasant*.—Commended, D. Brown, Glasgow.

JUDGES.—For *Poultry*, Dr. Stevens, Ardrossan; Mr. J. Price, Glasgow; and Mr. W. C. Hardie, Carron Ironworks, Falkirk. For *Pigeons*, Mr. M. Stewart, Glasgow, and Mr. J. Cochrane, Glasgow.

## THE EXHIBITION WEEK IN BIRMINGHAM.

WE have pleasure in stating that the entries for all departments of the forthcoming Show in Bingley Hall are in every respect satisfactory. Of cattle, the number, we believe, are greater, with one exception—the year 1851—than those for any previous exhibition. There will also be an unusually large number of sheep; the classes for fat sheep and for the Silver Cup offered by Messrs. Mapplebeck and Lowe, being well filled; and this is the case also with the classes for single ewes—which form a very useful addition to the other features of the Show. The pigs will muster to about the same extent as last year. There is, however, it will be noticed, a considerable falling-off in the entries of roots, which was to be expected from the peculiarly unfavourable nature of the season.

The collection of domestic poultry will, as usual form an important and most attractive part of the Exhibition; and we believe that there will be so strong a competition in all the principal classes as will prove that amateurs in all parts of the kingdom are pursuing with increased attention that interesting branch of rural economy which has been so greatly benefited by the establishment of the pleasant meetings at Birmingham.

We can also report favourably with regard to the Exhibition of dogs, to be held during the same week. We have not at present received a complete return of the numbers, but we believe the total will not be far short of six hundred. All the principal classes will be well filled; and in the two divisions we may hope to see the finest collection of dogs that has ever been brought together in England. This Exhibition, like the Cattle and Poultry Show, appears to be firmly established in public favour; while its promoters have, by the judicious and honourable manner in which they have carried out all their plans, obtained the full confidence of those upon whom they must mainly rely for success. We may add that the situation of the building now erecting for the purposes of the Show will be in all respects most convenient for visitors, being in the direct line from the railway stations to Bingley Hall.

There is yet another Exhibition in what we usually call "The Cattle Show week," that of Fruits, Chrysanthemums, Camellias, Gourds, &c., in the Town Hall. We have, from the first announcement of this Show, looked upon it as an experiment deserving the utmost encouragement. The increased attention which is now devoted to the cultivation of fruit, both in orchard-houses and in the open garden, renders competitions like that we are about to witness in every way desirable, and especially to show, which they will do, what may be accomplished in particular localities. A more plentiful supply of fruit for sale, and that of a higher quality, is also much needed, and especially by dwellers in towns, who must purchase all they want. With regard to the general supply of the products of the country, there may be but little to complain of in Birmingham, for instance; but as respects fruit we are, we believe, in a worse position than many small

country towns. Applications for space at the forthcoming Show must be made not later than the 20th instant.—(*Midland Counties Herald*.)

## LEEDS AND WEST RIDING HORTICULTURAL AND POULTRY SHOW.

IN your last Journal you copy a paragraph from the *Leeds Mercury*, and comment thereon. I think, in justice not only to myself but others, I ought to offer some explanation through your columns.

About the middle of last spring I was requested by Mr. Edward Holdsworth and Mr. John Wade to become a member of the Committee: this I consented to do, and found upon attending my first meeting that the affairs of the Society were managed by a Committee, Treasurer, and two Secretaries, John Wade representing the horticultural department, and E. Holdsworth the poultry.

In the course of a month or so a list of patrons was obtained, a President elected, and the prize lists printed; when, in consequence of certain circumstances (which I have no need to make public), Mr. Holdsworth was requested to resign, and I, unfortunately, was induced to succeed him.

As your Journal pointed out at the time, the Poultry Show was a great success; but I regret to say that financially it was a miserable failure. In consequence of the combined attractions of the annual fair, and a trip to the International Exhibition, we had a very limited attendance of visitors, receiving only £19 at the doors; and although patronised by the principal nobility and gentry of the county, except in a few instances the loan of the use of their names was all that they would or did do for it.

At the close of the Show I called a meeting of the Committee, and laid a statement of the accounts before them, and explained that if each member of the Committee paid between £5 and £6 everything could be paid at once, and the affair quietly wound-up: this, however, they declined to do, stating that they had paid as much as they intended to do, and that I should either have it all to pay myself, or leave it unpaid. I then informed them that I should take the only honourable course left me—viz., to hold myself responsible to pay everything connected with the poultry department which had been ordered since I became Honorary Secretary, including the prizes, and that I considered it very ungentlemanly of them after inducing me to join their Society to leave me to pay for their amusement; and that I should expect Wade to pay the remainder, as he and his brother (the Treasurer) held all the funds that had been collected previously to the Show.

About a month after this Mr. B. W. Sharp, printer, Briggate, called upon me for the settlement of his account, stating that he had been sent by Wade. I told him that I had already paid more than I had received, and was only going to pay those accounts which had been incurred since I became Secretary, and that Wade had funds in hand, since I could hear of no instance of his having liquidated any of the claims made upon him for prize money, &c., for the floral department; and I advised him, Mr. Sharp, to enter the affair into the County Court, when I should put in a plea of infancy and throw the responsibility upon Wade, and by these means get at least part of the funds out of him. This Sharp agreed to do.

In due course the day came for the hearing of the case, when Mr. Sharp was most distinctly informed by my solicitor that if the law failed to make Wade pay, although I was not in the least responsible, I would see it paid; and the Judge on hearing the particulars ordered Wade to pay the account.

The paragraph which you inserted last week was communicated to the *Mercury*, and is very one-sided, and calculated to throw the disgrace of the affair upon me.

Mr. Ferns' statement that my father had got £15 of the funds is simply absurd, and I should like either Mr. Ferns or Wade to say where he got it from. He did obtain promises of subscriptions for £14 or £15, but succeeded in collecting only about £7 10s., which was handed over to me and paid away long ago.

The report also says that Wade denied that I had paid £107 and received only about £60. I never heard him deny it; and even if he did, I do not see how he could be in a position to do so, because I have had no communication whatever with him since the committee-meeting after the Show, when I left him and his friends in disgust after having failed to induce them to pay their share of the loss.

Wade stated that he had not received one penny of the funds. Now, you will agree with me that it is impossible for a man to be secretary of a flower show, and still never receive a single penny. Allow me to ask Mr. John Wade who received the entrance fees for the floral and horticultural department of the Show? He received the entries, and no doubt received the entrance fees with each entry, as I had nothing whatever to do with that part of the Show. But this is not all. Wade and his brother who officiated, as I said before, as Treasurer, received all the monies obtained up to the day of the Show (excepting only the poultry entry fees), including a £1 subscription from each member of the Committee. I paid my £1 into John Wade's own hands, and yet he says he never received a penny!

I hope I understand you rightly, when you say that the committees of poultry shows are bound in law to pay all just demands connected with such exhibitions. Can I sue each member of the Committee I have to deal with for his share of the loss?

I hope, however, that my case may be a warning to any gentleman who is about to undertake the office of secretary to a poultry show, to make his committee guarantee him something like the expenses before going any further with the affair.

After this I am sure you will agree with me, that although inexperienced it will teach me in future, before I again act as secretary for any society, to ascertain as far as may be the character of the men that form the Committee.—GEORGE NEWTON, *East Street, Leeds.*

[This statement needs no comment. Taking for granted that its particulars are correct, the Committee clearly are bound in honour to bear their proportions of the loss.—EDS.]

### FRAUDULENT EXHIBITORS.

In the article last week we have shown that the committees of exhibitions cannot avoid paying the debts and liabilities they incur as officials, and we will now place before them an example they will do well to follow in resisting and punishing unfairness on the part of exhibitors. In the case which follows, the unfair exhibitor was so indiscreet as to sue the Committee for withholding a prize from him, to which by the letter of the Society's rules he was entitled, but which the Judges withheld from him, and justly withheld from him, on what they considered a fraudulent attempt to deceive. A convicted felon forfeits all his property, and by a parity of justice a fraudulent exhibitor forfeits his title to each and any prize that may have been awarded at that show. We would go further, and advise all committees to add the following to their rules:—

"No one who has been adjudged by a Society's officials guilty of fraudulent practices, can be allowed to exhibit; or, if inadvertently permitted to exhibit, will he be allowed to retain any prize which may be awarded to him."

#### HUGH DICKSON, NEWTOWNARDS, v. THE MEMBERS OF THE DOWNPATRICK HORTICULTURAL SOCIETY.

At the Newtownards Quarter Sessions, on Tuesday last, an action was brought, as the process stated, "for that plaintiff, being a subscriber to a certain body, society, or association calling themselves 'the Downpatrick Horticultural Society,' and also an exhibitor at the Downpatrick Horticultural Exhibition, and, as such, became entitled to, and was duly adjudged and awarded by said society or association at their last exhibition in Downpatrick, for certain agricultural and garden produce exhibited thereat by him, a silver challenge cup, value £10 10s.; ten prize certificates; a barn barrow, value for £1; and 10s. as a first-class prize for six parsnips." The plaintiff averred that the defendants refused to deliver up said prizes, although demanded, and his claim now was for a return of same, or the value thereof.

Mr. Dinnen, in opening the case, said it was an action brought by Hugh Dickson, who is a farmer in Newtownards, against the defendants, the Committee of the Downpatrick Horticultural Society, and also against the Secretary of the Society. It was an action of detinue, in consequence of the defendants withholding from his client certain prizes which were awarded to him by the Judges at the late Show of the Society in Downpatrick. The plaintiff was an exhibitor not only at the last Show, but also at the previous Shows of the Society, and was a competitor for the silver challenge cup on the last occasion. The cup was value for £10 10s., and it should have been awarded to the person

taking the largest number of certificates, two second prizes being of equal value to a certificate. The rules of the Society were to the effect that the cup should be given to the competitor who obtained the largest number of prizes, the competition to be confined to farmers belonging to County Down. As his Worship would see from the rules of this honourable Society, the more successful competitor at the previous Show must have held the cup in his possession during the past year, which his (Mr. Dinnen's) client did; but to become the final holder it was necessary that he should again be the winner of it. The plaintiff was a very successful competitor, and had carried off a great many prizes. The Judges had inspected the produce he exhibited, beans and vetches, and deliberately gave their opinion, awarding to Mr. Dickson the silver challenge cup. The class was open to farmers holding thirty-one Irish acres or upwards, or gentlemen who kept land stewards. After enumerating the different classes in which his client had been successful, Mr. Dinnen went on to say that Mr. Dickson had obtained the majority of prizes at the Exhibition, and that, even if the challenge cup were taken from him, he would still have far outnumbered the other competitors. However, after the certificate had been given by the Judges, when the card was put on the articles it was considered the final decision; it was considered that the prize had been awarded to the article on which it was so placed. On the card being placed on the beans, some rival competitor made an objection to the prize that had been awarded to Mr. Dickson. These beans, it appeared, had been very nicely and very artistically fixed and arranged, so as the better to show them to the Judges and the public. Now, although the thing had been done without his client's knowledge, it appeared that some one in his establishment (he believed his son) used a small wire to fasten on some of the pods which had fallen off the stock. The Judges had examined this article, but the rival, who thought he had discovered a mare's nest, took objection to it. Without any notice, and behind his client's back, the Committee came to an agreement that they would expel him from the Society, and would not give the cup to him, which he had fairly won. Suppose his Worship would hold that these beans had been improperly put up, he would say it was very unfair and very disreputable on the part of the Society to withhold the cup when his client had taken the majority of prizes. He had taken no less than eight or nine over and above his rival. The question, however, would turn on the Society, to which he would claim his Worship's attention. The seventh rule said that the Judges had power to award first and second prizes, according to merit, or withhold prizes altogether, if they did not consider the articles worthy, and that their decision in all cases should be final. He considered, therefore, that the Committee had nothing to do with the matter. The Judges' finding was final and conclusive. If his Worship would hold that the case in question came under the ninth rule, in which it was stated that all disputes and objections should be referred to the Committee, then he would say that the objection or refusal of prizes applied only to the beans; and he, having the majority of prizes, leaving out the beans, was clearly entitled to the cup, however valuable it might be, and however much the Society might wish to retain it in their possession.

Hugh Dickson, the plaintiff, was examined by Mr. Dinnen. He deposed—I was a member of this Society, and paid my subscription. Last year I competed for the challenge cup, which I had in my possession the previous year. I was an exhibitor at the last Downpatrick show. I competed for potatoes and barley, and got first prizes. I got first prizes for the beans and vetches, but they were taken off again. They are the same as those for which I received prizes at the Newtownards Show previously. [The witness enumerated the other prizes which he had received.] With the exception of the beans and vetches, I had eight first prizes and three second prizes. I was not aware that there was any wire used with the beans and vetches. To the best of my knowledge there were no pods on the beans but those which belonged to them. I got no notice that the Committee were going to investigate the matter. Mr. Carter told me on the day of the Show that he would call a meeting, and that he would send me a note.

Cross-examined by Mr. Murland—I believe this paper to be in my handwriting. [This was a certificate that the articles of produce had grown on Mr. Dickson's farm, and that the produce was fairly exhibited.]

Mr. Murland said he would now state what the case of this Society was. His Worship had heard what the rules were, and

he knew that it was impossible for judges going round to detect fraud in the articles exhibited. This and other societies of the same kind were entirely in the hands of the contributors as to whether they honestly brought forward their articles. Indeed such Societies must depend on the honour of their members. The beans were exhibited by Mr. Dickson in a sort of sack, for the purpose of exposing them the better; and in this way the pods appeared very numerous, upon which the awarding of the prizes depended. The Judges went round, never suspecting that the pods upon which they looked had been put on by the competitor's own hands. There were a good deal of articles exhibited by this Mr. Dickson, and by the way in which they were put up depended the prizes. In the course of the day an objection was put forward which called the attention of the Judges to the beans. Upon examining them, they found one of the most ingenious devices that could be contrived for the purpose of showing more pods on the stalk than really belonged to it. The pods, as his Worship could see, could not drop off when the stalk was green. Holes had been cut in the stalk, and beans which had never grown upon it were fixed in; and the Judges found this so fraudulently and so disgracefully made up that they said, "We withdraw this prize," and reported it to the Committee. They were very indignant. That fraud disentitled him to a place in the Downpatrick or any other Society. The Committee met, and said, very properly, "We shall not give the prize to this Mr. Dickson. He is guilty of a gross fraud; and, having been detected, we shall give him no prize." In the vetches there was also a kind of fraud perpetrated. The whole stalk should have been shown; but the bare parts had been cut off. Now, it had been called a disreputable Society for not giving Mr. Dickson all the prizes. If the plaintiff himself did not fix the pods on the stalks, he was liable for the fraud. The Judges at once told the Committee that he was not entitled to any prizes. Mr. Murland read a portion of the Society's rules as to all disputes being referred to the Committee, and concluded—Mr. Dickson, as a member of this Society, is bound by, and a party to, the making of these rules. Now I would say that there was a dispute in this instance whether the cup should be awarded to a member of the Society or not; and it was the unanimous opinion of the Judges and Committee—a very large one—that the cup should not be awarded to him. No punishment that the Society could inflict upon this man would be sufficient for the offence, because it strikes at the root of all honesty. If this be allowed to go unpunished, a man can take his beans in this way and endeavour by means of fraud to make his farm produce far better than his neighbours'. Nobody can tell whether the good produce has got the prize or not. If ever there was a case in which there was a breach of good faith, this is one of them.

His Worship—Do the Judges concur in the views of the Committee?

Mr. Murland—Perfectly. Mr. Murland also read extracts from "Addison's Law of Contracts."

His Worship thought the Committee had a perfect right to investigate the matter, as, by their rules, all disputes were to be referred to them. That was his view of the case, and, if he were correct, it would put Mr. Dinnen out of court.

Mr. Dinnen—If the Judges have rescinded all the awards they have made, then, your Worship, you would be right; but they have not done so.

His Worship considered that the Judges were subject to the Committee; and he did not think it necessary to go into what the Judges had done.

Thomas Taylor examined by Mr. Murland—I was one of the Judges at the late Show in Downpatrick, and my attention was drawn to the beans on the day of the Show. Under the place where the pods grew from the stalk a hole had been put in, and pods were attached with wire where pods never grew. It was a complete fraud. When inspecting, we first look at the stalk generally. They were very artistically put up. I told the Judges the beans were fraudulently made up. Mr. Dickson came up and told us to examine the stalk, and said there was not a solitary pod on it which had not grown on it. He persisted so strongly that I was about to give him into custody. We also examined the vetches, and found that they, too, were fraudulently put up. I directed the Secretary to withhold the cup till such time as the case would be inquired into.

Cross-examined by Mr. Dinnen—Are you not ashamed of yourself now?—No. Are you not ashamed of passing over these, and giving them the prize?—I am not, they were so artistically

put up. I will swear that the pods could not have belonged to the stalk—there were more pods than belonged to the stalk.

His Worship—Were there any places which might have had pods, and had been broken off? Witness—No, I believe not.

Mr. Dinnen—Do you happen to know that the wires would present the beans to the Judges in a better position? Witness—I don't know. We don't grow beans here with wires in them.

Mr. Dinnen—Were you at Newtownards Agricultural Show? Witness—I was not.

Mr. Dinnen—Well, you should have gone to it, for it was a better Show than at Downpatrick. Would you be surprised if the same vetches got the prize at Newtownards? Witness—I would not. I don't know if the plaintiff had the majority of prizes. He had a great many. This card [a prize card produced] was put on some of the articles.

His Worship said—I am still of opinion that we have no right to go into the grounds of the Judges' decision. If they say to the Committee, "Withhold the prize from this man" we cannot go beyond it. In deciding in this way, I could, of course, go on and fortify my decision, because there would be another point—if this is not a case of contract—and we do not want to go into that. The whole matter is an entire contract, and one party coming into this court in this way to sue another would need to do so with clean hands.

Mr. Dinnen—Well, sir, I do not wish to press this case further; but, when the Judges do not withdraw the other prizes, I think they have no control over this challenge cup.

His Worship—I believe, if the Judges think it right to withhold the cup, we have nothing more to do with them.

The case was dismissed.—(Northern Whig.)

## DO BEES VARY?

THE insertion of Mr. Darwin's inquiry in the German *Bee Journal* has elicited the following reply from Herr Kleme, pastor of Lüethorst, in Hanover, and one of the ablest apiarists in Germany.—A DEVONSHIRE BEE-KEEPER.

"DO BEES VARY IN THE DIFFERENT PARTS OF GERMANY?"

As Mr. Charles Darwin desires the apiarist experiences of German bee-keepers on deviations of bees amongst each other, this must induce them not to withhold their observations on this point. I fear, however, that these will not give any particular aid to his known theory. For although we possess in the one species, *Apis mellifica*, two different races\* the distinctions of which have proved constant from antiquity, yet amongst these no essential deviations have appeared.

"No animal has drawn the undivided and continual attention of mankind to itself in the same degree as the bee; and no animal have observations been preserved to us from such antiquity, long before our era, more carefully and extensively than on her; but yet we find no change in her. We find that in every climate and under all circumstances she has always remained the same; has kept shape, character, manners, and customs unaltered; so that it is, therefore, impossible for us to be able even to follow the traces of her extension by degrees over the old world; and although man has brought bees into his own neighbourhood from time out of mind, yet has domestication had no influence on their way of life. In the wild as well as in the so-called tame state, in the garden, forest, and wander-bee-keeping have they remained faithful to their original manners and customs, and departed not one tittle from the way pointed to them by instinct.

"And so it is also with their inner and outer shape. We find them at present exactly the same as Aristotle, Pliny, and Virgil, Reaumur and Swammerdam, have described them to us. I know the bees not only of almost all the provinces of Hanover, but also those of the different countries of Germany, in the east and in the west, in the south and in the north. From my own observation, however, I have not been able to perceive a specific difference in size anywhere. The inexperienced indeed are easily deluded; an empty or a full stomach, more or less hair, makes one bee appear larger or smaller than another without her really deviating in the least from her normal size.

\* By this are meant *Apis mellifica* and *Apis Ligustica*, which are considered in Germany to be mere varieties of the same species.—A DEVONSHIRE BEE-KEEPER.

"Deviations in size happen occasionally, but (which is the main thing), they are not specific—not constant. The reasons thereof may be of different kinds. Sometimes old combs with cells narrowed from the remaining cocoons may prevent the full evolution of the size of the body, so that a stock may contain a whole population of smaller bees than other stocks standing near it.

"But if a swarm issues from such a stock, or if a driven swarm is made from it, the young bees reared in the new combs return beyond doubt to their normal size, although they descend from the same mother as the former generations. Then, also, it may happen that all the brood even in the new combs hatch miniature bees. I have had them of the smallness of large ants—real *liliputians*. Their appearance, however, is very easily explained. It only happens in heavy stocks in which the bees were not able sufficiently to surround an inserted brood-comb with eggs and young maggots, and to feed the latter sufficiently. As the workers increase it certainly ceases; the brood hatched afterwards return to the normal size—proof enough that the remarkable deviation is caused only by accident. It is impossible to preserve and increase such a small kind of bees. The size of the mother has not the least influence upon the size of her offspring. The most decidedly dwarfed queens produce a full-sized offspring. The bees of the south of France I know as little as the so-called small Dutch one. However, I am convinced that the one as well as the other has not any difference in specific size from our common bees, that the variation in size depends only on the illusion of superficial observation. I do not doubt that those bees would accept the combs of our bees as willingly, and continue in the same size as the Ligurians have done, which one would think sometimes larger, sometimes smaller than the German bee, although there has not proved any difference whatever in size. It is quite inadmissible to make a difference between so-called domesticated and wild bees. Both are of the same kind, they do not deviate in anything from one another. If a so-called wild people is brought to its stand, every specific difference disappears even to the most careful observer. A colony living in an oak in a forest was once pointed out to me by an old bee-keeper as such a one, the bees of which would verify themselves as belonging to quite another species by their being covered with more hair. A closer examination, however, proved that they certainly had not any more hair, nor any longer than the bees in my apiary.

"In the colour of the hair also there does not exist any difference, only that of young bees is coloured differently from that of old ones. That of the young ones has for some time a light tinge of grey, which afterwards changes into brown. The inexperienced observer may easily be deceived by this, when he has seen, perhaps, the young bees playing before a hive and compared these with old bees of another stock. A difference in the colour of the abdomen may also occasionally be seen in German bees; but it is not specific nor constant, it depends only on a freak of nature, and maintains itself here as little as with the so-called bastards originated from mingling the German and Italian races.

"Differences in the temper of German bees happen at all events, but they are also only individual differences, often only temporary—at all events anything but constant.

"According to my observations, I, therefore, think myself entitled to pronounce, that amongst the common bees which are kept in different parts of Germany a perceptible and constant difference does not exist.—KLEINE, *Lüethorst*."

## HONEY HARVEST ON THE DURHAM MOORS —LONGEVITY OF WORKING BEES.

I CAN confirm the "DEVONSHIRE BEE-KEEPER'S" account of the miserable state of hives this autumn. I had fourteen hives at the moors and the heaviest (which by-the-by was a Ligurian that swarmed four times last May), was 34 lbs., but some were only 10 lbs. and 12 lbs., and very few bees left in them. I, therefore, joined by fumigation five hives of these to the Ligurians; and it would appear that not one of the fourteen, with the exception of the Ligurian named, have bred since last June and July, and a person that took one of his did not find any bee-bread in it: consequently if bees only live six months, I fancy all the bees in this district will have died out by next year. I also find on examination that none of the swarms have been able to fill their hives with comb. Would you, therefore, be so

good as to say how you would recommend me doing with two Ligurian swarms? One was hived into one of Taylor's dividing band-and-frame hives, and the other into a straw skep, and neither has more than half filled their hives with comb, although one swarmed May 27th, and the other June 2nd. The straw one I have superposed and must let it take its chance, but the dividing-hive I do not mind if they will be able to exist the winter; and, therefore, shall be glad of your opinion what is best to do. I have fed it well with honey, and they have the combs filled, and I am going to put felt round the hive to keep the frost and cold out, but I am afraid they will all be dead by the spring.—A. W.

[With regard to the longevity of bees, Dzierzon says:—"Of bees bred in May or June few live longer than two months if the weather be favourable, so that they can be constantly at work;" but "bees bred in September look just as juvenile in February and March as if they had left their cells only a few days ago. If they pass their time in summer in a similar state of rest, as is the case in stocks without a queen or otherwise inactive, they may, perhaps, survive a year, or even more." We can fully indorse the statement that the life of the worker bee is prolonged by idleness; and we do not, therefore, imagine that the stocks you refer to run any risk of extinction from the death by old age of all their inhabitants, but we very much doubt if any worker bee ever attained, much less exceeded, the age of twelve months.

As you state that the superposed stock must "take its chance," we can offer you no counsel regarding it; and with regard to the dividing-hive, if you have fed it up to a sufficient weight, and are careful to give it efficient protection, we can see no reason why it should not survive the winter, as we have known many to do which were apparently in a far worse condition.]

## CROSS STICKS IN HIVES.

IF I had rushed into bee-print seven years before I did, I should certainly have put my foot down upon a person who recommended cross sticks in a hive. Previous to that time, I had used common-sized, and Payne's straw hives only, which ought never to have crossed support-sticks under proper management, but, for my large-sized hives, I was compelled to adopt them, not from the melting or dislodgement of the combs, for, I never had a misfortune of that sort, but through the cautious instinct of the little workers, which would know better than I what was proper for large domiciles; so they worked their combs quite down to the floor-board, and fastened them there, thus creating a sad difficulty for me when spring-feeding, and again for themselves; for when I moved the hive from off the board, then smash would go the combs more or less—a sad case in the spring, or any other time of year, costing both time and store to repair them. I have never found this to happen since my introduction of the sticks, and it really shows a power almost akin to reasoning on the part of the cunning little fellows, by their thus at once accommodating themselves to my assistance. I seldom "take" a hive until it is four years old, and then the combs are become old and tough, and through the agency of an inch protrusion of each stick laying out from the hive, as your correspondent "G. C., Gloucester," mentioned last week, a twist and a pull with a pair of pincers relieves them. I do not find that the sticks incommode the bees materially in large hives, and at least, of two evils, they are quite a counterbalance of the fastening of the combs on the board. Two bars and frames would obviate both; but I write for the million.—UPWARDS AND ONWARDS.

## FERTILE WORKERS.

IN compliance with Mr. Lowe's request, in page 604, I have much pleasure in relating all I was able to ascertain with regard to the occurrence of fertile workers in the only instance which has come under my observation.

The phenomenon occurred at the commencement of July, in the inclement summer of 1860, and was described by me in *THE COTTAGE GARDENER* of the 10th of that month as follows:—"The queen-cells in one of my small artificial swarms having turned out abortive, owing to the inclemency of the weather, some among the working bees have taken the opportunity of usurping the functions of royalty, by depositing eggs in the

breeding-cells. I presume they will produce drones, although laid in the workers' eradles; two or three being deposited in each cell. The depositing a plurality of eggs in a cell is not, however, peculiar to fertile workers, since a prolific queen will often deposit two or more eggs in one receptacle. I am unable to detect the difference in size which is said to distinguish workers which have assumed the functions of maternity. These fertile workers are Ligurians." To these particulars I may now add that the eggs so laid were developed into small drones as I anticipated, and that, although like Mr. Lowe I was never fortunate enough to detect fertile workers in the act of oviposition, nor could I ever identify such as were in that abnormal condition, the circumstances of the case were such as to establish the fact beyond a doubt. Being perfectly satisfied that the eggs in question were really deposited by workers, and not by a small queen which had escaped my scrutiny, I supplied the colony with another sealed royal cell, which arrived at maturity in due course, and the abnormal laying of drone eggs soon came to an end.

Although it may appear somewhat presumptuous in me to attempt the development of a new theory from this the only instance of the kind which I have ever witnessed, yet, as I did theorise at the time, I now venture with all due diffidence to state the theory, having already proclaimed the small amount of experience upon which it is founded. My idea is that upon the first discovery of their queen's loss, bees sometimes supply an extra quantity of food, and in fact accord a rudimentary royal treatment to a greater number of young larvæ than they afterwards deem necessary to rear into queens, and that the ovaries of the bees proceeding from these larvæ receive thereby a sufficient stimulus to admit of their laying eggs, which, being unimpregnated owing to their inability to copulate with the male bee, can only hatch into drones.—A DEVONSHIRE BEE-KEEPER.

MANAGEMENT OF COWS IN GUERNSEY.

It is usual to speak of "Alderney Cows," but the truth is, that the pure breed can only be purchased in Guernsey, and the breed, whether on those two islands, or in Jersey, are only improved specimens of the Norman variety. Perfection and entire purity of breed in the Channel Island Cow are demonstrated by the animal possessing twenty points of excellence, which are thus assigned—

- The pedigree of the parents being proved to be good, yielding yellow butter (the distinctive marks of which property are ears yellow inside, yellow circle round the eyes, yellow tinge at the root of the tail, and full udder), counts for ..... 7 points.
  - General appearance—colour cream or light red, or both mixed with white; hair smooth and short ... 3 points.
  - Handsome head; handsome horns, slightly curved inwards; eye bright and prominent,..... 4 points.
  - Deep, barrelled-shaped body; flanks well rounded... 3 points.
  - Handsome legs, not knocking together when walking 1 point.
  - Hind quarters flat and right-angled; back straight and level ..... 2 points.
- 20 points.

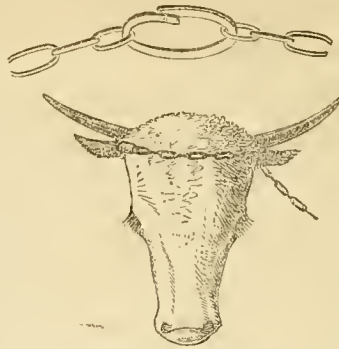
It is found that to feed Cows well and advantageously, two at the least must be kept, and so managed as to calve at different times.

For their keep three acres of ground must be cultivated; and of these one acre is in grass, and the other two are cultivated on the five-course-rotation system, the two acres being divided into five portions, and each portion growing in its turn—1, wheat; 2, parsnips and mangold wurtzel; 3, wheat; 4, barley; and 5, clover.

From the produce of these two acres the Cows begin to be fed sometimes in September; but if the season be mild, as is usual in Guernsey, not until October. The daily allowance to each Cow is from 10 lbs. to 15 lbs. of hay, from 75 lbs. to 100 lbs. of mangold wurtzel, 10 lbs. of parsnips, and whatever straw they may choose to eat of that with which they are littered. If the fields are sufficiently enclosed the Cows are sometimes allowed to pasture in them untethered from October to December.

During the spring, summer, and until about the end of Sep-

tember the Cows are tethered either upon the acre of grass or the clover. The tether, varying in length from 12 feet to 15 feet, is sometimes entirely of rope, with a running noose to pass over the Cow's horns at one end, and the other is passed over a strong iron pin about 18 inches long, driven nearly its entire length into the ground. The best tethers, however, as in the annexed drawing, have a small chain to pass over the cow's horns, looped round them by means of one large link, which is split on one side in the manner of a key-ring, but with the split



permanently wide enough apart to admit of the easy passage of a link of the chain. The iron pin is shifted from four to six times daily, according to the abundance of the pasturage. It is usually only moved from 3 feet to 4 feet from where it was previously fixed.

Milk and butter being the coveted produce, the calf is taken from the Cow immediately, very few cow-keepers allowing it to remain with its mother even a single day, and no one allows it to remain more than four or five days.

The average quantity of butter a good Cow will produce, is one pound a-day—i.e., at the rate of a pound per day from calving to calving, although some are known to produce 14 lbs. to 16 lbs. a-week, or from four to five hundredweight during the year. From ten to sixteen quarts of milk for a considerable time after calving is what the average are considered to give.

OUR LETTER BOX.

CROSS BETWEEN DORKINGS AND COCHIN-CHINAS (A. B. C.).—Have a coloured Dorking cock, and Partridge or Buff Cochin-China pullets. Have fresh pullets annually, as they lay in winter, which adult hens usually do not. The chickens are equally good, whichever way this cross may be effected.

DROOPING COMB OF DORKING COCK (J. R.).—The comb may have fallen from the action of the frost, or from temporary want of condition. If it has shown no inclination to do so before, we should think it will rise again. A solution of alum in cold spring water may often be used with benefit in such cases. A drooping comb is not a disqualification, but it is a positive disadvantage. The silver wire should be as small as can be consistently with strength to keep up the comb; wire as large as a small pin is sufficiently strong, and the support may be derived from the thick base of the comb.

EAR-LOBES OF WHITE GAME COCK (A. Debor).—The white ear-lobes are immaterial in your White Game cock. No leg is good or bad in a Black-breasted Red. If they are to be the old Knowsley, or Lord Derby's breed, they must have white, as that is characteristic of the breed. All that is necessary to observe is, that all the legs is the pen are the same. The prizes generally go to willow legs, but there are thirty of them to one white.

BIRDS FOR AN AVIARY.—We are informed that "A DEVONIAN" may obtain a large ornamental cage suitable for an ordinary drawing-room window, from "S. B. Fox, Esq., No. 7, Southernhay, Exeter," from whom further particulars may be obtained.

RABBIT GRIPED (R. E. S.).—The symptoms intimate that your doe was violently griped. A teaspoonful of castor oil, and one drop of laudanum, might have relieved her if administered when first attacked. Inflammation of the bowels probably occurred at last.

TEACHING A DOG TO TAKE TO WATER.—A. B. C., South Hants, will be obliged by information of a good method to teach dogs (that are grown up), to take to the water.

LONDON MARKETS.—NOVEMBER 10.

POULTRY.

There is an increase in the supply, but none in the demand. The consequence has been a slight fall in prices. We imagine this will last till the approach of Christmas.

Large Fowls .....	0 0 to 3 0	Ducks .....	2 0 to 2 6
Smaller do.....	2 0 ,, 2 3	Partridges .....	2 0 ,, 2 3
Chickens.....	1 3 ,, 1 9	Hares .....	3 0 ,, 3 6
Geese .....	6 0 ,, 7 0	Rabbits .....	1 3 ,, 1 4
Grouse.....	2 0 ,, 2 6	Wild do.....	0 8 ,, 0 9
Pheasants .....	2 6 ,, 3 0	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of M'th	Day of Week.	NOVEMBER 18-24, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.	Sun Sets.	Moon Rises and Sets		Moon's Age.	Clock after Sun.	Day of Year.		
			Barometer.	Thermom.	Wind.	Rain in Inches.	m.			h.	m.				h.	
18	Tu	<i>Epacris nivalis.</i>	80.415-30.253	33-13	N.W.	—	25	af 7	5	af 4	6	3	26	14	39	522
19	W	<i>Epacris impressa.</i>	30.495-30.330	47-28	S.W.	—	27	7	4	4	27	4	27	14	26	323
20	Th	<i>Sua's declin. 19° 43' s.</i>	30.253-30.040	51-31	S.W.	—	29	7	3	4	49	5	28	14	12	524
21	F	PRINCESS FRED. WM. BORN, 1840.	29.916-29.574	53-43	S.W.	-03	30	7	2	4	sets	—	1	13	57	325
22	S	<i>Erica distans.</i>	29.614-29.292	49-30	S.W.	-80	32	7	1	4	31	a 4	2	13	41	326
23	SCN	23 SUNDAY AFTER TRINITY.	29.514-29.370	47-23	W.	—	34	7	0	4	39	0	2	13	24	327
24	M	<i>Erica pilularis.</i>	30.029-29.868	45-16	N.	—	35	7	III	—	56	6	3	13	7	328

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 43.2° and 34.5° respectively. The greatest heat, 59°, occurred on the 20th, in 1814, and 21st, in 1833; and the lowest cold, 9°, on the 23rd, in 1858. During the period 130 days were fine, and on 115 rain fell.

PLANTS FOR DINNER-TABLE DECORATION.



ATELY, as well as on a previous occasion, I gave my views on the subject of dinner-table decoration in the plant or cut-flower way. I should not have troubled the readers of THE JOURNAL OF HORTICULTURE again on the matter but for the invitation of Mr. Perkins, the worthy gardener at Lord Henniker's, who asks, at page 605, for a list of plants suitable for such a purpose. Fortunately Mr. Perkins gives at the same time the names of many of the most suitable ones, thereby rendering it unnecessary for me to repeat them; but before giving the additions that may be prudently made to his list, I will offer a few general remarks on the usual requirements of plants for dinner-

table decoration, and purposes of a like kind. In the first place I will say, that although the views that I have hitherto held—that every plant intended for dinner-table decoration ought either to be below the line of vision from one person's countenance to another, otherwise above that line—have experienced no change; yet, as the general public may not be of the same opinion, I will include the names of a few plants whose height may exceed that of 18 inches, and thereby come in the way of the prescribed line I would otherwise have wished kept clear. Nevertheless, the list of plants that may be kept at the proper degree of dwarfness is by no means a meagre one, so that I still hope my views may receive more general adoption when utility asserts its dominion here, as it has done in so many other cases where appearance was quite as essential as in the attraction of the dinner-table. Leaving, however, the question of using dwarf plants or tall ones to the taste of those requiring them, let us consider which description of plants will suit the purpose best, and what will tell to most advantage in such a place.

I think it may be taken for granted, that more than nine-tenths of the fashionable entertainments in high life take place by lamplight, which exhibits many things in a different manner to what they appear in daylight. Yellows, if pale, look like white; and most pale colours, if not surrounded with a dense green foliage, look badly; and pale blue flowers, however agreeable they may be in bright sunshine, have a washy look by lamplight. It is, then, for these reasons that I would advocate the deeper and what are called warm colours of deep rose,

scarlet, purple, and the like; for apart from the rays of lamplight, these colours tell to most advantage when contrasted with the tablecloth, plate, china, and glass by which they are surrounded, and which all, more or less, require high-coloured plants or foliage as a contrast. As all the accompaniments to a table and sideboard in the way of cloth, china, glass, and precious metals, glitter more or less amongst viands which, in a general way, are either brown, pale brown, or some lighter colour of no particular tint, it behoves the purveyor of plants to furnish the table with colours that will contrast as widely as possible with the other attractions of the place. To do this it is quite legitimate to use plants that are either remarkable for their foliage, their fruit, or their flowers. The list given by Mr. Perkins contains examples of all these; and what additions I make may, doubtless, receive accessions from the ideas and practices of others, as there are many plants which may be available of which one individual can scarcely hope to be aware. Thus the mutual exchange of experience in this matter, as well as in many others, is of the utmost importance to the general manager. Commencing, therefore, with plants in flower, I will mention only such as I have seen used, excepting in cases where it is mentioned otherwise.

PLANTS IN FLOWER ADAPTED FOR THIS PURPOSE.—One of the earliest and one of the best plants I ever saw used for this purpose was a nice little plant of Cactus (now *Epiphyllum*) *truncatus*, and the deep rosy purple blossoms, with the tropical appearance of the plant, gave it a very attractive appearance. It is many years since I saw this used, and modern introductions have not presented us with anything more appropriate for the purpose. Some others of the Cactus family, especially of the dwarfer varieties of *Cereus speciosus*, may be very profitably used, care being taken to have a well-formed plant with flowers on all sides, and not on one side only. A nice compact plant of Indian Azalea of some good scarlet or rose colour is also an admirable ornament to the table, and the adaptability of this plant for such purposes will be apparent to every one who has seen the exhibition specimens at the metropolitan and other shows, although, of course, the plant must be small compared with them. A *Pelargonium* may also be admitted now and then, and some of the dark-flowered varieties of the *Fancy* breed are invaluable, as they can easily be kept within due bounds, and there being great variety of them, changes are easy. *Cinerarias* in like manner look well, and I am not certain if all the *Aster* and star-shaped flowers do not show best in candlelight.

For variety a plant of *Acacia grandis*, *Drummondii*, *armata*, or any of the dwarf class, may be now and then admitted, or, where several plants are wanted at once, one of these kinds may be introduced. Although, in general, yellow does not look so well as some other colours, yet for the sake of variety a *Cytisus* or *Coronilla* may be admitted, and if full of flower they are far from despicable, while the pretty and interesting *Cuphea platycentra* looks best when closely examined.

When flowers, flower-buds, and fine foliage, are all

wanted on one plant, the *Camellia* presents itself as one of the best. Some of the *Veronicas* of the New Zealand breed have also fine foliage, and with a spike of blue flowers look not amiss. Then we have the ever-useful Chinese *Primrose*, both single and double, and now and then a *Chrysanthemum* may be brought in at a time when other plants are scarce, and, as these afford many colours, much variety may be had. A well-flowered plant of double *Petunia* is also good, though not more so than the *Fuchsia*, of which the dwarf-growing varieties are the best, and I should say the old *F. parviflora*, if it is still in existence, would perhaps be as good as any; but some of the florists' varieties are also good, though generally they require to be grown to a greater size than is becoming for the table. Nevertheless, we often use a *Fuchsia*. A *Cockscomb* is likewise an ornamental object, but it seldom can be shown in a pot sufficiently small to meet the requirements of the dinner-table. Perhaps some of the varieties of *Celosia* recently become very popular may be more accommodating, but I have not tried them.

Of *Begonias*, the only flowering class suitable here are the small and shiny-leaved varieties, of which *B. fuchsioides* is the type, and well-grown plants of this look well. Those remarkable for foliage will be mentioned hereafter. Heaths of various kinds are desirable, the winter-flowering kinds especially coming in useful; and as plants in flower in January are far from plentiful, the qualification of colour mentioned above must be relaxed in time of scarcity: it is needless, therefore, mentioning the species. *Epacris* does not look so well; so many wiry loose spikes as they present appear too formal for the freedom here wanted. Occasionally a *Salvia splendens* may be introduced with good effect in winter; and it is possible, although I have never used it, a *Lobelia speciosa* may also show off its blooms to advantage; while there are numerous forced plants that may contribute their quota to the general catalogue.

Perhaps no plant that is used looks more really graceful than *Dielytra spectabilis*, while the lovely *Deutzia gracilis* is an acceptable plant from the quantity and purity of its blossom; the double-flowering Chinese *Cherry* being also showy, yet not more so than the profuse-blooming *Weigela rosea*, which is, perhaps, second to none for general spring decoration.

Of *Orchids* my list is but a meagre one, a *Cypripedium* or two and a *Dendrobium* being all that I have tried. The latter of these makes a nice plant; but the general class of *Orchids*, as the *Bletias*, *Oncidiums*, *Phajus*, &c., are too tall, though a *Cattleya* may possibly be worked in to good effect. With this class, however, I should like to have the opinion of others upon their respective merits.

**PLANTS REMARKABLE FOR THEIR FRUIT.**—This class is a much more limited one than the last, nevertheless there is a variety here. *Solanum capsicastrum* and one or two others may be worked in to advantage, and both the red and white varieties of *Ardisia crenulata* may be used in a similar manner; the sturdy habit of the plant with its dense green leaves making it a pleasing object at all times, and the plant bears profusely, and continues for many months ornamental. The *Capsicum* also affords several varieties, one or two yellow ones as interesting as the red. The varieties of the latter are, however, more numerous, and the habit of some of the plants all that could be wished for.

Perhaps the best of all berried plants is *Skimmia japonica*, the habit and foliage of the plant being as good as the berries are pretty, and the latter being placed in clusters on the top of the plant show to great advantage. If this plant could be made to grow a little faster it would be invaluable, although for the purpose here mentioned its slowness of growth and compact habit are all that could be wished for. One or two stove plants, with which I am not sufficiently acquainted, are also said to be applicable to the purpose.

**HANDSOME GREEN-FOLIAGED PLANTS SUITABLE.**—This is a numerous class, and I am far from arrogating to myself that those here given are the best, but additions from other quarters will be acceptable. First of all stand *Ferns*, and their name is almost legion. I cannot say that I admire the Golden-Fern class so much as many do; but, on the contrary, I like a foliage of a deeper green, when the form is also graceful. Some of the hardy *Ferns* are far from unsightly. Even a compact plant of *Polypodium vulgare*, a *Lastrea*, *Blechnum*, or even *Scolopendrium vulgare*, are as interesting and present as many beauties to the observer as the exotic species, while dwarfier varieties are also represented in other hardy sections. The *Adiantums* are great and deserving favourites with ladies, their wavy graceful foliage displaying a form as lovely as it is interesting; and to those who

admire variegated plants, *Pteris argyrea* and *P. tricolor* look well. Indeed, the *Fern* tribe presents some of its members as ready for use every day in the year: therefore I hope some one well versed in this rising section of plants will give us a more complete list of such as can be conveniently kept within the bounds suitable for the table. Almost equal to the *Ferns* in point of variety and numbers are the *Lycopods*, but these are mostly exotic; although there is no doubt but some of the British species, if cultivated, would present forms as beautiful as the foreigners. Some hints as to these from some of our Lancashire friends will be very acceptable. Some *Grasses* are also good. The horse-mane-like tresses of *Isolepis gracilis* form an agreeable contrast with plants of a bold, broad foliage—as for instance, *Eucharis amazonica*, which, though a flowering plant of great beauty, has also a fine appearance in the tropical-looking character of its foliage. *Grevillea robusta* has also a *Fern*-like form; and I am not sure but a plant of *Arbor Vitæ* would look well, and, doubtless, many others may be added.

**VARIEGATED-FOLIAGED PLANTS SUITABLE.**—This class might, perhaps, be made more numerous than any; but as I mentioned at the beginning of this article, the white-edged foliaged plants are hardly suitable in some respects unless they possess properties of consequence in another way. The whole race of variegated *Geraniums* are, therefore, shut out; and though the beautifully-formed leaves of *Centaurea caudicissima* and *Cineraria maritima* are acceptable in many instances, they do not look so well upon a white tablecloth unless they be separated from it by a foot or stand of some high colour, clearly marking out the distinction. The prettiest of all plants for this purpose, not even excepting the best flowering plant we have, is *Dracæna terminalis*; its graceful form and compact habit, aided by a colour which cannot be excelled, commend it to our notice as the best-adapted of all the plants of high colour. *D. ferrea* and others are also useful in the same way, and, possibly, some plant-collector may have a better one than *D. terminalis*, but I am not acquainted with any. Next to these, and in the opinion of many exceeding them, is *Coleus Verschaffeltii*, than which no plant can exhibit finer colours or a finer form, but the smell is somewhat objectionable. It is, however, perhaps the most conspicuous plant that can be set on the table, and a general favourite then. I have also had Mr. Veitch's new *Amaranthus*, *A. melancholicus ruber*, on the table, and its appearance is good—better than the *Perilla*, which in times of emergency has been used in such manner.

I have never had *Poinsettia pulcherrima* in good condition at the time wanted, although I have seen plants elsewhere that were all that could be desired. Of *Begonias* there is great variety, but I confess admiring all of the plants whose names are previously mentioned more than this; but if one be really wanted I would have that having the least white marking that could be had. The old *B. Rex* has a clearer marking than many of the newer ones; and as green is more wanted than white, it is of consequence to have this. The velvety-looking leaves of some of the *Gesneras* with their dark-veined markings look pretty well; and nice plants of *Maranta zobrina* and *M. vitata* also look well. Many ladies, as Mr. Perkins justly observes, admire the *Caladium*, of which the small-leaved class, as *argyrites* and *Chantini*, are better than *C. Belleymei*; while variety of form is given to a group by such plants as *Pandanus javanicus variegatus*, with its sharply-serrated and long curved foliage gracefully bending over the sides of the pot. More stiff is *Aspidistra lurida variegata*, but equally tropical-looking in aspect; and I have no doubt but *Alocasia metallica* will equal any in its singularity of form and lustre. It has hardly become sufficiently plentiful to be trusted at all times in such places.

A variegated *Hydrangea* is hardly admissible, neither is the variegated *Orange* advisable; and for a like reason the variegated *Duranta Baungardi*, though pretty amongst a group of other plants, is hardly so when placed on a white tablecloth, and I confess having much reluctance to advise plants requiring much framework to support them as suitable for this work, otherwise *Cissus discolor* is a gem that way, and a well-managed plant of *Tradescantia discolor* is also good.

**ORNAMENTAL PLANTS NOT SUITABLE.**—In the lists already given, care has been taken to exclude those requiring many sticks, or otherwise showing much mechanical arrangement; for the plant being placed so close to the observer, such appendages as wirework, sticks, string, &c., are objectionable. In accordance with this rule, creepers are therefore excluded. Perhaps some will be pleading hard for a *Tropæolum* or two, but

I have no particular liking to them; while the more robust growing creepers are decidedly objectionable. Plants also with long naked flower-stems rarely look well, however pretty the flower may be, unless that flower is below the eye. For this reason *Statice Holfordi* and kindred species, though exceedingly handsome in other places, are not so here, as likewise is *Bletia Tankervillei*; and the mechanical combination of sticks and string, by which young gardeners are apt to set-off their *Aphelexes* in porcupine-fashion, is not admissible on any terms. All very strong-smelling plants, as *Hyacinths*, are objectionable; *Roses*, however, need not be included in this, as forced and indoor ones are not so highly scented as those grown in the open air, and no one complains of the perfume of a *Rosa*. *Mignonne* is not sufficiently ornamental to entitle it to a place here; and many other plants, whose claims to attention elsewhere are undisputed, are, for reasons here given, unsuitable for dinner-table decoration.

**CONCLUDING REMARKS.**—The above having extended to a much greater length than was at first intended, I need only say that for general purposes of this kind plants that will bear cramping in small pots are the most desirable, and a suitable covering or stand for such pots is also wanted. At Linton we had some of Messrs. Barr & Sugden's covers, of which favourable mention was made in the gardening papers in the early part of the summer; but, though they are pretty enough, they are open to many improvements, and in point of general adaptability are not so good as a kind which preceded them, consisting of a coloured card folded up in flutes, so as to let-out or take-in to fit any sized pot. Some cheap and useful pan or saucer is also wanted to save the tablecloth, and at the same time not to show itself. Perhaps a few tin stands, exactly the size of the bottom of the pots to be used, or a trifle larger, might be made; and if these were about an inch deep they would retain any moisture that might drain away from the plant, while the ornamental cover would go over all and down to the tablecloth. Perhaps some one also will devise some ornamental stand, but it ought to be low—not more than 3 inches high for the highest plants; and as many desert services are on stands, or, rather, consist of stands not more than the height mentioned, it is easy to find an example, but a more ornamental and better-adapted cover for the flower-pots than those we possess is most wanted. The tin or japanned bottom is an easy affair; and if some enterprising manufacturer puts forth a stand for flower-pots, let it be without any side. I am not sure that even a rim is wanted, as the size of flower-pots cannot always be controlled at the moment, and it is provoking to find the pots too large for the allotted space; for, as it is advisable at all times to exhibit the plant in as small a pot as possible, its bottom is needlessly increased when its pot has to be placed inside another, and that one, perhaps, not close-fitting. It is, therefore, for these and other reasons that I would ask for a class of ornamental card-covers of a kind that will enlarge or contract with ease and expedition, and would leave the highly chased and glittering wine-coolers and other articles of plate and costly china to their more legitimate purposes; for, however well such appendages may be adapted for cut flowers, I cannot say that I admire them for plants, and their liability to get broken or otherwise injured affords another reason for dispensing with them. As for cut flowers, I should like the opinion of some lady on this head; my own ideas have already gone forth, and some one else will, I hope, give theirs.

J. ROBSON.

## CHRYSANTHEMUM EXHIBITION OF THE ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 11TH.

WHAT with the meetings of the Fruit and Floral Committees in the same day and place, we never had an Exhibition in November which drew together so many practical heads and such an amount of downright practical judgment, such opposite views and so much of the harmony of contrasts in opinions, as the French dyer said of so many of his colours when viewed on a dark grey ground in masses, and free from the influence of any other shade in creation. A frosty morning, of from 5° to 7° of keenness, in various situations within twenty or thirty miles of London, and a clear sunny day, a bracing air, and a thorough move in advance in the cultivation of the flower of the season—the *Chrysanthemum*, seemed to gather the craft together to make a pleasant day of it, even in November. But the coming

of age of the Prince of Wales on the day the Lord Mayor got into his new boots and so boosed the people in London on the Monday, caused them to have little relish for fruit and flowers when they arose next morning; so let us gather wisdom from the event, to prevent the like next time.

In the coming year we shall stage five days before the Lord Mayor gets into his stage coach.

This has been the worst season for growing *Chrysanthemum* around London for the last forty years, or, at least, since 1827 and 1828, when this Society had a whole house devoted to them in the Chiswick garden, and had a greater number and variety of more distinct kinds there than the whole of Europe could now produce; and if we balance the loss of three distinct strains at least against the improvements we have made on the two remaining strains, the remainder would just leave us where we stood at the end of 1828 in reference to the *Chrysanthemum*.

Now, however, we had the first of Mr. Fortune's distinct strains from Japan exhibited by Mr. Standish, and the Floral Committee had to decide on the merits of a new strain among them of which we never heard before—the Fringed strain. Every floret is fringed as the frills of a Scottish laird of the seventeenth century, not like the fringe of the Marabout feathers, as in the Pomponne of that name. I put up at once for a first-class certificate for the new strain, and none would second the motion; then, to make up for the mistake of judging one strain from the merits of another, I put up both my hands for a second-class certificate, in which the Committee were unanimous. Now, I look upon a unanimous vote of the Committee to be of more value than a higher award would be on a divided opinion, as that might be carried by one in the majority: therefore I must be satisfied with the result of this vote. The Committee was fully represented; therefore, being unanimous on a new plant of an old favourite family, a second-class certificate was better in practice than a first-class one on a divided opinion.

You will see what seedlings were awarded prizes from the published list; and I may add that we were also unanimous in the opinion that several others of the seedlings were, or would be, worthy of prizes, and possibly of higher ones, when the plants recovered from the effects of this unchrysanthemum season.

But I must mention three of a family caste which will be very much sought after. One is "Her Majesty," a fine blush incurved flower, a good, dwarf, close-growing plant, well adapted for pot culture; Princess Louis of Hesse, a beautiful delicate pink blush, incurved flower, about the same habit as "Her Majesty;" and Princess Alexandra, a beautiful rosy blush flower, incurved. This group possess all the qualities we ascribe to lady-like flowers.

The rest of this collection of seedlings were—*Aspasia*, rosy purple and blush at the back, incurved; a dwarf, good, pot plant. *Ariel*, a delicate pink blush. *Antonelli*, large, dark orange, incurved. *Cardinal Wiseman*, a fine pot plant, and very free bloomer, in nearly the colour of *Madame Poggi*; a capital "decorative" plant, as the florists say. *Duchess of Buckingham*, a fine white incurved flower, which had a second-class award—the highest of the day. *Lord Palmerston* will be out next year amongst the "stunners" from Mr. Bird; the colours are mixed, dark orange, and tipped variously. *Cleopatra*, lilac and blush centre, finely incurved. *Cresus*, a dark golden orange, and finely incurved. *Latona*, pure white, incurved. *Holman Hunt*, a large dark rose, incurved, which will be as big as *Lord Palmerston*. *Gavazzi*, a fine, incurved, orange flower. *Margaret Vatcher*, large rosy anemone. *Oliver Cromwell*, dark red, incurved. *Rev. J. Dix*, a thorough decorative flower in the style of *Little Harry*, orange amber, beautifully incurved; and *Abbé Passaglia*, a large, light cinnamon orange, will be among the "stunners" some day.

After these we had half a dozen kinds of new races from Japan, sent by Mr. Standish, but they were not forward enough to be judged, except the fringed one, as above, which is named *laciniatum*. A remarkably handsome Fern, a seedling from the "Dusty Miller" of Peru, from Mr. Parsons, had a second-class certificate unanimously; and Mr. Bull at last got a unanimous first-class for two plants of exquisite habit and look for high decoration and for show days. The *Cyperus alternifolius variegatus*, which took us all by surprise, will give you a fair idea of the looks and ways of this novelty, which is by Siebold, and was missed both by Mr. Fortune and Mr. Veitch in Japan. The name is *Ophiopogon jaburan variegatum*.

Mr. Parsons sent several cut flowers of *Achimenes*, from the strain of *Meteor*, and of most lovely colours, merely that we

might see the progress in that family and style. Mr. Salter sent a good specimen of *Gunnera scabra*, with a fruit-and-flower cone 2 feet long. This is the best of all the rocky-wilderness plants we have. The one out at Kew is now enormous—I think I counted nine cones on it in September. And the Messrs. Veitch sent a fine complement of Orchids, including the white and the crimson-eyed sorts of *Calanthe vestita*, *Vanda cœrulea*, *Lycaste Skinneri*, and others, with the splendid *Cattleya Pescatori*.

After these was a very pretty addition to hexandrous plants—a new hardy herbaceous plant from Japan, with upright flowers, variegated equally in black and white in bars and stripes. The botany of this plant is most beautiful and most singular in this order of plants, the parts being regularly arranged in whorls of threes, which give the index to the name of it, *Tricyrtis* sp.; and whatever the cyrtis, or number of whorls, the specific ought to be amplexicaulis, for every leaf is so arranged on the stalks, which rise a foot or more, with tassels of these blossoms on the tops. It had a first-class certificate with all consent.

Then came Mr. Bird's big cut *Chrysanthemums*, followed by Mr. Cattell, the only other grower who could cut and come again. The two collections were, or might be said to be, at either pole—the one at the biggest end of it, the other not the farthest from the other end. The largest *Chrysanthemums* of this untoward season for them were *Jardin des Plantes*, *Lady Hardinge*, *Queen of England*, *Alfred Salter*, *Pictoreum roseum*, *Nil Desperandum*, *Anaxo*, *Dupont de l'Èure*, *Old and Golden Trilby*, *Madame Leo*, *Dr. Rosas*, *Alarm*, *Pandora*, *Rideman*, *Golden Hermione*, *Progne*, and *Little Pet*. Mr. Cattell had two collections and one miscellany; but some not more than one-half the size he had them the last two or three years at the Crystal Palace.

The competition collections, on the other hand, showed an immense stride of improvement in the growth, training, and blooming of the specimens. They were just in the size and form of the biggest *Pelargoniums*, all on one stem a-piece, and exquisitely done; even Mr. Salter, who has hitherto presented them pure and simple from the way of Nature, took the inoculation from the "growers," and did them on the country-conservatory model to a shade; but that model being so different from that of the exhibitions, he allowed the "growers" to fight it out amongst themselves, and they did so, *Potomac* fashion; for the Judges could not tell who was conqueror of the two foremost in the fray. It was a complete tie; and as there is no lawful authority yet to untie this knot, they generally "serve" them both alike, as you will see by the list of awards.

The kinds in the two first-class collections were these:—Mr. Glover, gardener to R. C. Lepage, Esq., Brixton, had *Chevalier Domage*, *Dr. Maclean*, *Vesta*, *Alma*, *Trilby*, and *Golden Christine*. These were one shade better in the getting-up. Mr. Ward, gardener to W. Fowler, Esq., Tottenham Green, had the original and the *Golden Christine*, *General Have-lock* (a usurped name for *Insigne*), *Vesta*, *Alma*, and *Annie Salter*. Mr. Turner, of Slough, had an extra in this class with *Alma*, *Chevalier Domage*, *Hermione*, *Golden Christine*, *Christine itself*, and *Golden Trilby*. Mr. Ward had a second prize with *Beauté du Nord*, *Chevalier Domage*, *Bouquet des Fleurs*, *Lucidum*, and *Prince Albert*. Mr. Salter had *Rifleman*, *White Christine*, *Julia Grisi*, *Ariadne*, *Sulphurea superba*, and *Christine*; and in another collection he exhibited ten or twelve more kinds exactly as the best gardeners do them for conservatory decoration. These were the principal:—*Prince Albert*, *Dr. Maclean*, *Dido* (a fine white), *Alma*, *General Slade*, *Lady Hardinge*, *Sparkler*, *Mr. Murray* (a violet purple flower of medium size, and the only one of that particular tint, therefore very desirable for variety), and *Defiance*.

There were twenty-eight specimens of *Pompones* in competition, averaging 4 feet across, and as flatly trained as a dining-room table; although this is the usual way at flower shows, the plan is not worth one straw, looking at it from a gardener's point of view. Nothing has ever been done more artistically than this flat-specimen training; but, like the florists' roundness of flower, the form is of no use whatever out of the circle of that particular fancy, and it seems to me a misuse of our means to give prizes to that which is of no public utility whatever.

There were three specimens of pyramid-trained *Pompones* very much better done than the bedroom-candle-extinguisher-like training we had this time last year. Another trial or two will assuredly bring out shape, size, and bloom that will suit everybody, and be worth all the money ten times over. The

fact is, people will then go to *Chrysanthemum* shows to learn what improvements may be made at home; but now as no home can adopt the "equat system," as Mr. Marnock happily called it, no one seems to care the value of a rush about them. Why, then, continue the waste of money in giving prizes to such forms?

There was a large collection of fruit on view from Canada and Nova Scotia, the specimens as good-looking as could be obtained in Europe. Some of them quite new to our pomologists, and some as old as some of the newest Grapes which composed the order of the day for the Pomological Committee.

But, to go off at a tangent to another theme, the gardener at Buckingham Palace has a most valuable foundation for a new strain of Lilies of the *Lancifolium* and the scarlet *Martagon*; and Mr. Standish is on the high way for a still more magnificent run of gems from the great master Lily of our day, the grand *Auratum* from Japan, now selling at ten guineas a-piece.

Depend upon it that new-crossed Lilies will pay better than new seedling Grapes in a year or two. But Mr. Standish will be able to decide that question before any of us, for he has crossed over sixty or seventy kinds of Grapes this very season; and from his experience with the *Rhododendrons* and with their back pollen, if anything can be made out of pollenising Grapes in our climate to beat the Lilies, we shall first know of it from himself; and the mystery, if such there be, may throw some light on the present mode of cross-breeding Grapes, which at present is surrounded with obscurity. D. BEATON.

## BEDDING TULIPS.

I REMEMBER reading some years ago in a gardening cotemporary the mournful complaint of some young man in the country (young at any rate he must have been as to greenness), who, captivated by the glowing descriptions (and I am not sure but that pictorial beauties were added thereto), of a London firm as to the beauties of spring gardening, expended thereon a large sum of money. Crocuses of various hues, Hyacinths fragrant and beautiful, gay and flaunting Tulips, with the pearly and elegant *Snowdrop*, and various other things, were to make the garden at the Grange the envy of all beholders and the pride of the lady of the manor. In order that there might be no mistake the bulbs were accompanied by their own particular trainer, as horses are, and no sacrilegious hand was to attempt an honour for which he alone was deemed worthy. The bulbs were sound, the beds well prepared. Mr. Oldbuck, the gardener, looked on in mute astonishment—"Well I never! If I had asked for half the money them things cost, wouldn't maaster ha' blowed-up?" "and all went merry as a marriage-bell." When January's snow had melted away, there, sure enough, were the bulbs all peering above ground. But alas! he found—and this his complaint—that the Crocuses were so precocious they wouldn't wait for the Hyacinths; while they in their turn would have nothing to say to those dissolute Tulips, all dressed out in such toggery, as if belles would ever associate with such swells as they were. You may be sure old Master Oldbuck did laugh over master's vexation, and wondered how "that 'ere Lunnun chap would look now;" while master himself fired off an indignant letter about a matter which he ought to have known well enough had he ever so small a garden.

One of those flowers on which he depended is, I am sure, very much overlooked in the decoration of our flower gardens in spring—the Tulip. We are told, though I never had the pleasure of seeing it, how tellingly the Dowager Duchess of Sutherland, has employed them at Clevedon; and many saw and admired them, doubtless, at the Royal Botanic Society's garden in the Regent's Park in the summer. Having been favoured by the politeness of Messrs. Barr & Sugden, of King Street, Covent Garden, with a collection of them last autumn, I have made a few notes thereon, which, as this is a very favourable season for planting, may not be unacceptable to some of your readers. For those who are beginning, the most desirable plan will be, probably, to grow them in clumps; and as they readily increase, in a short time sufficient will probably be obtained to make them up in beds of various colours, for they are to be had in white, yellow, scarlet, and various colours; and if planted early enough, can be taken up in sufficient time for *Verbenas*, *Geraniums*, &c., to occupy their places. I would here say that my decided preference is for the single varieties. I know some of the double ones, such as *Marriage de ma Fille*, are

very fine; but they have this objection—that after heavy rain the flower becomes filled with water, and, from its great weight, is either apt to hang down its head and become dragged, or else to be snapped-off by the first burst of that “blustering railer, rude Boreas,” whereas the single ones readily right themselves again. Again, the Van Thole are pretty for early blooming; but just because they are early they are apt to interfere with such arrangements as I am supposing any one wishes to make; their beauty is over before the others are in bloom.

There is not any difficulty with them as to soil: they will flourish in any tolerably good garden soil that is not too heavy. Where it is likely to be so, the addition of leaf mould to it will both lighten it and be agreeable to the growth and vigour of the bulbs. They do not require any fresh manure, but will succeed best where the ground has been kept in tolerably good heart by the manuring of previous crops.

Nor can much be said as to planting or selection of the bulbs; the beautiful clean manner in which the bulbs arrive from Holland are evidence of their vigour and of the manner in which the Dutch grow all these things to perfection. In planting they should be placed about 5 inches apart, and about 3 inches deep. They require no protection, though, like a great many other things, they fare all the better for having a little.

As to choice of sorts, there seems to be some little difficulty from the catalogues varying so as to names. There are some remarkably fine varieties which are common to all the catalogues, such as Duchesse de Parma, &c., but there are others which seem to be peculiar to each individual importer. I rather fancy that the reason is that the growers in Holland have their own names for many very similar if not quite so to each other, and that we should find many synonyms amongst them as in fruits and other things. I subjoin a list of the kinds which struck me as most desirable amongst those sent by Messrs. Barr & Sugden.

WHITE.		
Pottebakker White, very pure. A striking flower.	Belle Laura, violet crimson, bordered with white.	
Luna, very pure and clear.	Couleur Cardinal, brilliant crimson, tinged with yellow.	
Queen Victoria, French or bluish white.	Feu Rouge, bright red, tipped with orange.	
YELLOW.		
Canary Bird, rich and dwarf-growing yellow.	Yellow and Red of Leyden, bronze crimson. Bottom of cup tinged yellow.	
Pottebakker Yellow, very bright canary colour.	WHITE GROUNDS, STRIPED, BORDERED, &c.	
Yellow Prince, pure yellow, and sweet.	Covent Garden Favourite, white, with rose border.	
RED, SCARLET, AND CRIMSON.		
Garibaldi, dark scarlet.	Prince Charlie, white, bordered with rose.	
Samson Red, bright and brilliant.	Parragon Galdebloem, white, feathered and striped with rosy lilac.	
Vermilion Brilliant, a fine flower of a very dazzling colour.	Silver Standard, pure white, striped with scarlet.	
La Belle Elizabeth, brilliant crimson scarlet.	YELLOW GROUNDS, STRIPED, BORDERED, &c.	
Couronne Pourpre, very dark crimson.	Mary Queen of Scots, yellow, striped with red.	
CRIMSON AND SCARLET GROUND, BORDERED OR STRIPED.		
Annie Laurie, light scarlet, striped with yellow.	Abbesse de St. Denis, delicate primrose, feathered with rich crimson.	
Duchesse de Parma, orange crimson, bordered with yellow.	Franciscus Primus, yellow with crimson border.	
Lord Palmerston, bronze red, flaked with orange.	Marie de Medicis, primrose, feathered with deep cerise.	

—D., Deal.

## ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 11TH.

FRUIT COMMITTEE.—Mr. Edmonds in the chair. At this Meeting there was a very large collection of fruit exhibited, exceeding anything ever before witnessed at a Meeting of this Committee. In addition to the collections that were sent to compete for the prizes which were offered, there were collections from the Local Committees of Derby, Yorkshire, Staffordshire, and Herefordshire. The great majority of the varieties forming these collections were as yet unripe, and have been kept over for examination on future occasions. It is worthy of note that those varieties forwarded by the Staffordshire Committee, of which Mr. Hill, gardener to Ralph Sneyd, Esq., of Keele Hall, is Chairman, and which came from Mr. Hill himself and Mr. Allport, of Doddington Park Gardens, were very correctly named, there being scarcely an instance of incorrect nomenclature in either of the collections. Those from the Derbyshire Committee were very extensive, and contained a great number of local varieties, as did also those from Yorkshire. The fruit from Hereford was the best, and exhibited at once the advantage that old orchard country has over the less-favoured districts. A report

was read of a Meeting of the Committee held at Derby under the presidency of Mr. Cooling, and the thanks of the Committee were awarded to Mr. Cooling, jun., who acted as Secretary, for the assiduity he exhibited in collecting so large a number of specimens, and forwarding them to the Society. The thanks of the Meeting were also awarded to Mr. Hill, of Keele Hall Gardens; C. W. Strickland, Esq., of Hildenley; and Mr. Davis, of Hereford, for the services they had rendered from their various Committees.

A fine collection of Apples, Pears, and Grapes was received from the Horticultural Society of Canada, which will form the subject of a separate report.

At this Meeting prizes were offered for the following exhibitions:—

Class A, for the best three dishes of dessert Apples. In this class there were nine competitors, and several of the collections were remarkably fine. Mr. Webb, of Calcot, near Reading, had some very fine Blenheim Pippins and King of the Pippins. The Blenheims of Mr. Snow, of Wreat Park, were also very fine. Mr. Curd, gardener to M. G. Thoytts, Esq., of Sulhampstead, Berke, had beautiful specimens of Golden Winter Pearmain, Cornish Gullflower, and Ribston Pippin; and Mr. Turner, of Slough, exhibited nice examples of Omar Pacha, Cox's Orange Pippin, and Court-Pendu-Plat; but the awards were reserved for those exhibited by Mr. Whiting, of the Deepdene, whose collection consisted of Braddick's Nonpareil, Eldon Pippin, and Cox's Orange Pippin, and to these the first prize was awarded. The second was given to Mr. Bousie, gardener to Lord Taunton, at Stoke Park, near Slough, for Braddick's Nonpareil, Golden Russet, and Cockle Pippin. These two exhibitions, Mr. Whiting's and Mr. Bousie's, though smaller and not such showy specimens as were exhibited in some of the other collections, were fine of their kind and surpassed all the others in flavour.

In Class B, for the best three dishes of dessert Pears, there was a very brisk competition, there being no less than fifteen entries. Two very excellent collections came from Mr. J. Morris, gardener to T. White, Esq., Manor House, Wethersfield, which consisted of Urbaniste, Soldat Laboureur, Orpheline d'Enghien (Beurré d'Aremberg), Beurré Bachelier, Beurré Diel, Van Mons Léon le Clerc, and Broompark. Mr. Curd, gardener to M. G. Thoytts, Esq., Sulhampstead, also sent good examples of Zéphirin Grégoire, Beurré Diel, and Glou Morceau. Noble fruit came from Mr. Ingram, of the Royal Gardens, Frogmore, of Knight's Monarch, Beurré Diel, and Beurré Bosc; and also from Mr. Spivey, gardener to Mr. Houlton, Hallingbury Place, near Bishop Stortford, of Glou Morceau, Passe Colmar, and Beurré Diel. But the prizes in this class were again carried off by Mr. Bousie and Mr. Whiting, Mr. Bousie being first with Marie Louise, Knight's Monarch, and Glou Morceau; and Mr. Whiting second with Duchesse d'Angoulême, Marie Louise, and Winter Nelis. A very good collection was received from Mr. Wm. Earley, of Digwell, but they arrived too late for the Meeting. Taking the whole of the collections that were exhibited in these two classes, they were all of a most creditable description.

In Class C, for the best dish of White Grapes, the prize was awarded to F. J. Graham, Esq., of Cranford, near Hounslow, for three bunches of his new Grape, called Graham's Muscat Muscadine. This was raised from the Royal Muscadine, and has a brisker flavour than the Chasselas Musqué, and not quite so high a Muscat flavour; but it does not crack in ripening as that variety does, and the Muscat flavour is quite as strong as in the other Frontignans. For Black Grapes the prize was awarded to Messrs. Lane & Son, of Berkhamstead, for three large bunches of Black Barbarossa grown in a house without any artificial heat. The bunches were very handsome, well set, and beautifully coloured.

A seedling Pine Apple was sent by Mr. Andrew Batger, gardener to John Gott, Esq., Arnley House, Leeds. It was of good size, weighing 3 lbs. 14 ozs., tall, cylindrical, and handsome, of a fine golden yellow colour. The pips are large and flat; the whole appearance of the fruit is prepossessing. The flesh is yellow, firm yet tender, and free from fibre, very juicy, and very richly flavoured. It was unanimously awarded a First-class Certificate.

A seedling Grape was sent by Mr. Saunders, gardener to Sir Henry Meux, Bart., Theobald's Park, and which was said to be a Muscat. It is called *Royal Vineyard*. The bunch is large and well set, ovate, not long, tapering, or cylindrical. The berries are large, ovate; the skin white, and somewhat trans-

parent, showing the texture of the flesh through it. The flesh is firm and somewhat crackling, very juicy, and with a fine Sweetwater flavour. From the thickness of the stalks and of the berry-stalks it has all the appearance of being a late-hanging sort; and this quality, coupled with its admirable flavour, will doubtless recommend it. The Committee unanimously awarded it a First-class Certificate as a valuable late White Grape, but are of opinion that it does not possess the Muscat flavour to entitle it to be classed among Muscat Grapes.

Mr. Pottle, gardener to B. D. Colvin, Esq., Little Bealings, Woodbridge, Suffolk, sent a bunch of the Hubsbee Grape, a long brownish-red finger Grape, exactly like the large Black Ferral grown in the large vinery at Chiswick.

Two seedling Apples were sent by Mr. J. Gidley, of Exeter, one a seedling from Cornish Gilliflower, and the other from the old Golden Pippin; but in both cases, although good varieties, they were inferior to their parents.

A seedling Apple was sent by Mr. Harrison, of Ostlands, near Weybridge, which promises to be a very desirable variety for kitchen use. It is of the largest size, green, and striped with broken stripes of crimson all over its surface. The flesh is tender, brisk, and with as much sweetness as will go far to dispense with the use of sugar in cooking. The Committee highly recommended this variety.

Dr. Davies, of Pershore, sent specimens of a large kitchen Apple which proved to be Minchall Crab, a very useful variety extensively grown in Lancashire. He also sent specimens of Lady's Delight, a local variety which was introduced to notice some years ago by Dr. Davies; it is an excellent dessert Apple, and deserves to be more widely known.

Mr. S. Snow, gardener to Countess Cowper, Wrest Park, sent a seedling Pear. It is small and obovate, of a clear yellow colour, marked with cinnamon-coloured russet; but the flesh was coarse-grained and astringent in flavour.

A large seedling Apple was also received from Mr. A. Moffat, Eastern Lodge, Dunmow, Essex; but it was too like the Dutch Codlin to require any special notice.

Mr. Laxton, of Stamford, sent specimens of Stamford Pippin, which, however, were much smaller than usual, but the flavour was excellent.

A very excellent dish of Red Currants was received from Mr. Terry, gardener to Lionel Ames, Esq., St. Albans, and an extra prize was awarded to them.

## STOKE NEWINGTON CHRYSANTHEMUM SHOW.

STOKE NEWINGTON enjoys a well-earned reputation for its Chrysanthemums, and the names of cultivators in that district are frequently associated with the highest prizes at the metropolitan exhibitions where that flower finds a place. Besides, at the annual Show of the Stoke Newington Chrysanthemum Society there is always an excellent display both of pot plants and cut blooms, which, as examples of successful cultivation, are all that can be desired.

The sixteenth annual Show, which was held on Wednesday and Thursday last, was not behind its predecessors in merit; and the objects exhibited were not merely well grown but well arranged, and neatly and distinctly labelled—a point which the Society very properly makes imperative.

In Class 1, six plants, in eleven-inch pots, Mr. Ward, gardener to G. Fowler, Esq., Tottenham, was first with General Havelock, a very fine Vesta, Alma, Christine, Annie Salter, and Beauté du Nord. Mr. Howe, who was an excellent second, had Annie Salter beautifully covered with blooms, Dr. Rosas, Vesta, Golden Christine (very fine), Alma, and Chevalier Douage.

The next, Class 2, was for Pompones, in eight-inch pots, and here again Mr. Ward was first; his kinds being Golden Cedo Nulli, Andromeda, Bob, Durullet (very full of bloom), General Canrobert, and Hélène. Next came Mr. Hasdale, of Lower Clapton, who had Cedo Nulli, Hélène, Dr. Bois Duval, and Général Canrobert, all of which were very good.

In Class 3, single specimens, Mr. Ward was first with Defiance, very full of bloom, and Mr. Howe, second with Christine, which was well covered with blooms, some of them being very large; and in the corresponding class 4, for Pompones, he exhibited a very fine plant of Bob, for which he obtained the first prize, the second being given to Mr. Ward.

In an extra class for pyramids, a nicely-grown Cedo Nulli,

from Mr. Howe, received the first prize; Mr. Moxham taking the second for Golden Cedo Nulli and Salomon, trained on wire.

Cut blooms were well represented, and with but few exceptions the stands were very good. Mr. Slade, of Kingsland, who was first, had White Globe, Jardin des Plantes, Cassy, Beauty, Raymond, Rifleman, Pearl, Alarm, Miss Kate, Yellow Perfection, Dupont de l'Enre, Aimée Ferrière, General Hardinge, Caractaus, Picturatum Roseum, Queen, Anaxo, Cherub, Plutus, Nil Desperandum, Trilby, Golden Trilby, Hermine, and Madame André. Mr. James came second, his stand being likewise very good, Mr. Monk was third, and Mr. Ward fourth.

In Class 6, for twelves, Mr. James received the first prize for Jardin des Plantes, Nonpareil, and Queen of England, all large and fine; and White Globe, Lady St. Clair, Christopher Columbus, Alarm, Hermine, Lady Hardinge, Chernb, Nil Desperandum, and Little Harry. Mr. Moxham was second, Mr. Monk third; the last-named being first in the following Class, 7, for six blooms, and Mr. Snare second.

Class 8 was also for sixes; and here the successful competitors were Mr. Butt and Mr. Williams, Kingsland.

Of Anemone-flowered varieties, which were exhibited under Class 9, the best stand contained a fine Louis Bonamy, Marguerite d'Anjou, Gluck, Margaret of York, George Sand, and Nancy de Sermet. Mr. Monk, who was second, had also a good show.

The best twelve Anemone Pompones were shown by Mr. George, of Stamford Hill, who had excellent examples of Calliope, Antonius, Mr. Astie, Madame Montel, and Astrea. Mr. Butt was second, and Mr. James third.

There was also a class devoted to exhibitors who had never won a prize before, and in which creditable blooms came from Mr. Abrahams and Mr. Bowles. We have only to add that the whole affair reflected credit on the Society and their Secretary, Mr. Howe, who was most assiduous in carrying out the arrangements.

## DISTRESSED WORKINGMEN BOTANISTS OF LANCASHIRE.

I AM happy to inform you that our appeal to the public has been very successful. Of Mosses, two ladies have taken two-guineas' worth each; and two others £1 11s. 6d. worth each; a gentleman one-guinea's worth; a lady three shillings' worth; and we have orders in for three guineas' worth of Ferns and other things. Besides these I have received the following donations on account of the poor botanists—viz, 10s. from "PATELIN;" 5s. from H. T. Greenhalgh, Mansfield; 2s. 6d. from the Rev. Henry N. Ellacombe, Bolton Vicarage, Bristol; and a letter came to R. Schofield's house this week, addressed Robert Schofield: it contained 2s. 6d. in stamps, but no name or matter save "A Mother who can feel for another's distress." It had the Ipswich post mark on, and the postman took it back, and it has gone to the General Post Office, London. If this should meet the eye of the lady who sent it, she might probably get it back. There is no other Schofield in Church Street, Dinkinfield.

I am happy to tell you also, that a lady has sent me the following good clothing to distribute—namely, to John Whitehead and mother and sisters, 12 yards of Welsh flannel, 5 yards of good tweed, and two good new woollen rugs. To Roger Schofield and his family, 14½ yards of grey linsey, 12 yards of Welsh flannel, a good cloak, and two woollen rugs; also, 26 yards of striped linsey, 14½ blue serge, 78½ of calico, 19½ of grey cloth, twenty-four woman's shifts; twenty-four ditto bed-gowns, fourteen nightcaps, four men's shirts, and one pair of drawers, for me to give out amongst the other distressed botanists. I am not at liberty to name the lady. I shall by her benevolence be able to give some good warm clothing to nearly fifty persons.

I have called in two other botanists who are above want to help me to distribute the goods, and on Saturday we shall make a from-house-to-house visit to see who are most in want.

Four other cases have come under my notice since I wrote last week; two of them are men of the highest respectability as working men; both I know very well, and each has a wife and six children. They are men who are very enthusiastic botanists, and have striven hard to give their children the best schooling their means would allow. They were too modest to make application to me, even when they knew I expected something coming. I shall be able to do something towards clothing their little ones with a portion of the gift of the good lady referred to. The names of the two men I have just mentioned are James Kirk

Smith, Turner Lane, Ashton-under-Lyne, and Richard Bird, Tame Valley, Dukinfield.

A kindhearted gentleman here has promised to get the goods made-up for these poor people free of cost, and I purpose to raise a fund to buy stockings, shoes, clogs, and other things for them; and if any of your readers would like to help them through this storm, I should be most happy to receive any sum, however small, which can be sent in postage stamps, and I will acknowledge all donations in your Journal.

I can assure the many kind ladies and gentlemen who have taken up the case of these poor honest naturalists, that they have changed to cheerfulness the gloom of many homes.

Parcels of good warm clothing, either old or new, sent to me would come free if on the label were written, "For Distressed Operatives." If I receive more than will be wanted for the botanists, I will distribute the rest amongst distressed cottage-gardeners, of which there are many here; and I can assure ladies and gentlemen that, in the distribution I shall be as cautious as circumstances will allow, and give to the most deserving and to large families.

I will conclude by thanking you for allowing so much space, and the gentleman who so ably pleaded the cause of these unfortunate people in your last week's Journal.—JOHN HAGUE, 36, Mount Street, Ashton-under-Lyne.

[We have received and forwarded for these deserving men, 10s. in postage stamps from "LEX," and the same from "PATELIN."]

## THE DALKEITH EARLY AND LATE GRAPES.

CONSIDERABLE interest has been all along manifested, by the members of the profession, at Mr. Thomson's extraordinary success in being able to place upon his employer's table early forced Grapes on New Year's-day; and the excitement may be said to be only culminating, when those who are disposed to give the theory and its results most credence go and see for themselves. It is easy enough to suppose a house of established Vines compelled, by the will of what might be called a dangerous theorist, to yield to unnatural pressure and produce a bunch here and there which might, or might not, come to maturity; but to see a house containing a good "summer" crop of Grapes in the act of stoning, with dark green foliage rustling to the touch, in the month of November, is something not only unprecedented—for to Mr. Thomson, with due deference to others working in the same direction, belong the honour and credit of reducing such practice to a system—but is something foreign to most of our conceptions altogether. Not only so, but we may place on record, for the information of all those who may be inclined to take credit for the theory after the fact, that Mr. Thomson himself, with commendable modesty, acknowledges that the result has far outstripped his most sanguine expectations; and that, like many other knotty points in gardening, he resolved, however unsuccessful, to give it a trial. Dr. Hogg and his co-editor in the "Florist and Pomologist," were evidently as pleased as surprised at last year's productions; and should similar come before their eye two months hence, I am certain they will be more pleased than ever. I am not a betting man, else I should be inclined to give large odds in favour of Mr. Thomson in the forthcoming interesting competition between him and Mr. Tillery.

The house that the Vines are growing in is a lean-to, 36 feet long and 14 feet wide, with a 2½-feet front sash. It is heated by two flow and two return-pipes, fitted with the open gutter, which not only gives off considerable moisture, but adds considerably to the heating power, and shows also the rate the water circulates. Another important addition to these pipes is a coating of sheet iron regularly perforated with holes, leaving an interval of half an inch wide all round. Air is admitted from the outside by two four-inch sheet-iron tubes, fitted with valves, so as to admit or exclude at pleasure, into this vacuum between the sheet iron and the pipes, and, as will be easily conceived, it is superheated before circulating into the house; fresh air so heated in houses of this kind is an important element towards success. The Vines themselves, as has been told by Mr. Thomson himself, are of considerable age, and were experimented upon three years ago, only prior to young ones taking their place, which, of course, has not been done, and will not likely be until another house is prepared to replace the one in question. The young wood was vigorous, and the leaves, as has been hinted at above, all that could be desired. There was no flabbiness nor want of consolidation about any of their parts—nothing, in-

deed, to indicate that the year was any further advanced than June or July. The bunches were all nearly uniform in size, many of them exceedingly handsome, and, so far as we saw, none of the Vines lightly cropped to prepare for the coming struggle. But will they finish? is the rub. Talk of bringing Grapes up to the mark that have to colour in the dark, dullest days of winter, is the cry of the doubtful; and the part that Mr. Thomson is taking in almost ignoring colour in black Grapes, will probably make them more doubtful still. This, to the looker-on, is certainly the most delicate and difficult point to attain; but Mr. Thomson, with two previous years' experience to back him, says, "There is no fear of colouring: they would astonish you on that point."

The late viney is 110 feet long, by, I think, 15 feet wide, and is full from end to end of a very fine lot of fruit, Lady Downe's Seedling predominating. There are also West's St. Peter's and Raisin de Calabre. The Lady Downe's Seedlings are much finer than they have ever been at Dalkeith, and, indeed, are as fine as any one could possibly desire. The bunches are not large but they are uniform, and the berries far above the average size; they were not ripe, but were gone half way in point of colouring. The West's St. Peter's were also very remarkable for their great size of berry, and the bunches, as is usual with that variety, heavily shouldered. Raisin de Calabre was in beautiful order, and is the best keeping late White Grape at Dalkeith. Some of the bunches were not much under 6 lbs. weight, and the berries were of good size and of good colour; the flavour was rich and vinous. At a moderate estimate, there would be five hundred bunches in this house which one might average, after hanging from Christmas onwards, at 1 lb. the bunch. This anybody who sees them will consider under the mark, and would realise a considerable sum of money at the high prices obtained during that season, and, moreover, would pay in full the £160 which Mr. Thomson disbursed for the erection of the house, in one year. The house is placed towards a southern exposure, against a wall previously in existence, which is not included in the estimate. The large sloping sash is a fixture, and ventilation is provided for with a short perpendicular sash at front, and a small sloping one at back. These are so connected by longitudinal iron rods and transverse ones, jointed arm-like, that by means of a lever, in both cases at one end, they can be opened simply and expeditiously as much as desired their whole length. The process is one of the simplest we know of, and one of the most economical.

There is a house here also devoted to the trial and cultivation of seedling Grapes, of which there was a considerable quantity. The fruit of two "crosses" were then hanging. The one was Lady Downe's Seedling crossed by Muscat of Alexandria, of which there had been a goodly batch, but only one reserved as being thought worthy of further trial. This bunch was as unlike Lady Downe's Seedling as possible, only it apparently possesses its late-keeping qualities, and being a White Grape will be worthy of further trial. It is a round berry of a faint amber colour, and its skin is hard, but so crisp as to leave the mark of any puncture as distinctly as it would do in a green state. It is a firm flesh and far superior in flavour to Lady Downe's. The other is a cross between Barbarossa and Muscat. This has black oblong berries, of a medium flavour, making up a handsome bunch of berries, upon the whole rather below the average. Such trials as these, irrespective of their results, are exceedingly interesting, and show what skilful manipulation can effect.—JAMES ANDERSON, Meadow Bank, Uddingstone.

## GRAFTING VINES.

THERE are two best seasons for grafting the Vine. First, when both stock and scion are in a state of rest, and about ten days or so before you wish to set the sap moving artificially, or leave it to move naturally. The Vine cannot be grafted when the spring sap is flowing freely and thin; and, besides, any incision then would waste the energies of the plant. Suppose, then, you commenced raising the temperature of a viney to incite it into action on the 1st of January, we would graft in the last week in December. If the sap began to run naturally in the end of March, we would graft a fortnight previously. We mention this because, though it may only be a notion of ours, our experience would lead us to the conclusion that the grafts do best when they are put on before, but not long before, the sap is in motion. The modes of grafting are endless, and it matters little

which is resorted to. In small stems I prefer cleft-grafting—that is, cutting the stock straight across, splitting it down the middle for 3 inches or so, and making the scion into the wedge form, and making sure that at one side at least the inner bark of the scion joins the inner bark of the stock. The scions I prefer are pieces of well-ripened young wood containing two buds, and an inch of wood above the upper bud. In cleft-grafting the scion is cut across at the lower bud, much if as you were making a Geranium cutting, and then in forming the wedge a piece of the harder substance across the bud is still left. In the case of larger stems we have cut a triangular piece out to fit a similar triangular shape in the scion, but I do not think there was any advantage gained over the more simple mode of just slicing a piece off one side of the scion and a similar piece off the stock, so that the barks of both should unite. In rather thick stems we prefer placing a scion on each side—that is, two instead of one. The scions will be more secure if tongued, but that I have seldom done. The scion is put on so that the lower bud shall be on the outside. Sometimes we cut this bud through to prevent a shoot coming, and sometimes not. If so done the base will be sure to send out small buds afterwards. The two essentials of success are—clean cuts, on stock and scion to fit each other, and tight, careful tying, so that the liber or inner barks of both stock and scion fit. In order to keep the air from the junction, we generally use a little grafting-clay in the usual way, and over that we tie a little moss, which is kept dampish. As the sap begins to move, the scion and stock are kept moderately moist. For this nothing is better than a small bottle hanging above the graft with a worsted string suspended from it in the shape of a syphon. As soon as the union is effected and growth is going on rapidly, the tying must be loosened, but not wholly removed until all danger is past. In fact, it is as well for the first season to have a rod fastened to the stock and going considerably beyond, to which the scion may also be securely fastened.

The second best season can only be resorted to in a house where the Vines are forced so early that they will be in full leaf before a scion kept in a cool place out of doors has at all commenced to move. Grafting then is often done with great success. As soon as a Vine is in full leaf—that is, when the leaves are nearly their natural size, you may cut and prune as you like without any danger of bleeding. The retarded scion may then be put on; and a little more care given to keep it warm and moist, along with the free action of growth in the stock, will generally cause the scion to start quickly and freely. It will at once be seen that, keeping both modes in view, a person may have two strings to his bow. I on the whole prefer the first, though both myself and many friends have been successful with the second. Inarching differs from the second mode, inasmuch as instead of a scion a growing plant is joined to a young shoot by a splice, or laying, similar to grafting; and when once the union is effected, the root part of the new plant in a pot is removed.

Although not a word too much has been said of the Lady Downe's Grape, which you wish to graft on the Hamburgh, it is chiefly as a late Grape that it has acquired such a good reputation; and though, as you say, Grapes in a greenhouse are a great attraction, it should never be forgotten that if plants in pots are also of great importance, the earlier Grapes that may be cut and used—say before the middle of October, are often the most useful. We rather think that Lady Downe's will stand damp as well as any, but we know that some who planted West's St. Peter's, Barbarosa, &c., in their greenhouses, in order to have late Grapes, found that the damp from these plants began to injure them before they were ripe. Of course, such a state of things would not apply to a house receiving a considerable assistance from fire heat; but then that properly speaking would not be a greenhouse, with which we associate generally no more fire heat than will keep it from 40° to 45°.—R. F.

[The above is in reply to "A SUBSCRIBER OF THE FIRST YEAR." To his other queries, the serial on Orchids is 10s. 6d. per part. There is a drawing of the "Lady Downe's Grape" in the last Number of "The Florist and Pomologist."]

### CHRYSANTHEMUMS.

MR. SALTER'S, VERSAILLES NURSERY, HAMMERSMITH.

THE winter garden this season occupies three houses, and the collection has not hitherto been seen to such great advantage. There were nearly fifty kinds of new Chrysanthemums in bloom on the 10th instant, which I had never seen before; and among

them are flowers for all tastes and fashions, and every kind in Europe that is worth growing may be seen in bloom there every season, and that too in their free natural way as common herbaceous plants. But one whole house was devoted to trained plants of moderate size in the style of country conservatory arrangements, very different, and very much better, and more safe for buyers, than the close compound training for exhibitions. If no man can make out if a plant has one stem only, or one and twenty stems, I say that is not safe work for purchasers. Every leaf and every joint of every one of these plants can be seen and examined. The pots are small, and the plants are rounded up to the centre just as one would choose for one's own house where, in our own eyes at least, there ought to be none like our flowers, like our plants and plant-training, and over all and above all the rest—none like our flower-beds and our arrangement of colours.

Upon that principle Mr. Salter has put himself to the extra expense this season of having a fresh first-class trainer and grower of Chrysanthemums, as his customers choose them, and that will bring him in more money, more custom, more care, and more pleasure than he ever yet had in this plant-family. Every trainer of note has his name entered in the stud-book as regularly as the horse and his rider, and our new trainer must be booked that we may not lose sight of him; but I must beg pardon, for I forgot his first name in the striking coincidence of his being the third great Knight in gardening in my day.

I knew Mr. Keight, of Downton Castle, and first President of the Royal Horticultural Society; I knew Mr. Knight, of the Exotic Nursery, Chelsea; and I know Mr. Knight, of the Versailles Nursery, Hammersmith, who first introduced the domestic style of growing and training the Chrysanthemum into a London nursery, and I would advise every one who can and who values that inestimable treasure—domestic peace and comfort, to go and see that style of growth and training, and to go home and follow the example; and the best way I can impress the injunction is by doing the next best thing myself in the same mood—that is, to give the cream of the best and newest of the seedlings, not naming those which are mentioned in the report of the Show in another page.

Loyalty demands the first turn; and Queen of England, worthy of the name, is a splendid large blush, together with the sports from it—namely, Alfred Salter, Golden Queen of England, Striped Queen, White Queen, and Lady St. Clair, all considered, both as regards form and size, as the finest flowers in cultivation. The original Queen of England was raised from seed by Mr. Salter in 1847, and ten years before that he raised Madame Poggi, which has not yet been exceeded in size or in the deepness of its dark purple colour. It was named after an English lady who married a Spaniard of that name.

The first in my notes is Victor Hugo, a large deep ruby, incurved flower; ruby in this family being a deep shade of Indian red. Pyramidalis, orange and red, hybrid, or one-half large and one-half Pomponne; a foot or 18 inches of every shoot blooms in pyramid fashion: hence the name. Daphne, bright sulphur and darker centre; a fine, conspicuous flower, and very large. Golden Fleece, in the way of Plutus, and the best of that style of flower; the plant is dwarf and remarkably well suited for pots of a smaller size than usual. Hugh Miller, dark red chestnut, and incurved. Jane, the best foliage and habit in the collection, a most delicate pink incurved flower, and an excellent pot plant.

These, together with the eighteen kinds mentioned from the Exhibition, include all the seedlings which have flowered up to the 10th of the month.

The next move was to go over the flowers which were sent out first last spring, and the newest of the last two years. Boadicea, rose and cream, with a high centre, was very large. Caractacus, a blush-tipped carmine rose; Ariades, very large creamy rose, a new shade; Alma, rose crimson, according to Chrysanthemum colour; Dido, sulphur white, one of the best for specimens; Draco, dark; and Dr. Brock, reddish-orange, all first-class for specimens. Also, Dr. Maclean, which is a sport of Minerva, and here it is sporting into quite a different colour; Cherub, a beautiful golden amber; Ion, the purest white of all; Emily, a beautiful blush; Julia Grisi, a fine new shade of rose and pink, and now sporting buff; Leda, large white; Général Dumesnil, very large dark fawn; General Slade, Indian red; Garibaldi, red chestnut; Le Bureau, red, tipped with golden yellow; Pandora, mixed rose, yellow, and nankeen; Prince Consort, next shade to Progne, purple; Miss Prim, a clear yellow hybrid, prim as a Primrose; Miss Slade, paleish

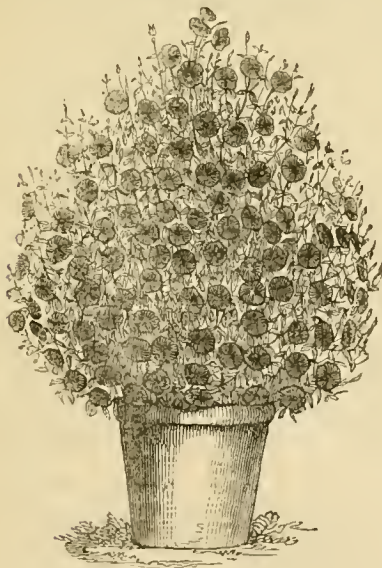
sulphur; Lord of the Isles, large rosy orange; Sparkler, red tipped with orange, after Auguste Mic, a splendid kind; and with Saccoi Vera, rosy lilac; Rifleman, Lord Ranelagh, and White Christine, will finish this division, and it is almost needless to say they are all incurred flowers.

Out of the general collection I give an alphabetical list of the very best kinds, on the joint authority of the Messrs. Salter, father and son, and their humble servant the writer; but to save room I shall refer you to their catalogue for descriptions.

Alfred Salter	Lady Hardinge
Albin	La Belle Blonde, very large white
Alma	Léon Laquay
Annie Salter	Le Trouvère
Ariadne	Little Harry
Aregina	Lord Ranelagh
Auguste Mic	Maréchal Ducoc
Bixio	Miss Slade
Caractacus	Mr. Fleurian
Carissima	Mrs. W. Holborn
Cassandra	Pandora
Cherub	Pio Nono
Christine	Prince Albert
Dido	Princess Maria
Dr. Brock	Princa Consort
Duchess of Wellington	Progne
Emily	Queen of England, and all its sports
Etoile Polaire	Rifleman
General Slade	Seraph
Globe, White	Sparkler
Golden Hermione	Sulphurea superba
Golden Queen	Versailles Defiance
Ion	White Christine
Jardin des Plantes	
Julie Grisi	
Julia Lagravère	

I noted besides some very interesting plants and some new ways of doing them, which for want of room must stand over till our columns are a little relieved.—D. BEATON.

PLEROMA ELEGANS.



THIS splendid Melastomad is chiefly interesting from the fact that it produces abundance of its deep blue purple flowers on comparatively small plants, and may be managed without a plant-stove, which most of its neighbours require. The fact that the large flowers are produced most freely on the points of last year's shoots furnishes the key-note to its culture. The next thing essential to success is that it will not thrive if kept in a plant-stove, nor yet will it thrive if kept in a cool greenhouse. In the one case it will get straggling, and the wood will not

ripen well enough to bloom freely; and in the other the plant will assume a starved appearance, and become brown and unhealthy.

In propagating it by cuttings any time during summer would do, but as a matter of choice we would prefer March or April. The points of shoots getting firm at their base would answer; but we prefer firmish side shoots from 2 1/4 inches to 3 inches long, rather green at the point, but brownish and firmish at the base. These are to be cut across at a joint at the bottom, the leaves there removed; the pair above either removed or shortened, and, if long, a little shortening given to all but the terminal ones. They may then be inserted in a well-drained pot, in silver sand over very sandy peat. The success will be all the more certain if a small pot is reversed in the centre of the cutting-pot, so that the base of the cuttings may abut on the centre pot. Fill any holes made by the dibber with silver sand; water well; and, when the sand is firm and the plants dry, cover the pot with a bell-glass, and plunge the pot in a mild bottom heat, shading the glass in bright sunshine, but giving no shade when cloudy; removing it early in the afternoon, and giving a little air under the glass at night, replacing it before sunshine in the morning, and preferring to keep the atmosphere of the cuttings and the bed round them somewhat moist instead of watering the cuttings much. When struck, pot-off singly in small pots, or three round the sides of a four or five-inch pot, using at first a light soil, as three parts of heath soil to one of loam and one of silver sand, and increasing the amount of loam as the plant gets older.

Under the most favourable circumstances a cutting could hardly be expected to make a show as a flowering plant under three or four years, or even more. Amateurs would therefore be nearer their purpose to procure from a nurseryman a nice, bushy, healthy plant, in a four or a six-inch pot; and though we give the process of propagating, yet with all such things it will be the truest economy to keep in mind the division-of-labour principle and purchase a nice plant, as propagators by profession can do all that sort of thing at half the labour and expense that any amateur, or any gardener with a great variety of plants demanding his attention, could by any possibility do.

Supposing the plant to be obtained, our cultural remarks will chiefly have reference to getting it to bloom early in the summer of the following year. The plant, then, home-raised or purchased, being a nice little stubby plant in the end of March or beginning of April, and occupying a five-inch pot pretty well filled with roots, we would keep the plant in a temperature of from 50° to 55° with a view to promote free growth, and this, especially in a bought plant, for a fortnight or three weeks after obtaining it, so that all the stagnation of the journey might be got over. The next thing to do is to give the plant a larger pot. Unless in skilful hands that will regulate watering to a nicety, very large shifts are to be avoided; but so are very small ones, as the plant seems to need a little nursing after every shift. Well, supposing the plant is in a five-inch pot, we would transfer it to a seven or an eight-inch, draining the pot well, using a little broken sifted charcoal over the drainage—that is, getting rid of the dust; then gently disentangle the roots outside the ball, so that they shall run at once into the new soil, taking care that before shifting the ball is thoroughly and sufficiently moistened, as fresh-potting such a plant dry is next-door to throwing it away. The soil should be in good order, neither wet nor dry, and picked-in pretty lightly among and to the roots.

Soil Used.—What is best for young plants has already been stated. For plants about this size three parts of heath soil to two of loam, should be used; and one part more may consist of silver sand, broken pots, and nodules of charcoal, so as to allow free passage for water. When the plants come to stand in a ten or twelve-inch pot the fibry loam and heath soil may be in equal proportions, and then the loam will insure more sturdiness in the growth. Then, too, a little fine aerated leaf mould may also be used in the soil. A little moss will likewise be an advantage between the soil and the drainage.

First Summer's Management.—After potting it would be well to raise the temperature gradually from 50° to 60°, using a little shade in bright sunshine, and frequent sprinklings overhead, until the roots are working freely in the fresh soil. Until then, water should be given carefully, so as not to deluge the fresh soil until the roots get into it. A skiff from the syringe will be useful in sunny afternoons until the end of July. As soon as you perceive the roots are taking fresh hold, the training of the plant should commence, fastening some shoots nearly horizontally, but letting their points have an upright direction, so that the plant when full grown shall have an orbicular form. Many

of the shoots will need no stopping owing to their comparative weakness; but all the stronger shoots will need to be stopped several times, so as to insure compactness and regularity of growth. When blooming next season is resolved on, no stopping of shoots should take place after the end of June. Water will be required in greater quantity as the sun gains strength; and as the roots get to the sides of the pot, manure water will help to give strength and colour, using it in a clear and weak state. Were we not to think of blooming the plants the following year, we would shift again in June; but wishing to have flowers we will not do so, but will gradually give the plant more air, after July, to consolidate the little shoots.

*Autumn and Winter Treatment.*—In August, in addition to giving more air in a greenhouse, we would prefer the plant to stand in a cold pit, with glass over it, and air back and front. In September we would gradually diminish water, and by the end of the month put the plant in a house where the temperature will not be below 45°, nor above from 50° to 55° with fire heat, during the winter. Water, also, should be given carefully, and the plant will be safer if the pot stand inside of a larger pot, with damp moss stuffed between them. In spring the plant may have from 5° to 10° higher temperature as the sun gains power, and more moisture in proportion, which will cause the flower-buds to show and swell.

*Future Treatment.*—When in bloom the plants will keep their beauty longer in a cooler atmosphere, and with a little shade to break the fierceness of the sun's rays. When done flowering give what little pruning is necessary; encourage the plant to grow, shift into a larger pot if necessary, keep close and moist until there is free, fresh rooting, and in autumn give more air and sunlight, as already described, and house in time for the winter.

*Insects.*—If a little fly appears, smoke in the usual way. The most troublesome customer is the thrips, and the best preventive is a free use of the syringe when growing, and frequent smokings and washings as soon as one is seen. If manure water is used from the droppings of animals, it would be advisable to soak the droppings at first in boiling water, which will destroy all vermin and their eggs, and the water may be reduced enough afterwards.

In watering in winter, the water should be soft, and a few degrees warmer than the atmosphere of the house.—R. F.

*ERRATUM.*—In the fortieth line from top in first column, page 633, the first word, "pruning," should be "moving." Will "A. R. M." correct it?

### INSCRIPTIONS ON EXHIBITION CARDS.

It is the practice with our Dublin Royal Horticultural Society to have on the entry-cards, with the heading of the particular class, also the name and address of the exhibitor. These cards are placed on before the Judges go round, and remain on during the day. It is very satisfactory in this way, as not only the names of those who take the prizes are before the visitors, but the names of all the competitors. It appears to have a good effect, too, in making exhibitors careful—much more careful than they would otherwise be—not to bring forward anything that, even though it shall not get the prize, would not be at least creditable. I have heard, too, that impartial judgment is more likely to be had in this way than when the names are concealed.

Will you be so good as to favour me and other exhibitors in your next issue with your opinion on the subject, and also say is this the practice with your great London and other leading Societies in England?—AN OLD SUBSCRIBER.

[At the Exhibitions of the Royal Horticultural Society, those of the Crystal Palace Company, and at some of our leading provincial exhibitions, the name of the exhibitor is inserted on the exhibition class card before the Judges go round; but each card is turned so that the blank side only is seen, until after the Judges have made their awards.—EDS. J. of H.]

### EASILY-MANAGED HEATING.

MY apology for intruding on your space is the hope that my experience may be of some use to other amateurs, who, I observe, often write for information as to the best means of heating small houses, and on the most economical plan, or that will admit of the removal of the arrangements on the expiration of a tenancy.

I must premise that I have tried flues, gas, and hot water at different times, and have been successful with all; but my pre-

sent plan, I can safely engage, most fully answers the above so often-repeated questions.

The boiler is an upright one, and the pipes are on Truss's patent, which are put together with vulcanised india-rubber bands and screw collars, which are so simple, that, by having a spare length or two at hand, either the master or his man can in half an hour take out and replace any piece in case of accidental flaw.

Since the early spring I have kept a propagating-tank, hot-house, and intermediate-house in full work without any cost for fuel, having only made use of the ashes and cinders of the house and laundry. In five minutes after lighting the fire the flow-pipe becomes warm, and in half an hour the circulation is complete through about 200 feet of two-inch and four-inch pipes. If the fire is made up about ten P.M. it requires no further attention till the next morning, and I generally find it burning. The heat from the upright boiler is sufficient to keep off excess of cold from a greenhouse or range of pits, and the whole apparatus can be removed in a short space of time without the assistance of skilled workmen, and without leaving any traces or causing any destruction of material.

I think that my case will answer many of your correspondents' questions; and should you or they require further information I shall be most happy to afford it, and for this purpose enclose my card.—SUBSCRIBER SINCE 1856.

### LAMBTON CASTLE, ITS GARDENS AND SCENERY.

HAVING, on a former occasion, described Ravensworth Castle and grounds as a place of much consequence in the county of Durham, I now endeavour to give an outline of another nobleman's seat, differing considerably from the former in its general features of landscape scenery and in position; while in its architectural construction there is some similarity, as both are castellated mansions, and both were built about the close of the last and beginning of the present century. Lambton Castle may, perhaps, of the two combine a little more of the ecclesiastical style of building in its construction than the other; but massive Norman towers characterise both, and at Lambton the builders have been fortunate in obtaining a stone that stands well. Much of the building has the same clean light colour it had when first erected, and this is much to say in a neighbourhood where coal smoke abounds so much.

The situation of the Castle is on the precipitous banks of the river Wear, which flows at about a stone's throw from the terrace wall which surrounds the Castle, the bed of the river being some 150 feet or more below the terrace. This great elevation gives the place a fortress-like character; and the opposite side of the river, being also steep, rocky, and abrupt, is planted with trees, which in many places reach into the stream. It is easy to conceive the bold scenery which is here brought before the eye, while occasional cross ravines tumble in their waters into the mother stream, which here shows little signs of the many uses it is put to only a short way lower down; for the busy port of Sunderland is less than ten miles off with its closely-packed-in forests of vessels; and ship-building on the banks of this river has been carried on, perhaps, to a greater extent than on those of any other in England. An almost closely-united string of building-yards extends up the river to near Lambton, giving employment to a busy population; besides which, the surrounding country is dotted over in all directions with coal mines, or intersected by their necessary adjuncts—railways.

It has often been a source of wonder that a demesne like that of Lambton should preserve its retirement, its sylvan beauty, and the other features which form so important a character; for at the distance of two or three miles, or less in some points, we come upon those deep and extensive coal mines which from time immemorial have been regarded as the Durham coal fields. Unfortunately, the workings of these mines in years gone by have been much nearer the mansion of Lambton than was expected, for subsequent events have proved it to have been undermined. To those who are not acquainted with such matters, I may mention that coal is usually found in seams lying horizontally, and from 2 feet to 5 feet or 6 feet thick. Seams less than 3½ feet are seldom worked. These seams lie at various distances—say from 50 yards to 500 yards deep; the latter depth being, I believe, about the lowest-worked seam hitherto

tried. Now, it appears that one or two of the seams nearest to the top had been worked out, and the coal all, or nearly all, taken away from the part immediately underneath the Castle. The result was that some ten years ago the ground sunk in a broken manner, carrying the Castle with it; the irregular shrinkage, creating great fractures and settlements, disfiguring and deranging the whole. This settling of the ground, I was told, went on for some years, creating great alarm, as may be imagined, amongst the inmates. Of course, means were taken to remedy the evil by securely building-up the excavated part underneath, or filling it in with material that will bear the superincumbent weight; but this serious calamity necessarily deranged the mansion as a residence for some years, so much of it had to be taken down entirely, and some alteration or addition will be made. Not the least important, and one that will give the reader some idea of the magnitude of the whole, is an entrance-hall 90 feet long by 60 feet high. The width, I believe, was to be about 60 feet also. A local stone of good quality and of a pale grey was to be used in the interior; outwardly the Castle is built of a light-coloured freestone.

The approach is on the north side. One of the lines of carriage-road, after curving towards the river, is carried over it by a noble bridge of one arch, lofty and well-proportioned, and forming an imposing object from the Castle terrace. The steep bank of the river, with the exception of the strip between it and the Castle walls, is thickly wooded on both sides for some distance, and affords some beautiful drives and walks.

The kitchen garden is to the north-east of the mansion, and at this spot the rise from the river is more easy, giving the kitchen garden a gentle slope to the south-east; nevertheless the garden is formed into terraces by intervening walls running parallel with the river. The north wall is devoted entirely to a range of Grape and other houses, and in length is little short of 500 feet; the houses are also of good width—a central one, higher and broader than the rest, being a greenhouse. They are in good working order at the present day, although they have been in use between sixty and seventy years. In breadth and general character they much resemble those previously described at Ravensworth. On a rising ground behind were some fore-pits of more recent date, and also frames, cold pits, and like structures; while to the south the kitchen garden descended for some distance, a terrace wall retaining the platform upon which the range of houses spoken of were built, a broad gravel walk and the Vine-border being also included. I believe there are upwards of four acres inside the walls. The walks, as well as those leading through the woods and elsewhere, were of a beautiful white gravel; the particles, by carefully sifting, being all of uniform size—a trifle larger than large Peas.

In the immediate neighbourhood of the mansion, the presence of a hundred workmen in the building-way prevented anything in the character of dressed ground just then; but the walks, leading in various directions through the woods and by the side of the river, had many fine and beautiful openings, which were made use of to plant here and there Pinuses of the various popular kinds. Shrubs, especially Rhododendrons, were liberally scattered about; and there were magnificent specimens of native Ferns meeting the eye at all turns. Occasionally a large area had been cleared, and a group of Pinuses introduced, some of which gave promise of becoming useful trees at a future date; but it was evident many others required a warmer climate. The hasty glance I was obliged to take of them prevented my noticing them in particular. Some other objects of interest were also occasionally met with, not the least important being a fancy dairy, which, in addition to being highly attractive as regarded its outward appearance and inward embellishments, was also well adapted for the purposes intended, which is not the case in all fancy buildings of a like nature.

Following the broad and well-kept walks leading through these romantic woods, we often get glimpses of the river; while its rugged banks on the opposite side are also cut into drives and walks of a like nature. Amongst timber trees the Oak seemed to thrive as well as any, and of the evergreens the Silver Fir and its kindred were also in tolerable health; while among shrubs the common Laurel was certainly not so much at home as the Rhododendron: the severe winter of 1860-61, which had been fatal to so many Pinuses here as well as other places, had also severely cut up the common Laurels. The Portugal Laurel was in better plight, the moist soil and climate being more favourable to the one than the other; but, so far as management could be brought to bear on the case, everything

was being done which liberality and skill could suggest to make this fine place as attractive as possible. Mr. Stevenson, the worthy gardener there, often lamented the losses they had sustained by the hard winter of two years ago; still abundance is left to testify to the liberality of a bygone time, and I have no doubt but a place which has been carefully attended to for a century or more will continue to receive all the accessions which its situation and climate render advisable, though more favoured districts may excel in the heights of Wellingtonias, Cedrus decodaras, and the like. Lambton Castle, which, I believe, occupied a proud position in the annals of the country five hundred years ago and more, will, I hope, still continue to do so; and, when under the care of such public-spirited noblemen as the late and present proprietors, there is not much chance of a place of modern growth excelling it.—J. ROBSON.

#### CELERY-GROWING AND FAILURE.

HAVING sown the following varieties of Celery—Ivery's Non-such, Laing's Mammoth, Manchester Large, and Incomparable Dwarf White—on the 15th of February last in seed-pans, and plunged them in a bottom heat of 75°; when the plants were fit to handle I had them pricked-out 3 inches apart on dung-beds with a covering of 3 inches of soil, protected with box frames. The bottom heat was 70°. They grew vigorously, and were hardened-off gradually. Meanwhile the trenches were being prepared as follows in an open quarter of the garden, the soil of which is light, resting on gravel at a depth of 2 feet:—I had a trench taken out 15 inches deep, 12 inches wide, and filled with good rotten farmyard manure to within 5 inches of the ground level, over which 4 inches of soil from the trench was put. Then, with a space of 30 inches from side to side, the next trench was proceeded with in the same way, and so on till the quarter was all ridged. Selecting a damp day, the plants, which came up with good balls, were planted with the trowel, and received a watering with the rose on the pot. Damp weather prevailed for nearly a fortnight after they were planted, so that they never had a check; but, on the contrary, being strong stubby plants when put out, they grew vigorously. During the summer, when they required it, they had a good watering from a tank that drains the stable and cow-shed and receives the rain water from the roofs. This was in every instance followed by water from the pump equal in amount to one-fourth part of the whole of the manure water. The earthing-up was attended to about every three weeks until the 8th of October, when they were attacked by the blight or maggot in the leaf. On its appearance I had the diseased parts picked off and destroyed. The Celery received its last earthing-up on the 14th of October; and now, when we come to use it, it is stringy, bitter, and rotting very fast in the hearts, so that I have to discard about three heads as unfit for one that is good.

In former years I have grown my Celery in four-foot beds; but as it was in precisely the same condition, I tried the single rows this year. If you or any of your correspondents can assign a reason, or prescribe a cure, I shall feel deeply indebted.—P. L. C.

[This is not a solitary instance, and we publish it without comment in the hope that some of our readers will impart some information.—EDS. J. OF H.]

#### DEATH OF MR. GLENDINNING.

WE regret to announce another loss which the gardening community has sustained—that of Mr. Robert Glendinning, of the Chiswick Nurseries, who died on Sunday the 9th inst., after severe and long-continued illness, at the early age of fifty-seven. He was a native of Scotland, having been born at Lanark, September 27, 1805, and took to gardening at an early age. He came to England in 1824, was for three years at a place in Somersetshire, and went from thence to Lady Rolle's, at Bieton, in 1829, where he continued for eleven years, giving during that period ample evidence of his skill as a practical gardener and forester.

After being in partnership with Messrs. Lucombe and Pince, of Exeter, for some while, he took the Chiswick Nurseries, formerly occupied by Mr. Williams, in the spring of 1843. This place, which was then in a very decayed condition, he entirely remodelled, building fresh houses and greatly increasing its extent so as to enable him to meet the requirements of a first-class business. As a cultivator of Heaths he

was unsurpassed, and his collection of these was very complete, whilst for Conifers and fruit trees he always held a high reputation. As a landscape-gardener he was extensively employed, and in that capacity carried out with great skill several important works.

Mr. Glendinning was the author of an excellent treatise on the Pine Apple, and contributed papers on subjects connected

with horticulture to Loudon's "Gardener's Magazine," and other gardening periodicals of the day, as well as to the "Journal of the Horticultural Society," of which body he was a member for upwards of twenty years.

We are happy to learn that the fine nurseries which he may be said to have created will not be broken up, but will be carried on by his sons.

### ORNAMENTAL PLANTS.

**ROGIERA AMÆNA** (Pleasing Rogiera).—*Nat. Ord.*, Cinchonaceæ. *Linn.*, Pentandria Monogynia.—A handsome cool stove or greenhouse shrub, with di- or tri-chotomously divided branches, broadly oblong acuminate, opposite downy, deep green leaves, 2 inches or 3 inches long; the young leaves are faintly tinged with brown. The inflorescence is a many-flowered trichotomously branched terminal cyme, the blossoms of which are

crowded, of a pretty rose colour, deeper on the tube. The corolla is salver-shaped, with a tube about half an inch long, slightly thickened upwards, and a limb of five oblong, emarginate, spreading lobes. The flowers measure about half an inch across the expanded limb. From Guatemala; temperate regions. Introduced to Belgium in 1848. Flowers in summer.



1. Rogiera amœna.  
2. Cuphea verticillata.

**CUPHEA VERTICILLATA** (Whorled-leaved Cuphea).—*Nat. Ord.*, Lythraceæ. *Linn.*, Dodecandria Monogynia.—A pretty half-hardy plant with herbaceous or sub-shrubby hairy stems. The leaves are in whorls of three or four, sometimes opposite, and are nearly sessile, oblong, or ovate-oblong, somewhat rounded at the base, scabrous above, hairy beneath. The flowers are extra-axillary, from opposite sides of the stem, and consist of a

curved calyx-tube, about an inch long, pale yellowish-red, and a very irregular corolla of five to eight deep violet petals, of which the two upper are more than half an inch long, oblong-obovate, and undulated, the rest minute. From Peru and Columbia. Found by M. Linden at Pamplona upwards of 8000 feet above the level of the sea. Introduced to continental gardens in 1848. Flowers in autumn.—(*Gardeners' Magazine of Botany.*)

## TRITOMA UVARIA CULTURE.

I PURCHASED a plant of *Tritoma uvaria* lately, and was directed to keep it in a cold frame during the winter, and plant it out in the spring; but I have ventured to plant it out in the open ground, and covered it with 3 inches or 4 inches in depth of coal ashes, and in addition it is covered at night with a tub and mat, as the leaves are still green. The tub and mat are removed every day, but in case of severe weather I intend to keep these on altogether during the continuance of such weather. I can still take up the plant, pot it, and move it to the cold frame or greenhouse if you recommend it.—COUNTRY CURATE.

[You are treating it particularly well, and much better than in a cold frame or greenhouse. Your mode of protecting it is one of the best contrivances possible for such a plant, but the mat is hardly wanted. About the end of November the leaves might be cut down to the ashes, then another layer of dry ashes from the fireplace put on, and the tub put over it and left so day and night to the end of March.]

## GREENHOUSE PLANT.

*CANTUA BUXIFOLIA* (Box-leaved Cantua).—*Nat. Ord.*, Polemoniaceæ. *Lim.*, Pentandria Monogynia. *Syn.*, *C. ovata* and

*C. tomentosa*, *Cavanilles*; *C. uniflora*, *Persoon*; *Periphragmos dependens* and *P. uniflorus*, *Ruiz and Pavon*.—A most beautiful greenhouse bush, very much branched, the branches downy. The leaves are variable in form, generally oblong-ovate, and either entire or sinuate-serrate, and are downy or glabrous. The very large drooping flowers form a leafy terminal corymb; the thick tube of the corolla is 3 inches long, the limb spreading  $1\frac{1}{2}$  inch across, deep rose, almost crimson, the tube reddish-yellow. It appears to be an easily-grown greenhouse plant, requiring something the treatment of *Fuchsias*. From the Peruvian Andes. Introduced in 1849. Flowers in April and May. Messrs. Veitch & Son, of Exeter and Chelsea.—(*Gardeners' Magazine of Botany*.)



Cantua buxifolia.

heart. Double the produce that this gives might be obtained from better sorts; but the latter are unsaleable.

A severe winter, or the contrary, makes the whole difference with respect to the value of this crop, and in cheap seasons I have little doubt but that the opinion of its not usually proving a productive one is correct. The land, however, is left in excellent condition for whatever may follow.

The large Flatpole or Drumhead Cabbage, commonly grown for the winter food of cattle, is also found in a prominent place on the market-stall. These are sown in September, stand the autumn in their seed-beds, are pricked-out in early spring, and finally planted about the end of June. I have grown considerable quantities of them for some years, and whether sold or consumed on the farm, the return has been satisfactory.

A much larger breadth was formerly sown in Onions than is now the case, and Wales was the market to which what was not required for the home supply was then sent. The small profit of this crop, also, is complained of, and probably correctly, as the weight per acre is undoubtedly far below what is obtained in the districts around London—such as West Ham and its neighbourhood. The cost of weeding, also, in a moist climate like our own, is excessive, and to the same cause the inferiority of the sample may often be attributed. Radishes are sown in considerable quantities in November, the crop being fit for

market by the time that the sprouted Potatoes are ready to go in March.

The White Belgian Carrot finds a place in most occupations for consumption in the stable; but the same expense in hoeing adds considerably to its usual cost elsewhere. Some years since it readily sold at £2 per ton, but the price now rarely exceeds £1 5s., which, probably, as compared with Oats, is its full value. The Altrincham and other red Carrots yield well; but there is a difficulty in keeping them through the winter, from the early period at which worms and grubs attack them.

The warm sandy slopes around Marazion, as already mentioned, are very favourable to the growth of both white and yellow

Turnips, with which the adjoining markets are abundantly supplied almost throughout the year. Swedes are seldom satisfactory on the lands occupied by the market-gardener, and where they used formerly to be planted-out after Potatoes Mangold Wurtzel now takes their place.

Rhubarb was till lately grown largely, but at present it is not in so much favour, though the soil is most suitable, and seaweed the best manure than can be given to it.

Asparagus has a fair share of ground allotted to it, but its quality is not that which would recommend it to the London consumer, who requires so large a proportion of tough white stem to its edible end. Earthing-up the beds and keeping the plants at greater distances would, of course, produce heads fitted for this London requirement; but a large local sale seems to render the growers indifferent to a more extended market.

Sea-kale, with few exceptions, is raised only for private consumption. This vegetable, however, I fully believe, would be a very remunerative speculation to the Cornish grower, if he would study the condition in which Covent Garden requires its production. And the same may be said with respect to early Cauliflowers, which stand our winters without any protection.

This concludes the list of vegetables grown for sale, and it will be observed that several are complained of as giving bad

## MARKET-GARDENING IN WEST CORNWALL.

(Continued from page 636.)

POTATOES and Broccoli are the only vegetables here cultivated for the supply of the London and other distant markets. The growers, however, have a large local demand from the thickly-populated mining districts in the neighbourhood, and their waggons are consequently dispatched as far as Falmouth and Redruth.

Cabbages are next in order with respect to the acreage employed in their cultivation; but all accounts unite in representing them as not giving a good return for the outlay. Woollen rags are the usual manure, and this in larger quantities than for Potatoes. Planting is done in November, and cutting begins in March. Attempts have been repeatedly made to introduce the Fulham and other like Cabbages, but hitherto without success, the only demand being for the Cornish Cabbage, which is a poor variety of the Paington, having large and straggling leaves with thick midribs, and a small

indifferent returns. Such complaints, however, are capable of being, in many instances, sufficiently accounted for. With respect to nearly all of them, for instance, the comparison is commonly made between their habit and that of the combined Broccoli and Potato crops, which latter will be easily understood, as giving a very high average return. Defective cultivation is another cause, and in this respect it would be a useful journey for many of our growers to visit the market gardens in the vicinity of London, and thence try to introduce into their own system the same careful eradication of weeds, attention to the constant occupation of the ground, and the proper rotation of crops, that they would witness around Fulham and Hammer-smith. In all these respects we have much to learn; but what has for a long time done well is only with reluctance altered on the chance of doing better, and where Nature has been as bountiful, both as respects soil and climate, as she has proved here, this difficulty is always increased.

The fruits in cultivation may be shortly summed-up. Apples, especially Codlins, and other early varieties, are extensively planted where the requisite shelter from wind is attainable; but they are not, generally speaking, well managed, standing too close together, and the pruning being carelessly done. Little attention is given to their due succession, so that by Christmas we are generally dependant on importation, the home-grown supply being by that time exhausted. The climate, doubtless, is unfavourable to the late keeping of either Apples or Pears, both of which, in respect of their late varieties, ripen six weeks or two months before that state would be attained in the colder districts of England. But still hardly an effort is made to produce what easily might be provided for the early months of the year.

Few Pear trees are seen in the orchards of the market-gardeners, though in regard of the hardier varieties their average produce is encouraging.

Beneath and between the rows of Apple trees, Black Currants and Gooseberries are largely planted, the produce of the latter being sold green; and it is by no means an unusual practice to grow between the bushes one or more rows of Potatoes; but the constant disturbance of the ground necessitated by this practice is not favourable to the well-doing of the trees.

Plums were formerly in extensive cultivation around Penzance, but are now out of favour, and the supply beyond what comes from Kea, a parish near Truro, is brought down by steamers from Bristol.

Many acres were once given to the cultivation of the Carolina Strawberry; but this has given way in a great measure to the Broccoli and Potato system, so that this fruit has now become an inconsiderable item of production. On the greenstone formation many of the larger varieties of this fruit, such as Keens' Seedling, and the British Queen are too apt to run to leaf, notwithstanding all efforts to check this tendency. Sir Harry and Trollope's Victoria, however, bear well.

Cherries are hardly ever seen beyond a garden wall, and where they have been tried elsewhere the result is far from satisfactory.

Walnuts and nuts generally must be spoken of in the same way, and their failure is, doubtless, in a great measure to be attributed to the mild autumn, which prevent the due ripening of the young wood. Severe pruning of the roots, and their exposure during the winter, have given a small crop from Filberts, which for years have borne nothing; but no system of management is likely in this climate to make them worth the ground they occupy.

Such are the general features of the market-gardening of West Cornwall, and from what has been said, it will be evident that much has yet to be learnt before it is brought to that point of excellence which soil and climate warrant our looking forward to. A great advance has been made within the last few years, and its future progress ought certainly to be maintained at an equal rate, if due care and intelligence be given to the work.—W.

#### PINES NOT SWELLING.

I HAVE now several plants of Black Jamaica Pine in fruit. For this last month they have made very little progress; and on examining them I find a great many of the pips very brown and shrivelling, having the appearance of being bruised or rather scalded, and the fruit not swelling. But the crowns grow fast, and the plants look healthy. The house has been kept at from 70° to 80°, with bottom heat from 80° to 85°, and air given at every opportunity. The plants are syringed in the morning with

water of the same temperature as the house, and the pipes sprinkled in the afternoon, causing a little steam. I should feel obliged if you could enlighten me on this subject.—A SUBSCRIBER.

[In this dull weather, be satisfied with 70° as the maximum for fire heat, with a rise of 5° to 10° in bright sunshine. Let 65° to 70° be the average at night. Place evaporating-pans on the pipes, but neither syringe nor steam. A little skiff of the syringe might be given on a very bright day.]

#### PROPAGATING STRUCTURE IN A GREENHOUSE.

I WISH you would publish a plan for a cheap way of propagating plants that could be used in a corner of a greenhouse. Something 4 feet by 3 feet would do well for most amateurs. If one had gas a small tank could easily be kept warm; but such an auxiliary as gas in the country is out of the question. Could a small stove be used as described in "Greenhouses for the Many," set as in an oven? or would heat sufficient be kept up in a small tank by using a few common paraffin lamps? I have been puzzling my head to try and invent some easy plan of securing bottom heat to strike plants, such as Verbenas, in spring, better than a hotbed, which is very unsatisfactory. I must look for aid to some of your worthy correspondents, as I am sure they are willing to help an amateur in difficulty.

I should also be glad to know whether it is better to keep young rooted plants of Verbenas in a cold pit, or on a high shelf in a greenhouse near the glass?

Would it be advisable to replot Verbenas which are now well established in three-inch pots? I imagine that by letting them grow a little they would run less risk of dying-off than if they were kept standing still in the small pots.—KILWORTH.

[We should have liked to have known how your house was heated. Could you not manage with that? The stove in "Greenhouses for the Many" would do if you could manage it, but we do not like stoves without chimnies. The propagating-case recommended by Mr. Boston, heated by suitable candles, would suit you no doubt. If your greenhouse is near the kitchen boiler, a case such as you mention with a double bottom would be cheap and most useful. Make it of good inch deal, say 15 inches deep at sides and 20 inches at centre. Place in that a water-proofed box of galvanised iron or zinc, 3 inches deep, with a tap or cock-hole at one end, and a hole for a funnel in the other, which thus you can fill with hot water, or remove when cold when you like. Place some bars across the top to equalise the weight, then 2 inches or 3 inches of charcoal finished by sand for the pots to stand on; set the case at the warmest end of the house on the top of pipes or flue. You will be surprised how long the water will keep warm. You can hinge the top or use loose squares of glass: the latter could be easily turned when the damp condensed against them. We know no simpler, cheaper, nor better mode than this when access can be had to a kitchen boiler. The changing of the water will be a trifle to the bother of candles, stoves, &c. In cold nights a cloth could cover the whole. Much could be done with an Arnott's stove (see page 632), and even by a little alteration in heating the greenhouse; but of that at present we say nothing. An idea of this simple case will be found in "Window-Gardening."

We would not touch the Verbenas until the sun was gaining power. If you do, there is more danger of their dying-off than if you let them alone.]

#### LILY OF THE VALLEY FORCING.

IF this should meet the eye of Mr. J. Dunn, of Harrock Hall Gardens, Lancashire, would he kindly tell your readers how long he continues the inverted pots or boxes over those in which the tubers are planted, mentioned at page 612 of this Journal? as every particular in the successful culture of this charming plant for early blooming is desirable.—LILY OF THE VALLEY.

THE WEATHER near London during the past week has fully justified the reputation of gloomy November; fog, more or less dense, having prevailed throughout, accompanied on Tuesday and Wednesday last by frost of considerable severity, the

thermometer falling to 20° on the former date and 19° on the latter. On Thursday night the frost was but slight; but the fog was extremely dense.

### CLOSE-PRUNING VINES.

THE Vines in my house (Black Hamburgh, Sweetwater, Muscadine, and Golden Hamburgh) had made such hideous long spurs from year to year, some of them 4 inches to 5 inches in length before coming to a bud, and so crooked, that in a fit of utter disgust this week, I have pruned them all off close to the rod. Will they "break" next year at the places I have cut off the spurs and bear fruit? One party has told me they will, and another the contrary. Your opinion will be worth both put together. I should mention the first three Vines are about ten years old.—T. T. T.

[Before we could answer your question satisfactorily, we should require an answer to two others. Did your Vines bear well this year? and, another, Was the wood well ripened? If these two questions can be answered satisfactorily in the affirmative, then by leaving no single piece of young wood—not a single bud, mind—the Vines will break and show fruit well. If neither, then you will be disappointed. We attach less importance to appearance than crops. If that, however, disgusted you, unless sure of the fruitful state of your Vines and their ripeness, we would have advised bringing up a strong rod from the bottom, and cutting the old stem away altogether, making the rod the bearing-stem next year. Start the Vines gently this season, keeping them moist; if all is right you will have to thin away a great many shoots.]

### NEW BOOK.

*Travels in Peru and India while Superintending the Collection of Chinchona Plants and Seeds in South America, and their Introduction into India.* By Clements R. Markham, F.S.A., &c. London: J. Murray.

#### INTRODUCTION OF CHINCHONA PLANTS INTO INDIA.

THE volume leading us to this notice is in every respect highly satisfactory. It demonstrates that Mr. Markham's mission was fully successful; it refutes, without the slightest reference to them, the calumnies heaped upon him; and the contents of the volume are replete with interest, not merely for the naturalist, but for the reader who peruses chiefly for amusement.

Those who prejudged Mr. Markham, founded their prejudice upon the fact that he is not altogether a botanist, and a more unsound foundation could not well have been selected. If the mission of Mr. Markham had been to discover in Peru its previously unknown plants, then a more deep acquaintance with botany than he possesses would have been absolutely necessary; but that was not his mission. He had to search for and secure plants already well known, and which the natives themselves knew how to distinguish as well as the best-endowed man of science. The qualifications, therefore, most needed in the director of the proceedings for obtaining and securing these well-known plants, were a good knowledge of the country and its language, sound sense, discretion, and resolution. The task of taking-up and packing the plants could be readily completed by the very able assistants who accompanied him.

Mr. Markham possesses the qualifications we have specified. He had travelled in South America, and the results of his travels had been published in his "Cuzco and Lima." He was in South America during 1852, in which year Dr. Royle was impressing upon the Government that, "after the Chinese Teas, no more important plant than the Cinchona could be introduced into India." "It is a curious coincidence," says Mr. Markham, "that at the very time when Dr. Royle was writing this report I was actually exploring some of the Chinchona forests of Peru. But the object of my travels was of an antiquarian and ethnological character, and I was in ignorance of the desire of the Indian Government to procure supplies of those plants, which I then only admired for their beauty."

That Mr. Markham possesses the other needed qualifications we have mentioned, is testified by the volume before us.

It will be noticed that Mr. Markham has departed from the spelling of the generic name usually adopted by botanists, and this is his defence:—

"The botanical name for the plants which yield Peruvian

bark was given by Linnaeus in honour of the Countess of Chinchon, who was one of the first Europeans cured by this priceless febrifuge. The word has been generally, but most erroneously, spelt Cinchona; and, considering that such mis-spelling is no mark of respect to the lady whose memory it is intended to preserve, while it defeats the intention of Linnaeus to do her honour, I have followed the good example of Mr. Howard and the Spanish botanists in adopting the correct way of spelling the word—Chinchona.\* The Counts of Chinchon, the hereditary Alcaides of the Alcazar of Segovia, do not hold so obscure a place in history as to excuse the continuance of this mis-spelling of their name."

In the Quichna language, when the name of a plant is reduplicated such reduplication usually intimates that the plant has medicinal qualities. In the present instance the native name is *Quina-Quina*, or "Bark of Bark," yet the Peruvians attached little importance to its febrifugal qualities.

"Poeppig, writing in 1830, says that in the Peruvian province of Huancu the people, who are much subject to tertian agues, have a strong repugnance to its use. The Indian thinks that the cold north alone permits the use of fever-bark; he considers it as very heating, and, therefore, an unfit remedy in complaints which he believes to arise from inflammation of the blood. Humboldt also notices this repugnance to using the bark amongst the natives; and Mr. Spruce makes the same observation with respect to the people of Ecuador and New Granada. He says that they refer all diseases to the influence of either heat or cold; and, confounding cause and effect, they suppose all fevers to proceed from heat. They justly believe bark to be very heating, and hence their prejudice against its use in fevers, which they treat with frescos or cooling drinks. Even in Guayaquil the prejudice against quinine is so strong that, when a physician administers it, he is obliged to call it by another name."

Its first notable employment by the Spaniards was in 1638, when its use cured of an intermittent fever the wife of Count Chinchon.

"While the Countess Ana was suffering from fever, in 1638, in her sixty-third year, the Corregidor of Loxa, Don Juan Lopez de Canizares, sent a parcel of powdered Quinquina bark to her physician, Juan de Vega, who was also captain of the armoury, assuring him that it was a sovereign and never-failing remedy for 'tertiana.' It was administered to the Countess and effected a complete cure; and Mr. Howard is of opinion that the particular plant which had this honour, and which, therefore, yields the true and original Peruvian bark, is the Chahuar-guera variety of the *C. Condaminea*.† This kind contains a large percentage of chinchonidine, an alkaloid, the great importance of which is only now just beginning to be recognised, so that it is to chinchonidine, and not to quinine, that the Countess's cure is due.

"The Count of Chinchon returned to Spain in 1640, and his Countess, bringing with her a quantity of the healing bark, was thus the first person to introduce this invaluable medicine into Europe. Hence it was sometimes called Countess's bark, and Countess's powder. Her physician, Juan de Vega, sold it at Seville for one hundred reals the pound. In memory of this great service Linnaeus named the genus which yields it Chinchona, and afterwards the lady Ana's name was still further immortalised in the great family of Chinchonaceae, which, together with Chinchonæ, includes Ipecacuanhas and Coffees. By modern writers the first *h* has usually been dropped, and the word is now almost invariably, but most erroneously, spelt Cinchona.

"After the cure of the Countess of Chinchon, the Jesuits were the great promoters of the introduction of bark into Europe. In 1670, the Jesuit missionaries sent parcels of the powdered bark to Rome, whence it was distributed to members of the fraternity throughout Europe by the Cardinal de Lugo, and used for the cure of agues with great success. Hence the name of 'Jesuits' bark,' and 'Cardinal's bark;,' and it was a ludicrous result of its patronage by the Jesuits that its use should have been for a long time opposed by Protestants and favoured by Roman Catholics. In 1679, Louis XIV. bought the secret of preparing quinquina from Sir Robert Talbor, an English doctor, for two thousand louis-d'ors, a large pension, and a title. From

\* "The only valid argument against this change is, that it may cause confusion, but the alteration is too slight for this to be possible; and it is not uncommon, among botanists, to correct the usual spelling of genera or species of plants, when it is found to be erroneous. Among other examples of such changes may be enumerated those of Plumelia, now altered to Plumieria; Bufonia to Buffonia; and Genzeria to Gesoera."

† A large supply of seeds of this kind has been sent to India and Ceylon.

that time Peruvian bark seems to have been recognised as the most efficacious remedy for intermittent fevers.

"The first description of the Quinquina tree is due to that memorable French expedition to South America, to which all branches of science owe so much. The members of this expedition, MM. De la Condamine, Gedin, Bouguer, and the botanist Joseph de Jussieu, sailed from Rochelle on the 16th of May, 1735, to measure the arc of a degree near Quito, and thus determine the shape of the earth. After a residence at Quito, Jussieu set out for Loxa, to examine the Quinquina tree, in March, 1739; and in 1743, La Condamine visited Loxa, and stayed for some time at Malacotas, with a Spaniard whose chief source of income was the collection of bark. He obtained some young plants with the intention of taking them down the river Amazons to Cayenne, and thence transporting them to the Jardin des Plantes at Paris; but a wave washed over his little vessel near Para, at the mouth of the great river, and carried off the box in which he had preserved these plants for more than eight months. 'Thus,' he says, 'I lost them after all the care I had taken during a voyage of more than twelve hundred leagues.' This was the first attempt to transport Chinchona plants from their native forests.

"Condamine described the Quinquina tree of Loxa in the 'Mémoires de l'Académie;' he was the first man of science who examined and described this important plant, and in 1742 Linnæus established the genus Chinchona, in honour of the Countess Ana of Chinchon. He, however, only knew of two species, that of Loxa, which was named *C. officinalis*, and the *C. caribœa*, since degraded to the medicinally worthless genus of *Exostemmas*."

Let us follow Mr. Markham a little way on his journey after the trees:—

"In 1859, my services were accepted to superintend the collection of Chinchona plants and seeds in South America, and their introduction into India; and I was authorised by Lord Stanley, then Secretary of State for India, to make such arrangements as should best insure the complete success of an enterprise, the results of which were expected to add materially to the resources of our Indian Empire. The urgent necessity of this measure had become more apparent since Dr. Royle's time. Then the Government of India expended £7000 a-year upon quinine; but in 1857, the expenditure had risen to £12,000, and continued to increase during the following year."

We have not sufficient space at command to follow him through his various adventures, but one quotation will give a fair idea of his proceedings, and of the skill with which he narrates them:—

"I left Pancar-collo early next morning, and passed by several fields of quinoa (*Chenopodium quinos*), the harvest of which was just beginning. The stalks are cut and tied up in heaps, and then the grain is beaten out with sticks. It is used by the Indians in their universal dish, the chupe, and in various other ways; but it is an insipid and not very nutritious grain. Just beyond the village there is a stream called the Ilpa, which, in the dry season, scarcely wets the mules' hoofs; but at this time of year it was swollen into a broad river, and it was necessary to cross it on reed balsas, with the luggage, while the mules swam. A very large troop of mules, laden with aguardiente, was passing over at the same time—a long and tedious business."

Here our extracts, for the present, must terminate, and we will only add, that Mr. Markham continues his narrative until he arrived with the plants at the Neigherry hills, in India. It is not a dry detail, but is enlivened and rendered useful by descriptions of the people, the products of the countries, the soils and climates, with glances at the history of the localities and their customs. It is a volume such as is rarely met with, being a blending of amusement with science, and will be equally acceptable on the table of the naturalist's library and of the drawing-room.

### SMALL BIRDS.

Mr. ROBSON invites observation on the amiable propensities of these. I live in a neighbourhood where acres of Radishes are grown. From the time the seed is sown until the plant is in leaf, it is watched from daylight till dark, or there would be no crop. A rush sentry-box is erected as a shelter from the rain, and boys are heard for weeks keeping up an incessant din from morning till night, with tongue and clapper, scaring the birds.

Gooseberry and Currant trees are also extensively cultivated. After the leaves have fallen the tips of the shoots are stuck over

with egg-shells, and streamers of tow and coloured shreds to frighten away the small birds from the buds, and it answers to some extent. There can be no doubt as to the serious injury done to the crop of small fruit by these innocents, if means are not taken to protect the trees.

I saw some large Plum trees in the spring which ought to have been covered with bloom, with scarcely a vestige of life. These had been disbudbed by Bullfinches. In my younger days I have watched and killed numbers of these birds, busy cropping the opening buds of the Larch and Cherry, of which they seem particularly fond. Sparrows! We have them here when the corn is ripening in flights of hundreds, and it is scarcely to be credited what a breadth of Wheat or Oats will be white over by their eating-out the soft, unripe corn, if the crop is not watched. A gun is the thing, they do not like being shot at.

The Thrush class are more in the fruit line. I can endorse every word of your correspondent, "G. M.," as to their mode of treating Pears. My own have suffered in that way this season, and a crop of Grapes on a wall has been entirely taken by these birds.

There has been a good deal of twaddle in the papers about these small birds, and needless alarm. If materially lessened we should miss them greatly in many ways. I have no doubt, but as long as there is so great an extent of wood and other land from which trespassers are rigidly excluded by game-preservers and others, there is little chance of their failure. What I think most to be regretted is, that the rarer birds, when they make their appearance anywhere, are not spared, but specially marked for destruction.

One fact appears to have been quite overlooked in this discussion. The utility and sim of an All-wise Creator in the appointment of "small birds," has been rightly and truly contended for; but do the poor snails, and grubs, and insects, the scavengers of our gardens, form no useful part in His great design? If they were annihilated should we not miss them? My watch stopped, I examined the works, but could not make out why it would not go, and so took it to the maker; a little pin had disappeared.—K.

[Our correspondent views the subject through the untinted eye-glasses of common sense. Slugs and snails have their uses as well as small birds, and the object which a wise man aims at is, not to annihilate the race if they happen to intrude where he does not wish for them, but to keep them from intruding. Lime sprinkled on the surface and around a bed keeps the slugs away from it, yet they may pursue their scavenging elsewhere. Boys in sentry-boxes and guns with blank cartridges will keep birds away from places where they are not wished for, yet they are spared to seek for caterpillars, aphides, and other insects in other localities.—EDS.]

### BIRDS.

#### THE BLACKBIRD, THRUSH, STARLING, &c.

THE present chapter I shall devote to the above-named birds, and those of similar kinds that are met with in this country.

The Blackbird, known also as the Merle or Black Ouzel, is one of our common and melodious songsters. The bright black plumage of the male with his yellow beak, and the brownish-black of the female, and still browner colour of the young, are familiar to most persons. They are frequent in all parts of England, and very early and productive breeders. The immense number of their eggs taken by birdnesting boys is something extraordinary.

The Blackbird feeds on insects, their larvæ and various grubs, as well as berries and small fruits. In the destruction of slugs, grubs, wireworms, the larvæ of the gaddies and many other destructive beetles and insects, they render great service to the agriculturist and gardener; but as they are also fond of berries and small fruits, they are much persecuted by the latter, who too often entirely overlooks the good they perform and as often much exaggerates the depredations they commit. If persons would only reflect that the time when fruit is accessible to these birds is but short compared with that during which they feed on insects, they would be obliged to acknowledge that these black musicians really do much more good than ill. But the loss of the fruit is a great annoyance: it is a tangible fact, yet the good they do is not so visible, and, consequently to the superficial observer, it is all injury and no good: thus the birds have a very black repute.

It might be an interesting study for some to compute the number of insects destroyed by these and other birds; the probable produce of the pests if not destroyed; and what amount of corn, hay, and other crops they would devour, or, rather, prevent growing were they not kept in check by the birds; and whether this injury in raising the price of bread, meat, and other food would not be of more national importance than the failure of the fruit crop. Still I see no reason why the fruit cannot be preserved without destroying the birds. Mr. Loudon observes ("Encyclopedia of Gardening," page 426):—"It is a too common practice amongst gardeners to destroy without discrimination the birds that frequent their gardens. This, in my opinion, is a bad policy. Although I am aware some kinds of birds are great enemies to some crops, it certainly must be a trifling crop indeed that will not bear the expense of a person to watch it, or a net to protect it, until it is out of danger: thus the gardener preserves the birds to perform a double office—eating up the vermin from the trees, and the seeds of weeds and eggs of insects from the ground."

The Ring Ouzel is something like a large Blackbird, the male having a white ring or crescent on the breast. They are more of a mountain bird, and not very common: consequently, but little known to the gardener.

The Rose Ouzel and Golden Oriel are too rare to require a description here.

The Water Ouzel or Dipper is found about hilly streams and rivulets, and is accused of doing injury to the spawn of salmon and other fish. It is, however, a disputed point; and as they feed principally on aquatic insects, which are in a high degree destructive to the spawn of fish, it stands to reason that they save much more than they destroy.

Having discussed the Blackbird we will proceed to the Thrushes, the largest of which is the Missel Thrush, or Storm-cock, or, as it is called in this part, the Scheweecher. This bird is much more of a berry-feeder than the Blackbird; he is a shy, noisy fellow, but becomes bolder during the breeding season, and I strongly suspect him of robbing the nests of smaller and more useful birds; and from his berry-eating propensity I suspect that he is the real aggressor when damage is laid to the charge of the Thrush; for gardeners are not very discriminating, and as but few are ornithologists, all are Thrushes that come in grey plumage.

The Song Thrush, the musician of our woods and coppices, is a delightful performer, and is known by various names, as the Mavis, Throstle, or Greybird. He is as common as the Blackbird, and, like him, feeds on insects, grubs, larvæ, and snails. The latter he is very fond of, and has a peculiar instinct of extracting them from their shells. Seizing one by the rim of the shell he carries it to a stone, against which he raps it, swinging it over his head much as a woodman uses his axe, and thus breaks the shell. Many thus broken and empty shells may be met with lying near the stones in the paths during a country walk, telling plainly of the good service of these birds. As to fruit, it is not much to his taste. The injury laid to his charge I believe would be more justly attributed to the Missel Thrush; and even in cold frosty weather, or when the ground is covered with snow, the Song Thrush is the last of the tribe to resort to the berries to save himself from starvation.

The Redwing, or Redwinged Thrush, sometimes called the Swedish Nightingale and Wind Thrush, like the Fieldfares, which are sometimes designated Blacktails, are only winter visitants; and as they come when our small fruit is over, they do not trouble the gardener. They feed on insects, and resort to haws and other berries when frost or snow covers the ground. They are shot by the sportsman and considered good eating.

The last bird of this group I shall here allude to is the Stare, or Starling; more, however, allied to the Crows than the Thrushes. They are among our most useful birds, and perform great benefit for the agriculturist and grazier. They feed entirely on insect food, never eating any corn or other vegetables. They are beautiful-plumaged birds; the feathers are black, with iridescent gloss, the body-feathers tipped with white, and the wing-feathers edged with brown; the young in their nest-plumage are, however, of a dull greyish-brown, and lighter underneath. They have a peculiar song, containing many pleasing as well as harsh notes. In confinement they are amusing, and may be taught to whistle a tune, and even to speak words or short sentences. They breed in holes in trees or walls, and under the eaves of houses and such like places, and find their food in the fields, where they destroy many insects; grubs, beetles, cater-

pillars, and the wireworms and many other larvæ make up their bill of fare. When the broods leave the nest they collect in small flocks, and towards autumn into large flights or shoals, often feeding with the Rooks, and in hard weather collecting in the marshes and fens, where they are said to do some damage by settling on the reeds in such numbers as to break them down, which is the only injury that can be laid to their charge. Notwithstanding their innocence and very great usefulness, that ought to cause them to be everywhere protected and encouraged, there are those who make unfounded charges against them. They have been accused of sucking the eggs and killing the young of Pigeons; but this is incorrect, and they are innocent of the charge. Mice sometimes suck the eggs of Pigeons, and young Pigeons often die from cold, owing to the old ones leaving them at night before they are sufficiently feathered, and when dead they are gnawed by mice, the eyes being the favourite part, and the poor Starlings are accused of that in which they did not participate.—B. P. BRENT.

## CITY GARDENS.

WHY should we not have gilt upon our gingerbread? Why should not our squares and closes and waste places be made to blossom like the Rose, and emit something of the smell of country? Nobody will do it except the honourable Societies of the Temple; and for centuries the City has been mocked by a company of lawyers, supposed to be hopelessly committed to parchment and red tape, but who all the while have made a better display of geniality and warmth of sentiment than any other section of the community. In the annals of the City we hear of a Company of Gardeners. It has a name still, and that is all. There is a Company of Fruiterers, too, and they have more than a name, for they, once a year, make the Lord Mayor a present of some choice Apples. If these Companies are worth the gelatine that may be boiled out of their deeds and charters, they must take shame to themselves once a year on hearing the approving murmurs of people who have visited the Temple Gardens. If they have a single flickering spark of their old life left, the flower shows of the city got up, sustained, admired without their help or countenance, ought to kindle that spark afresh, and beget for us some warmth from its generous flame. But, unfortunately, the general public are as cold as the Companies: it is one thing to see a sight that costs us nothing, and another to lend a hand in adopting it as the idea of a local institution, and the foundation for some improvements in our domestic life. We may not be able to stir the depths of the general apathy, and it is not our business to insinuate public gardens. All we can hope to do is to "mention the matter" as circumstances afford excuse, and go on hoping that some day or other the means will be found to bless the city with a sprinkling of flowers.—(City Press.)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE occurrence of sharp frosts, severe for the season, will urge more effectually than arguments here the necessity of the speedy adoption of precautions for the protection of vegetables liable to be injured by the severity of the weather. *Artichokes*, *Globe*, clear away all decaying matter from them, and protect them with a covering of leaves. *Artichokes*, *Jerusalem*, a bushel of them may now be got up, and placed among some mould in any convenient corner for use when frost renders it difficult to take them up out of the open ground; *Horseradish* may be treated in a similar manner. *Celery*, it is necessary to take advantage of every favourable opportunity to earth-up all that requires it; rather let it remain as it is than attempt to do so while wet, as it will afterwards rot in a very short time. *Cauliflowers*, those already headed should be carefully taken up, and stacked in a dry pit, or within the protection of a wall where a thatched shutter may be employed in unfavourable weather to ward off the wet. *Cabbage*, keep the young plants, and also the young plants of *Lettuce*, dusted with lime and soot. *Peas*, sow, and also *Broad Beans*, in rich soil on a warm border. *Parsley*, shelters thatched with reed or straw should be prepared for its protection, and also for the protection of *Endive*, &c., in snowy weather. *Sea-kale*, a little leaf mould, tan, or cinder ashes should be laid over the crowns of the plants, pots may then be set over a portion of the plantation, and be covered with leaves as they are collected, or if required for use

in a short time, stable-dung should be used. *Spinacli*, in gathering the leaves the beds should be trodden upon as little as possible, as its growth is injured by having the soil so consolidated about the roots. Clear away decaying leaves from Winter Greens, and raise the earth about the stems. All sorts of refuse matter, of which leaves should form a large proportion, from the garden should be collected, and added to the dung-heap. Let proper channels be kept to carry off quickly water from suddenly melting snows or heavy rains.

#### FLOWER GARDEN.

If the flower-beds are now empty, and to be left so during the winter, let them be well turned-up to the bottom, and if much exhausted by continued cropping, the application of a good dressing of leaf mould will be found the most suitable restorative for this department. The introduction here of strong manures has frequently a tendency to do more harm than good, by causing an overluxuriance rather unfavourable to the free production of bloom.

#### FRUIT GARDEN.

Continue to prepare for fruit-tree planting by draining, trenching, and pulverising the soil, and after planting stake, tie, and mulch them securely in good time. Clear away all dead leaves from the wall trees; remove the green fruit from the Fig trees. The established strong fruit trees that are tardy of producing fruit should be root-pruned. This must be performed according to circumstances. If the trees are planted too deeply, or the soil has been raised above or about them since planting, by all means fork the roots out carefully, and plant again with care on the surface, spreading out the roots carefully, and then mulch them. If trees to be operated upon are planted high and dry, fork about them at a reasonable distance, and prune back the main or strongest roots as you discover them. Raspberry plantations may be cleared of the dead canes and superfluous wood; the suckers to be taken off, and, where required, the strongest to be at once planted for succession.

#### GREENHOUSE AND CONSERVATORY.

While the principal collection of Chrysanthemum is in bloom a selection should be made of the best and most useful sorts. They are very impatient of a close, rather warm atmosphere, and if the house contains plants requiring this treatment, the Chrysanthemums should, as far as is practicable, be placed in the coolest part, where air can be given freely on every favourable opportunity. See that they are kept well watered at the root. Use fire only when absolutely necessary, either to prevent the temperature from falling too low, or to dry the atmosphere. Regularly remove all dead leaves, and prevent the spread of moss in any situation. Creepers should be closely tied, that they may interfere as little as possible with the fall of light on the house. Place Mignonette, Primulas, and tree Violets in a light warm situation. The present is the best period for the general potting or transplanting of Liliams, the flower-stems are now sufficiently withered to allow of their safe removal without injury to the bulbs. Any small bulbs of scarce sorts that may have formed on the flower-stems should be saved, and either potted separately in small pots, or planted out in a pit or frame in suitable soil, where in a year or two they will make strong-flowering bulbs. The soil found most suitable for the cultivation of Liliams is a rich fibrous heath soil in a rough state, with a small portion of silver sand.

#### FORCING-PIT.

It will now be necessary to introduce into this structure a supply of those plants usually employed in early forcing, such as the first-potted Dutch bulbs, hardy Azaleas, Kalmias, Rhododendrons, of which the hybrids from *R. caucasicum* will be found the most suitable, being generally early and abundant bloomers, and of every shade of colour from white to scarlet.

#### PITS AND FRAMES.

This is trying weather for the plants in these structures. All that can be done for them is to give as much light and air as their safety from frost will allow, and to pick off every decayed leaf when a favourable opportunity as regards the state of the weather permits.

W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

FROST, having succeeded the heavy rains, has imposed on us the necessity of getting most things under protection that would

be apt otherwise to suffer. Artichokes (Globe) have had some litter placed tightly round them, so as to prevent the frost getting to the roots, and a little earth from between the rows was thrown over the litter, alike to prevent its being blown about, and to make it go as far as possible. Collected a quantity of leaves from the pleasure grounds, which, with a little of the last mowings off the lawn, and the clearings of Verbena and Petunia-beds, when all thrown together, will produce heat enough for the first Asparagus-bed and the first Radish-bed under a frame, which has just been sown. We had nothing else with which to make a moderate hotbed for Asparagus, and we have no doubt it will answer well enough. A row of Parsley being sown in a cold house in June, and now strong, we will not require to pot or box any of that herb. Mint, Sorrel, Tarragon, &c., will be placed in a corner of the Asparagus-bed. Celery earthed-up has, as yet, needed no protection. Cauliflowers under hand-lights have had a little litter placed near, in readiness to throw over them if the ground get crusted inside. Those in the ground and protected there, being fit for use, have been put into a shed to be secure. Lettuces and Endive have also been partly moved under old lights and straw covers, and a portion of the most forward Endive was covered over with dry leaves and straw hurdles, to blanch where it stood. Some Rhubarb roots and Sea-kale roots have been placed in the Mushroom-house; the latter, seven or eight roots in a large pot, which enables us to give less or more of bottom heat, and even to move the pots, if the Kale come faster than we want it. Beat down the last bed in the Mushroom-house for the present, and will earth it in a day or two. This is the fourth succession there. The first is in full bearing, the second just beginning to show, and as soon as we can we will put up a bit more for the fifth succession. Got in all the Beetroot, &c., before the frost injured it, and will earth-up Coleworts, and lay down and cover the stems of Broccoli as soon as we can get at them.

#### FRUIT GARDEN.

Looked over Grapes to remove a casual bad berry. Kept a little fire on to secure ventilation, but gave very little front air. Find that as the Figs out of doors are now done for with the frost, those in the Fig-house are still rich in flavour though small. The leaves are now beginning to change, however, and to look ripe, and we must be content with a few more fruit as they are, instead of swelling them out larger with moisture, as we would prefer instead having the wood firm for next year, and keeping the plants rather dry all the winter. In a few weeks, therefore, we will clear away all the fruit and leaves, for soon the flavour will be very fat; and though we have sometimes made the Fig, with heat and moisture, an evergreen and a continuous bearer, we do not think there is any advantage gained from not making it a deciduous tree and giving it a rest in winter. Melons all cleared to make room for other things, are still ripening their fruit on a shelf near the fireplace in the vinery. Strawberries, in pots, have been put under cover, so as to keep them from severe frost, and heavy drenchings of rain and sleet. In frosty mornings, a ridge of rotten dung and tree leaves has been placed between the rows of Strawberry plants out of doors. A number of trees of Peaches in a cool lean-to house, with trees against the back wall, were smoked with sulphur as previously described; and these we will wash and clean, remove surface soil and top-dress, and cover pots with litter to-morrow or next day. There has been no frost to hurt the roots yet; but many plants are ruined from being exposed to frost in pots, that would have suffered little if the pots had been protected or plunged in the ground. The Strawberry plants, such as Black Prince and Keens', which we will start first, are now being kept dry. As the pots will absorb enough of moisture from the ground, the soil must not be allowed to get dust dry, or the buds will most likely perish, and there will be nothing but handsome leaves to gather.

#### GREENHOUSE AND CONSERVATORY.

These have been well cleaned for the winter, and will require more care in giving air than hitherto, and that not by doors or in large openings, but well regulated over the building, confining the air chiefly to the apex of the roof in cold weather, and shutting-up pretty early in the afternoon. All watering now should be done immediately after breakfast, and as little spilled as possible, and no plants watered that do not require it, for some things that would need it every day in summer may not require it for a fortnight or three weeks at this season. The tenderer kinds of hardwooded plants, as Gompholobiums,

*Ericas*, *Epaerises*, &c., would be better in double pots for the winter, as, the roots are less liable to sudden variations; and other things, as *Beronia serrulata* and *Pleroma elegans*, should be kept by themselves at the warmest end of the house. When a general collection is grown the hardwooded things should be at one end, and the softwooded things, as *Geraniums* and *Cinerarias*, at another end. Examine bulbs that were potted, and see if ready for forcing from having the pots filled with roots. Tuberosus *Tropæolums* will want training, and others will want potting. These always do best on the one-shift system. The roots dislike being interfered with. Gave manure water to *Chrysanthemums* and *Salvias*, &c., and took care that *Camellias* and *Azaleas* were not getting too dry; the forwardest of the latter might be placed in forcing-pit. Regulated climbers so as to give light to the house.

## PLANT-STOVE.

Made as much room here as possible, allowed *Orchids* to rest, curtailed climbers, watered *Ferns* and *Mosses*, and put lots of large fine-leaved *Begonias* under the *Figs* to dry pretty well off, as they make a fine show in greenhouses in summer when a little shaded.

## PITS.

Took most of the bedding and other things out of earth pits, and placed them in houses getting empty, in *Vine-pits*, &c., where a little fire heat can be given if necessary, to avoid so much covering-up. This changing plants that were standing so very thickly furnishes a good opportunity for clearing the cutting-pots and boxes, and removing all signs of damping. Some kinds of *Geraniums* that were scarcely rooted got a little bottom heat from fermenting tree leaves below them, with a cover of rough ashes and lime in case there should be some slugs. Even a very hot fermentation will not kill these gentry, but they do not like lime nor rough ashes; and their trail, at any rate, can be followed without the instinctive wisdom of a red Indian. The *Verbenas* that were hardened-off in earth pit, dipped as reported for thrips, and syringed several times afterwards, and the worst put into a close box with a lot of *Laurel* leaves bruised, seem at present clean, and now stand thickly in a brick pit, where a little fire heat can be given on an emergency, and where they will have air night and day except in frosty weather. As the thrips did show itself after all our care in washing the cuttings, I will be afraid to place them in any *vinery* or *Peach-house* this season. We have not yet got all our *Geraniums* from the beds that we took up faggotted in pots, but they are safe enough under a lot of stubble in a shed. One wet day would finish all the lot; and they would have been done, only the clean pots were all used-up, and the dirty ones outside were crying out not to blame them if, after so much rain, a good percentage of them came in for crocks and drainage after a sharp frost. Before the frost got severe took off roughly some thousands of shrubby *Calceolaria* cuttings, as we did not make ourselves sure of having quite enough in the brick pit, the filling of which with cuttings was previously described. In the brick pit I have not seen the signs of one going yet, and I am just as well pleased if there is little rooting as yet. Not being able to get a pit ready for these cuttings, we have daubed them in about  $\frac{1}{4}$  inch apart in shallow wooden boxes, and placed them under glass in frames. These will even stand more frost than those earlier planted in the pit, and if they do not begin to root much before March they will be quite forward enough. The reason they will stand the frost better is just because they will be more limp and have less sap in them, for as soon as roots are freely protruded the stems will get stored with juices and growth will go on. Now the less growth before spring the less likelihood is there of losing one per cent. or one per thousand of these cuttings.

## FLOWER GARDEN.

What a wreck now! Beds not cleared, leaves not all down, even more mowing needed after the frost is gone. *Dahlias* that had some earth thrown against the stems, and were left in the ground to ripen a little, have now been taken up. We have always kept them successfully on the floor of a shed that forms a stokehole for the conservatory. Some dry earth has been there for years, and the tubers are placed on it, and then covered all over with it. A rough stage is put up above these beds, and these are now crammed with *Fuchsias* and old *Scarlet Geraniums*. The shed has two skylights, and had I had my way it would have been at least half glass and cost no more; but in this, and many things besides, we must put up with and make the most of what we have. *Dahlia* stems are for little use but

the rot-heap. Most other things in beds, as *Calceolarias*, *Agaricums*, &c., after the sticks are pulled out and tied in bundles, are cut two or three times over with an old scythe, and then they mix with leaves and litter in making a large fermenting heap of good hot stuff, so useful for helping-on many things. Were such things some 18 inches or 2 feet in height so used without cutting them at least twice over, they would not mix so nicely with other materials; and turning the whole over with a fork might lead the workman to say, "they were put there just to annoy he." *Hollyhocks* have bloomed until the frost came—nothing in their favour, however, making them more liable to feel the frost. The strong stems cut with a bill may be mixed with the fermenting-heap, but we generally make them a portion of the charring-heap. As soon as possible we will place a cone of dry earth or of ashes, and lime round each plant to keep frost and extra damp from the roots.—R. F.

## TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

**COLD VINERY (C. S.).**—We could have answered your questions better if you had stated the case more clearly. We presume that in your large cold vinery, 14 feet wide, there are only 18 inches of that space inside devoted to the roots of the *Vines*, and as these *Vines* have been planted this autumn, they will interfere but little with early crops on the rest of the ground. We see no objections, therefore, to early *Potatoes*, nor yet dwarf *Beans*, as you propose, though, in such circumstances, we do not see any advantage that will be gained in having them in pots. If you had room after that, we should also fruit a portion of your six hundred pots of *Strawberries* in the same place, but we would keep them in pots, though wholly or partially plunged. We are told that the back wall is 9 feet in height, and we now perceive that two questions are made in different places respecting it. The first is, "How many shelves, and how wide ought I to have them?" That just depends upon what you want them for; we presume for *Strawberries*. Well, for them you could scarcely have more than two, one as near the top as will permit of watering, &c., and the other about 15 inches below it, and the upper one at least not more than 8 inches wide. These you could manage by placing the plants in bloom on the upper shelf, and, as soon as set, moving them to the lower shelf, where they will do well until your *Vines* shade them. For other purposes, and having nothing against the back wall, you might have shelves from top to bottom. But that seems settled by another question, "Could the back wall be brought into bearing more quickly by planting maidens en cordon oblique?" Now we do not know what your maidens are to be, but we presume *Vines*, though we are by no means sure; and we would only say that, though this mode of training is much practised in Guernsey, and gives much facility for filling up vacancies, we do not think you would gain anything in point of early cropping, and that must be the chief thing, for when once you allow the *Vines* to monopolise the roof, you will not do much with the back wall. See pages 632 and 633.

**YUCCA (H. N. E.).**—We do not know *Yucca Parmentieri*, and never heard the name before. If any of our readers know it, can they say if it is hardy?

**CRACKED PEARS (L. T. P.).**—We once had some *Grafioli Pears* that ripened well, though slightly cracked. Keep your *Chamontels* and *Beurré d'Arenbergs* in the dark and cool to give them a chance. Your soil is too dry, or those *Pears* are worked on a quince stock. In either case mulching over the roots and watering in summer will be a preventive of the fruit cracking.

**REMOVING TREES AND GREENHOUSE (Subscriber).**—The moment trees and bushes of any kind are planted they are attached to the freehold, belong to the landlord, and cannot be removed without his permission. A greenhouse on posts probably could be removed, but we could not say without seeing it; the glass sashes certainly could be removed.

**IPPOGES (A Norwich Subscriber).**—An article on hedges of various kinds will appear in our next Number from one of our correspondents to whom we had referred your inquiries, in which full information will be given on all points.

**CUTTING DOWN NEWLY-PLANTED FRUIT TREES (A Subscriber).**—It is better not to cut-in newly-planted young trees until they have been established a year, by which time the roots will have taken possession of the ground. As the cutting-in of young fruit trees at planting time renders them liable to send up a quantity of suckers to the injury, and, not infrequently, the death of the grafted tree, wait one year, and then cut-in as you like. With old trees that have a greater abundance of top than root the case is different, the top then might be reduced, but not entirely cut away.

**MUSCAT GRAPE (C. T. H. Dorset).**—You will find either the *White* or the *Black Frontignan* do well in a greenhouse, and both are *Muscats*.

**MOVING A PASSION-FLOWER (E. S.).**—The young *Passion-Flower*, which has only been planted two or three years, may be removed any time now in mild weather; but the beginning of April is the best time to transplant *Passion-Flowers*, and the middle to the end of May is the best time to plant a *Passion-Flower* out of a pot. In your case, make a flat level bed for the roots 6 inches below the surface, no matter how long they are. When they are all spread out, put nearly 2 inches deep of rough leaf mould over them, and then put on the soil. After that add a thicket of something to throw off the wet, and to keep the frost out of the ground. See the stem all the way up from the roots 4 inches or 5 inches from the wall, to allow for a thick stem without chafing itself against the wall for want of room to swell properly.

**VIOLA PYROLÆFOLIA (A. R.).**—According to specimens which have been exhibited ten years since, there did not seem to be any difficulty in cultivating this yellow Violet in any light compost; but where it, or any of the yellow kinds may be had we do not know. The list of Violets you sent us from an "eminent nurseryman" is entirely wrong, except one species, Nuttall, and that is wrong as to colour. Any one making such a list could know little about wild Violets. It strikes us both the lists you sent are out of Oxalis and Violets in mixture; several of the names belong to Oxalis, and were never given to Violets. There are no such names now acknowledged as *Viola maculata*, *microphylla*, and *pensylvanica*, nor does Don give either of them as synonyms of *pyrolæfolia* in his last arrangement on De Candolle's method, neither do any recent writers that we are aware of. We have grown Nuttall, which is a pale blue not a yellow. We understand the best collection of rare hardy species in England is in the Hill Botanic garden.

**LILIES OF THE VALLEY IN POTS (Elizabeth).**—We cannot say that you could not grow Lilies of the Valley from year to year in pots, and flower them in a greenhouse, but we are quite certain the pot Lilies referred to will not bloom so as to please so good a judge of these "nice old flowers;" therefore, we would have them turned out of the pots at once, the most of the soil shaken from their roots, and then planted in bunches in a row, and next summer water them once a week in hot weather, and by this time next year they would be fit, in your hands, for another start.

**THE GERANIUM SPOT (Idem).**—A dreadful malady, of which no man knows the cause and hardly the cure. It is an infectious as the scarlet fever and quite as fatal, and not one single plant has ever yet been cured of it, after all that has been said to the contrary on each of these heads. The only way to get rid of it is to destroy every vestige of the plants, to white-wash the house or pit, and not to introduce another Geranium there for three months. The best preventive where, from the situation, there is a liability to the disease, is to make cuttings early in July in the open air, from the top of the shoots of old plants turned out at the end of May, to lift and pot the cuttings about the middle of September, and never confine them much, or place them in damp places in winter.—D. E.

**MEALY BUG ON VINES (A New Subscriber).**—We hope that the bug has not got to the roots of the Vines, for then there will be great difficulty; but if confined to the tops you may manage thus:—make sure of all the leaves and prunings and burn them; then wash the whole wood, wash with soap and soda water as hot as it can be used. Wash all the Vine stems after taking off the rough bark with the same at about 160°; scrape off a couple of inches of the earth inside the house, water that, too, with water about 160°, and fresh surface with new soil; then paint the Vines with a mixture of clay, sulphur, and tobacco water put on cool, and fresh paint all the walls, or colour them with fresh lime and sulphur. The difficulty will be with eggs and insects in the soil.

**WALL TREES PLANTED TOO CLOSE IN A PEACH-HOUSE (A Constant Reader).**—If you wish to retain the whole of the trees the most vigorous must be root-pruned, and that will lessen growth and keep them fruitful. You do not say where you live, but there are few places where Peaches or Nectarines will do you good as standards out of doors. If you should resolve to take the standards out, you must in that case just thank them for past services. What like is your house? We have seen standards taken up and bent down to cover a low trellis in front, so as not to shade the wall.

**SELECT HARDY RHODODENDRONS (B. H.).**—Blandyanum, rosy crimson; Brilliant, scarlet crimson; Lucifer, bright scarlet; Mars, rosy scarlet; John Waterer, crimson; Rifleman. These are the six highest coloured. The best three whites are, Mrs. Standish, Minnie, and Maid of Honour. These splendid kinds are dearer than the rosy crimson sorts.

**NEW GREENHOUSE (N.).**—We shall be glad to have an account of your houses and how they answer. At present we can only say that, in placing in one part one bed above another, that the upper beds will do for all you wish; the lower beds will do in winter, if you use little heat, for Fuchsias, Dahlias, Scarlet Geraniums, bulbs, tender roots, &c., and when you use heat to force on the beds above you could not have a better place for Mushrooms, Rhubarb, Sea-kale, Chicory, &c.

**PROPAGATING HARDWOODED PLANTS (A Constant Reader).**—There is no work devoted to this subject. See what is said in "Greenhouses for the Many," which you can have free by post from our office for seven postage stamps.

**NAMES OF PLANTS (H. C.).**—1, *Athyrium Filix-foemina*; 2 and 6, *Polygonum aculeatum*, c. lobatum; 3, *Blechnum spicatum*; 4, *Scopolendrium vulgare*; 5, *Lactuca dilitata*; 7, *Lastrea Filix-mas*. (H. M. K.).—*Drynaria Wildenowii*. The production of sessile Oak-like fronds is characteristic of the true *Drynaria*—e.g., *D. quercifolia*. (A Two-years' Subscriber).—1, *Blechnum occidentale*, and apparently the variety minor, but it is a poor sample; 2, *Phlebotium aureum*, both stove Ferns. The *Bouvardias* require intermediate treatment—that is, to be started in a warm pit, and finished in a greenhouse. (Eliza).—It is the leaf of some leguminous plant, and probably of *Swissonia Greyana*; but we cannot be certain. All you can do is, by keeping the soil dryish, to try and prevent its damping-off during the winter months.

## POULTRY, BEE, AND HOUSEHOLD CHRONICLE.

### JUDGES AT THE NEXT BIRMINGHAM POULTRY SHOW.

It is with great regret I hear that Mr. Hewitt has declined to act as one of the Judges at the coming Birmingham Poultry Show. I have inquired but cannot learn his reasons for so doing. His objections may be substantial; if not, it is unfortunate that exhibitors should be deprived of his valuable services. The arrangements in selecting the Judges I know are most unsatisfactory, and Mr. Hewitt may have some good reasons for declining.

I always considered Mr. Hewitt's services of great importance at Birmingham, for exhibitors in him gain the advantages of

that great experience and truly straightforward honourable decisions that have gained for him the esteem of all exhibitors; and I certainly think the Birmingham Committee, in not availing themselves of his services, do that important Show a very serious injury, and the interest of exhibitors I think ought to be studied, or they will lose ground. I trust Mr. Hewitt will explain, through your columns, his reasons for declining.—AN OLD EXHIBITOR.

[In consequence of several letters such as the above, and of others which contain personal allusions too strong to justify us in publishing them, we wrote to Mr. Hewitt, and requested from him some information on the subject. The following is his reply:—

"As I find that even already a report is put into active circulation quite at variance with facts, permit me to state for the information of the poultry world—and to its members alone is this subject of interest—that I have again declined the office of arbitrator at our fast-approaching Birmingham Exhibition, for precisely the same reasons as last year. I coupled my refusal of yesterday, however, with the courteous expression, to the gentleman who alone orders the appointment of the Birmingham Judges, of my still perfect willingness to fulfil the office as hitherto appointed during so many years past, and, as on all occasions heretofore, by my own request, gratuitously rendered. This offer of mine was declined. Again: I volunteered that if the classes of poultry were fairly divided among the arbitrators individually, so that the public might at a glance ascertain the responsibility applicable to each one of us severally, I would, without a single murmur, at once accept the least creditable remnant of the poultry classes which might be left unappropriated after each of the other Judges had made their own selections. This too was refused.

"I certainly never yet have, and most decidedly I never shall, accept the office of arbitrator at the meeting of any society in which my awards are to be previously made the subject of private dictation.

"In conclusion, I combine my best thanks to the many exhibitors who have favoured me with their unsought expressions of unabated confidence, with the heartfelt hope our Birmingham Show of poultry may still continue to maintain its now high position and prosperity.—EDWARD HEWITT, *Eden Cottage, Sparkbrook, near Birmingham.*"

SINCE the foregoing was in type we have received more letters upon the subject, all from well-known exhibitors, and from among them we select this, as fully expressing their opinions.

"I am sorry to intrude on your columns; but, as one of the oldest and most extensive exhibitors of poultry, I trust you will allow me to express my regret at the non-appointment of Mr. Hewitt among the Judges of poultry at the great Birmingham Show, to be held in December next. I will not enter into the merits or causes of his absence, although, if report speaks truly, Mr. Hewitt has good reasons for the position he has taken, but confine myself entirely to the serious injury that must arise both to the Society itself and the exhibitors generally, from his thus not officiating.

"From the most reliable sources, I hear Mr. Hewitt has never objected for a moment to carry out the duties he has always before fulfilled; but refused the new position forced upon him by the gentleman who, of his sole dictum, appoints the Birmingham Judges, amounting, in this case, to really a sort of 'Hobson's choice—that or none.'

"Hence, alone, Mr. Hewitt's disappearance from the list of Judges. This quite alters the views of exhibitors, and I emphatically ask, What unknown transgression have the owners of Dorkings, Spanish, Cochins, Hamburgs, and so forth committed, that we should be the sufferers because Mr. Hewitt refuses to be handed over to the Game fowls? There can be no good reason for this intrusion on our rights; for it is bad logic to assert that now the entries are, in these general classes, five times greater than a few years back, and besides the quality of the birds so evenly balanced as to need the closest discrimination, fewer and less practical Judges are requisite than when the disparity of merit was to be seen at almost first sight, as it was some time back. No! Instead of this we now want the very best and most practical men attainable to award these prizes, and such as are able and willing to do their duty faithfully, diligently, and well. Certainly we exhibitors have reasons to ask, Why are we summarily deprived of advantages that have already been most valued?"

"I am told Mr. Hewitt invariably gave his services as a free gift to his own town's Show, and that the other Judges were, as they ought to be, paid for theirs. This blocks out then, entirely, the item of expense being the reason.

"It appears to myself and other exhibitors, that the Judges ought always to be appointed by a vote of the whole Council as a body, and not by any one person. All things prove this to be the safest course; but if the Committee of Management for Birmingham feel themselves diffident or uncertain in the appointment, by all means let us, the now really-wronged exhibitors, have each his vote according to the entries his case affords, and the election be dependant exclusively on this issue. Either of these two plans will give us popular and efficient Judges, and do for ever away with these unaccountable divisions, and the owners of valuable and costly poultry will never be placed in the unenviable position of want of confidence in the awards.—AN EXHIBITOR FROM THE YEAR 1848."

### PIED OR PILE BANTAMS.

THE Bantams described by Mr. Clark in your publication of October 28th, are the Pile Game Bantams, a variety I have bred the last three years; and have exhibited a single cock and also a pen at the last Birmingham Show, both of which were successful. A pen of my breeding were also exhibited at Plymouth by Mr. Rodhard, and were successful in taking the silver plate for the best pen of Game Bantams in the Show. I have now a great quantity of them, and shall be very happy to give any fancier information as to how they were bred, and any other particulars.—R. HAWKESLEY, JUN., *Southwell Notts.*

### ARE FOWLS PROFITABLE TO THE FARMER?

THIS is a question often asked, and I now have in my possession three letters from correspondents upon this question, and my positive answer is—Yes. Fowls will pay a large profit when properly fed and cared for; a comparatively few in number will give a better return than a large flock; although they may receive extra care and attention, it seems impossible to keep a large number, even in a spacious enclosure, without disease. Twenty good fowls will lay more eggs, and be in better health, when enclosed in a coop, than a hundred in the same enclosure for two years. A hundred fowls may succeed well in a large coop for a short time.

Another mistake we are very liable to make is in keeping many breeds of fowls together. Have but one breed, keep them well, and ventilate their coops. A good hardy breed of fowls do not require such warm and close houses as they are generally kept in, although they require a dry coop, free from draughts. Ventilate freely, on the top if possible, feed through the winter upon corn and barley, and occasionally with raw fresh meat; beef preferred.

I still have a great preference for the Brahma fowls for our climate (America). They are hardy, and lay through the winter season as well as the summer, when eggs are worth double the price that they are in summer. They may be kept in the coldest coop, if properly fed; and in regard to profit, no fowls I ever saw, if kept by themselves, pay in every respect so large a profit as this breed. A neighbour of mine, a shrewd and very successful farmer, has kept no other breed of fowls for many years; he winters about twenty-five pullets in his barn cellar, and has eggs from them through the entire winter. In March he sits his hens, and hatches from one to two hundred chicks, and keeps them in his barnyard, allowing them to enter the barn at night; by the 4th of July he disposes of all except his winter stock, alive, at an average price of 50c. each, to the butcher. He has now laying pullets, which commenced laying by the last of July, hatched in March. I know of no other breed of fowls that will do this. My flock, when hatched in May, was 110. I have now 101, having lost but nine chickens this season; they are very hardy, which in our climate is a great recommendation to any breed of fowls. Fowls may be unprofitable when kept as many farmers are in the habit of keeping them—allowing them to wander about the farm, laying where they please, and feeding themselves upon melons, tomatoes, corn, and other valuable articles of food. I find, from practical observation, that fowls are like all other animals—they will be very unprofitable if not properly cared for, and very profitable if kept as they should be.—(JOHN S. IVES, in *N.E., Farmer.*)

### HYBRID LIGURIANS.

HAVING bought from a gentleman in the south of Scotland two hives of Ligurian bees, not having seen any of them before, I am anxious to know whether they are pure or not. I have, therefore, enclosed a few of them, and shall feel greatly obliged by your informing me in the pages of your Journal, whether they are the true Ligurian. Also, whether the same queen will produce bees differently marked as the enclosed are, or whether some of them may be without any yellow band on the back. Your answer will oblige.—B. G.

[Of the five bees which accompanied your letter, one was well marked, one but indifferently so, and the others appeared identical with the ordinary. If, as we suppose, all are the offspring of one queen, she must have been hybridised by being impregnated by a drone of the other species. Either Ligurian or black queens in this state breed some workers of both species, and some intermediate ones partaking, to a certain extent, of the characteristics of each.]

### "B. & W.'s" APIARY IN 1862.

(Continued.)

ACCORDING to my usual practice, I resume, from page 129 of THE JOURNAL OF HORTICULTURE, the record of facts in my experience as an apiarian. The story, unfortunately, is soon told this year. I began the year with every promise and hope of success. By the end of May the two swarms of April 29th and 30th respectively, artificially formed on Langstroth's admirable principles—i.e., making one swarm out of two hives, thus insuring absolute success without risk to the parent stocks, and putting the bees as to swarming entirely under control—were quite full of comb and brood, with supers also partially filled over each. The early part of May was perfection. Much honey was collected; and all stocks and swarms, including several others made also on Langstroth's principle, were doing well when I left home for a three-weeks visit to London on the 19th. That date, however, seems to have been the turning-point of the year as to honey at least, for on my return I found everything exactly as I had left it. Not one particle of honey apparently had been added to their store, nor has any been added since, although in every hive the population had increased and was increasing so rapidly, that I was obliged to give them all plenty of room to prevent their hanging-out. The only swarm which had collected sufficient honey (and it is the only stock at present out of all my eleven which needs no feeding), is the one of April 29th, which contains my old Italians, thus corroborating strongly what has been said in favour of this species, whether pure or hybrids. The contrast to the other swarm of the 30th of the same month was remarkable, as both appeared equally strong, and certainly the two queens bore comparison in point of breeding powers. The latter, however, did not contain 2 ozs. of honey when I examined early in August. This discovery led me to begin feeding at that time, and I have continued it from time to time ever since with nine out of eleven stocks.

Matters remained in *statu quo* till the arrival of the Italian queen, which the "DEVONSHIRE BEE-KEEPER" sent me on the 5th of July. The mode in which she was received by the stock to which I gave her will be found detailed at page 324, JOURNAL OF HORTICULTURE. The offspring of this queen, a few of which I saw on or about the 30th July, being very distinctly marked Italians, I determined to repeat the operation of last autumn, detailed in these columns, and to attempt to Italianise my whole stock *en masse*. By the help of Langstroth's nuclei and other artificial modes, I compelled five stocks to rear queens from brood supplied to them exclusively out of the new Italian stock. Their own queens, of course, were killed first, these being the queens raised last year in the same manner out of brood taken from my old Italian stock. Not one of them differed in the smallest perceptible degree from common English queens, although a good many yellow-banded bees were found in their hives. From this it was evident that the queen with which Mr. Woodbury supplied me last year was not a pure Italian.\* I had suspected as much before, but my imperfect acquaintance with the Italian race and its distinctive peculiarities prevented me from verifying the fact. One of the young queens

\* She had, doubtless, been hybridised by one of my neighbours' black drones, a contingency which cannot always be avoided, although I need hardly say that I was not aware of it at the time.—A DEVONSHIRE BEE-KEEPER.

raised this autumn was nearly as well marked as her mother (of whose excellence as a breeder and as a mother of a beautiful offspring I have had abundant proof), but I am still doubtful whether this young queen or any of her sisters have been duly impregnated, as I was only aware of the existence of about two dozen drones in the whole apiary at the time I commenced operations. During the last fortnight, it is true, I have been partially re-assured in my hopes by seeing a quantity of pollen carried into most of these hives, but I can know nothing for certain till I see whether drones or workers issue from the cells. No drones, however, have been seen by me since the middle of August, which I take to be a good sign.

Feeding is now, of course, in full operation. It is astonishing how little my bees have lived on since July. I know that seven or eight of them must have died but for my assistance, and yet I have only boiled about 55 lbs. of brown sugar as yet; and I hope with this supply, or little more, to carry them through the month of February—i.e., ten stocks in all. Whatever the expense, however, they must be kept alive and in vigour. A little outlay now will be well repaid next summer, if only we have a moderately fine season, as there is no danger of any part of England being overstocked with bees for many years to come. A profitable time is at hand for all careful and diligent bee-keepers. This is as "a word to the wise;" it remains for me only to arrange my hives in their present order, after the various shiftings of the season.

BEE-HOUSE.		
A. (Pure Italian artificial queen, July, 1862.)	B. (Hybrid from pure Italian artificial queen August, 1862.)	C. (Same as B.)
D. (Hybrid Italian artificial queen, July, 1861.)	E. (Same as B.)	F. (Same as B.)
	G. (Same as B.)	
GARDEN.		
H. (Hybrid from brood of D, artificial queen, August, 1861.)	I. (Same as H.)	J. (Same as H.)
	K. (Common English bees, artificial queen, 1860.)	

—B. & W.

THE HONEY HARVEST IN GERMANY.

It will be perceived by the following article from the pen of Herr Dzierzon, and translated from a recent Number of the German *Bee Journal*, that the honey harvest in that country has been quite as bad as in England. With regard to the early cessation of breeding among Ligurian bees, I may remark that my experience is very different from that of my distinguished cotemporary, since I have found that the Italian species breed much later in the season than common bees. I would also warn bee-keepers against removing the queens from old stocks without some very cogent reason. It is true that young queens lay eggs in great profusion when once they begin; but setting aside the risk of their loss during their wedding flights, and other casualties of by no means unfrequent occurrence, I have generally found their superior breeding powers a very inadequate compensation for the loss of their predecessors' services during the interregnum which must intervene between the deposition of one sovereign and the qualification of her successor.—A DEVONSHIRE BEE-KEEPER.

“THE BEE YEAR 1862, AND THE ITALIAN BEES.

“The year 1862 will long be held in sad remembrance as most disastrous for bees. It is just the opposite of the preceding, which although at first very unfavourable, afterwards became so good that neither myself nor my cotemporaries could desire a better. This, also, on account of the excellent wintering and early spring gave rise to the best hopes, but the unusually cold, wet, and stormy summer disappointed us entirely. Whilst in other only middling seasons, I have often scarcely known where to put the honeycombs which I was obliged to take out of the hives in summer, partly to make room, and partly to admit of repeated operations; this year I have frequently not known where to find a small honeycomb when I wanted it. All my honey-casks have been emptied, because during many weeks when the bees should have gathered the most, they could not

supply their daily wants, whilst it was necessary constantly to feed the young stocks lest they should die of starvation, or leave their hives as hunger-swarms.

“Bad years are, however, the best years for instruction. They afford opportunities for making many observations which are generally hidden from our sight when there is an abundance of honey. A remarkable circumstance, confirmed by many bee-friends who have visited me, is the far greater richness in honey of Italian stocks, no matter whether true or hybrid. When even the strongest stocks of the common species were nearly destitute of honey at the beginning of August, the Italians had always some stores, although generally a much more scanty population, because they are not only more diligent and intrusive, and, therefore, lose more bees, but because they leave off breeding earlier, and expel their drones sooner. They are, therefore, particularly suited to countries where the honey harvest is short. But even in countries where the pasturage is long continued, and where the harvest is good, the yellow bees will not be inferior to the black ones. I expected that the Italian stocks would be overtaken and surpassed by the, on-an-average, more populous native ones; but I do not find this to be the case at present, because they make up by diligence what is wanting in population, and they will hardly allow themselves to be surpassed, even if the weather permit a longer use of the buckwheat blossom. Another remarkable observation which I make at this time is, that all stocks from which the old queen has been removed in the course of the summer, either with or without a swarm, are more populous, and work stronger than those which have not been disturbed. Some even begin to lengthen their combs, which stocks with old queens no longer think of doing. This is owing to the great deposit of eggs, which, on the other hand has slackened long ago, if it has not entirely ceased in stocks which have remained undisturbed. Those, therefore, are mistaken who believe that stocks in order to remain strong must be left undisturbed. A stock from which a driven swarm has been taken at the right time, may yet in the same year eclipse in point of population a stock which remains undivided; for owing to the brevity of the bees' lives the strength of a stock is always dependant on the quantity of brood. During the gathering time the strongest stock soon becomes weak, when little or no brood exists, whilst the middling stock becomes strong, when by a rapid development of brood the increase of bees is greater than the daily loss. In a stock from which the queen has been removed, egg-laying is certainly interrupted for some time; it is, however, taken up again, and continued more rapidly than before after the impregnation of the young queen. By inserting a royal cell also, the interruption may be restricted to so short a time as to be imperceptible. Before all the brood of the old queen is sealed over, the young queen may have commenced egg-laying. Of course, the bee-keeper must endeavour so to manage that the largest number of young bees may leave their cells at a time when they can be most profitably employed, and return with interest the food which has been expended in rearing them.—DZIERZON, August 28th, 1862.”

OUR LETTER BOX.

POULTRY-HOUSE (*J. Styles*).—We are sorry we cannot furnish you with a plan. You can have “The Poultry Book for the Many” from our office free by post for seven postage stamps, and in that you will find drawings which you may adapt to your own views and situation.

CRAMP IN FOWLS (*T. G.*).—Your fowls die suffering from cramp. Symptoms—unable to walk, and contracted feet. It is generally fatal. The cause is mostly to be found in the flooring of the house; brick, wood, stone, or asphaltum will cause it. The only successful treatment is by stimulants, and the best stimulant we know of is strong beer. Nothing is of any use while a bad floor is permitted. If such exist, and it cannot be conveniently done away with, let it be covered with dry gravel 4 inches or 5 inches deep. Place all the sickly or lame birds in a perfectly dry warm place, and give them stale bread steeped in very strong ale.

PIED BANTAMS (*W. Clark*).—After looking at the feathers you enclosed, we are of opinion that although the parents were white, there is a stain in them from Piles; and this has shown itself in the chickens from which you took the feathers. The mixture of White and Black-red makes a Pile. For advertisements we charge 2s. 6d. for six lines, and 6d. per line for every line extra.

SMALL DRONE (*J. S., Dunce*).—We have very carefully compared the drone you enclosed with an ordinary drone, and cannot detect the slightest difference except in point of size. Yours was probably bred in a worker or intermediate cell.

DOGS (*H. Smith*).—It is quite impossible to give an opinion about the breed of a dog without seeing it. But upon dogs we must decline giving opinions at all. Buy Meyrick's little book, “House Dogs and Sporting Dogs;” it gives much information about them.

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	NOV. 25—DEC. 1, 1862.	WEATHER NEAR LONDON IN 1861.				Sun Rises.		Sun Sets.		Moon Rises and Sets		Moon's Age.	Clock after Sun.	D Ye	
			Barometer.	Thermom.	Wind.	Rain in Inches.	m.	h.	m.	h.	m.	h.		m.	s.	
25	Tu	Erica castra.	29.907—29.577	51—42	S.W.	.08	37	af 7	58	af 3	17	8	4	12	49	329
26	W	Lantana africana.	22.669—29.551	58—30	S.W.	—	38	7	57	3	33	9	5	12	30	330
27	Th	Leucospermum hypophyllum.	29.703—29.788	51—24	S.W.	—	40	7	56	3	57	10	6	12	10	331
28	F	Chimonanthus fragrans.	29.918—29.884	58—30	W.	.09	41	7	55	3	morn.	)	11	50	332	
29	S	Erica sulphurea.	29.739—29.678	57—49	S.W.	.04	43	7	54	3	12	0	3	11	29	333
30	Su	ADVENT SUNDAY. ST. ANDREW.	29.780—29.748	56—40	S.W.	.08	44	7	53	3	24	1	9	11	7	334
1	M	Acacia armata.	30.246—29.808	51—23	W.	—	45	7	52	3	35	2	10	10	45	335

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 47.2° and 34.5° respectively. The greatest heat, 62°, occurred on the 1st, in 1857; and the lowest cold, 14° on the 30th, in 1856. During the period 121 days were fine, and on 124 rain fell.

THE HOLLYHOCK.



VERY one who sees the magnificent spikes of Hollyhock exhibited at our autumnal shows must be struck with the wonderful advance they have made of late years, and the noble appearance that they

present even when cut, while their appearance in their growing state is so noble and stately that they ought to be more grown and appreciated than they are. Wanting, it is true, the brilliancy of tint of the Dahlia, they yet can claim a superiority in their habit of growth; and when good people have got over a little of the mania for bedding-out which has now seized upon us all—when we want to introduce something like variety into the surface as well as the colouring of our gardens—when we get dissatisfied with this dining-table and polychromic style which has run away with us—then I doubt not the old English favourite, the Hollyhock, (for it has been such), will come again into favour. I question, however, when it does so whether the highly-bred varieties which we see exhibited will be found quite as useful as the unbloomed or bloomed seedlings, as the case may be; for, if I may judge by my own experience, one pays for blood in this as in other cases. If the highly-bred hunter or racehorse requires more careful attention than their more plebeian associates, and if diseases are the adjuncts of a civilised life which are unknown to those living in a more natural state, so I may say that the highly-bred Hollyhock suffers from its very excellence. During the past summer, a most unfavourable one for this flower, after heavy rain I found my best varieties with their blooms all in a state of pulp, while those of a less perfect character did not look much the worse. It is, however, of the Hollyhock as a florist's flower that I want to write, and, it may be, to give them a lift in popular favour; and having last season had an opportunity, through the kindness of Mr. Chater and Mr. Laing, of Forest Hill, of growing some fine varieties, I am somewhat more interested in them.

I think we may fairly call Saffron Walden the home of the Hollyhock. Just as we look to Slough for Pelargoniums, to Bagshot for Gladiolus, and to Hammersmith for Chrysanthemums, so we look to Saffron Walden for the Hollyhock. There are other growers of Pelargoniums than Mr. Turner, of Gladiolus than Mr. Standish, and of Chrysanthemums than Mr. Salter, but they are nevertheless the monarchs of those classes of flowers; and so

there are other growers of Hollyhocks than Mr. Chater, but he reigns supreme, I think, as the first grower and raiser of them in the kingdom. He generally takes the first prizes at the exhibitions, though Messrs. Downie, Laird, & Laing run him very close sometimes; and the large number of certificates gained by him shows the excellence of the new varieties that he from time to time brings before the public. Indeed, the first step toward a real improvement of the flower was made at Saffron Walden, for it was there that Mr. Baron, a shoemaker, many years ago conceived the idea of improving it. Knowing little but the practical part of the craft, he, with the energy and perseverance so characteristic of our nation, year after year worked at it. Others afterwards entered the lists; and the names of Bircham, Paul, Roake, Downie & Laird, Turner, and especially Chater, are well known to all lovers of the flower; but Mr. Baron was the first to lead off the improvement.

THE SOIL in which the Hollyhock thrives best is a rich garden loam. Although it will not refuse any ordinary good soil, it is, as its large and fleshy roots indicate, a gross feeder, delighting in manure and in plenty of moisture, but, at the same time, in winter somewhat impatient of damp. Light soils do not suit it, and indeed it is almost impossible to get it to do anything in such situations.

THE SITUATION it ought to occupy in the garden should by all means be sheltered, but not under the shade of trees. The height to which some of the sorts attain, together with the great weight of the flowers, renders them peculiarly susceptible of "windy" influences: and hence in my own neighbourhood, where one would almost think Eolus holds his court, it is somewhat difficult to find a place to suit it. In my own little flower garden it would not have the remotest chance of being allowed to bloom—I should expect to see it carried away bodily; and am therefore obliged to grow them in my piece of vegetable garden, where there does happen to be a sheltered corner into which the south-westers (our worst winds), do not penetrate. At the same time other places should, if possible, have a fair proportion of sun, but this I hold to be secondary to the shelter. When one tells you to put them in an airy place, perhaps he is sheltered on all sides by trees and does not appreciate the violence of winds. If I were to put mine in an airy place I should have to get some of our school children to sit by them when our gales blow here, or else anchor them with chain cables.

THE TIME FOR PLANTING is an important matter, but it seems to me that spring-planting is preferable to autumn. It involves, however, the necessity of a cold frame or pit in which the plants should be housed; for although hardy, they are, of course, more liable to be affected by frost when in pots than in the open air. When the plants are received from the nurseryman in the autumn, the most desirable plan is to repot them at once, using moderate-sized pots and a light open soil. Ordinary attention should be paid them during the winter months, guarding against fogging, and not allowing them

to flag for want of water. In the beginning of April they may be planted out, the ground which they are to occupy having been trenched and laid up in ridges during the winter. It is desirable to plant when the ground is in good heart—not too “stodgy,” as the labourers call it here. Holes should be made about 3 feet apart, and a good basketful of manure, about half a bushel, may be placed in each. They should be planted firmly, but not too deep; and as late frosts occur in May, it is always well to have some large pots at hand to place over them if the temperature threatens to be very low. A stout stake may be placed alongside of each, so that when the plant grows it may be ready without injuring the roots. They will now require but little attention, if the weather be at all favourable, for some weeks.

THE AFTER-MANAGEMENT depends entirely on the wishes of the grower. If he be desirous simply of ornamentation, he may leave three or four spikes on each strong plant; but if he aspires to being an exhibitor, one only must be allowed. He must also take care to thin-out the bloom-buds, so as to obviate too much crowding together, which prevents the complete development of the flowers, on which so much depends. It is a good plan, too, to shorten the spike, so as to throw more vigour into the flowers left, and they are never exhibited with the full length of the spike shown. Those who are anxious for clean blooms will take care to protect them from the influence of the weather, and this can be done only by making calico shades to place over the individual spikes that are required.

VARIETIES.—With regard to choice of sorts, there is here the same difficulty as in most florists' flowers, owing to the immense variety; but I have not seen any catalogue of any plants, in which so admirable an arrangement is adopted as in Mr. Chater's, and all who wish to know what the best varieties are would do well to obtain it. It is arranged, not only in colours but in shades of colours: thus we have in rose colours nine different sections—rose pink, bright shining rose, deep rose, satin rose, amethyst, general rose, pink carmine tinted, rose carmine, and brilliant deep rose. From my own slight experience I can speak highly of the following varieties:—

- Madingley Perfection (Chater), deep rose, dark base.
- David Foulis (Downie & Co.), fine bright rose.
- Rowley (Chater), very bold rosy carmine.
- Lady C. Neville (Chater), deep peach.
- Countess Russell (Chater), a beautiful rosy peach.
- Candidissima (Chater), beautiful clear flower, white.
- Empress Eugénie (Downie & Co.), large white, with rose base.
- Bianca (Chater), fine bright cerise.
- John Keith (Downie & Co.), a very fine crimson, of excellent shape.
- Lady King (Chater), an extra fine ruby crimson flower.
- Illuminator (Chater), splendid scarlet.
- Joshua Clarke (Chater), a most beautifully-formed flower, one of the best, if not the best Hollyhock grown.
- Black Knight (Bland), fine black.
- Ochroleuca (Chater), a very fine atraw colour.
- Stanstead Rival (Downie & Co.), a splendid rosy salmon, of first-rate quality.
- Lady Dacres (Downie & Co.), a fine flower of great substance, flesh-coloured salmon.
- Premier (Chater), very fine buff salmon.
- Invincible (Chater), a noble flower of orange salmon colour, with a grand spike.
- Beatrice (Chater), a very delicate and beautiful buff.
- Miss Lizzie King (Chater), a very fine bright yellow.
- Mrs. Fyson (Chater), beautiful pale lilac.
- Agenora (Chater), fine deep lilac, excellent flower.
- General Wyndham (Chater), reddish-purple.
- Advancer (Chater), rose and white, a very fine and novel-looking flower.—D., Deal.

## GLOBE ARTICHOKE AND EUROPEAN CYCLAMENS—ARE THEY HARDY?

### CROSSING CYCLAMENS.

WITH the exception of Scarlet Runner Beans in a row on one side of my boundary, I grow no other vegetable whatever. The whole space is devoted to flowers and fancies. But I read every word of the weekly calendar by Mr. Keane, and of the “Doings of the Last Week,” by Mr. Fish, with greater relish than when I had to look out for the best ways to make both ends meet. And when I learn thence a better turn for doing anything than

the old way, I enjoy it as a triumph as much as if I were in the midst of it; and to say the ruling passion shall ever pass away to the end of the chapter is the very opposite of my personal experience.

But, at the end of forty years, there are some simple things yet in the calendar which I do not quite understand, and whenever I think of one of these things it vexes me without knowing the reason why. Take last week as an instance of what I mean.

In the first going-off Mr. Keane gives the usual annual notice to protect Artichokes from frost, and on the next page Mr. Fish says the “Artichokes (Globe) have had some litter placed tightly round them, so as to prevent the frost getting at the roots.” Well, it was thirty-nine years ago next Saturday or Friday, I am not quite certain which, when three men and a lad were wheeling-in littered dung from the framing ground into a large kitchen garden, to be placed tightly round Artichokes, the same as last week. The lad was your humble servant (a black sheep at the time).

About three in the afternoon of that day, a tall young-looking gentleman, straight as a ramrod, and wearing a white vest and blue coat and trowsers, stood above us, and as I can see him now, in my mind's eye, the handsomest young man I had ever seen up to that day; but none of us wheeling the litter knew who he was. He was some visitor to Mr. Strachan, the manager at Beaufort Castle, twelve miles above Inverness; had just come out of Mr. Strachan's house, now the gardener's house, stood on the bank over us, and viewing all around, and over and into the garden, as if he were planning something or other. He soon left, and so we did the Artichokes safe and sound. Next Tuesday, the extra lad, who was accused of having all the light jobs and the more pleasant terms given to him by Mr. Strachan, was sent over to Belladrum, the next large place to Beaufort Castle, with a letter to the head gardener there, and I knew him the instant I saw him as the gentleman stranger who was at “our place” the week before. I thought him very young to be trusted with a place of more responsibility than “ours,” there being three glass houses, and lots of pits and framing on the place, while “we” had lights for Melons and Cucumbers only. I thought I was as old as he was, and yet I really did not know when to give air to the frames, or how much air to give, or, indeed, anything at all about them; and as to the hothouses, the first range I had ever seen, I was awe-struck at the idea of a man of my own age being able to manage them, and to teach four young apprentices how to do the whole of the glass in two or three years. But, the pride of life came within me, and the new gardener at Belladrum, nor his young men after him, knew aught of what was passing in my mind. I could talk, even then, from reading books, so that they might think there was no lack of knowledge at Beaufort Castle at all events; but one question which the young gentleman gardener asked me was a stunner I could not answer, and I had depth enough to know that confession of ignorance was much more safe than to pretend.

“What were you wheeling-in that dung for last week?” was the question I could not respond to, and after forty-two years of it I cannot tell it now why it is done. He must have seen they were putting the dung on the Artichokes, and the purport of the question was to know from me what they did it for; so I told him that I was not allowed to know such mysteries, that I was only an extra hand for a time, looking for the better times coming.

“But you seem to me to know a good deal about gardening.” I never felt “vanity-daft” so strongly as at that moment. I believe to this day that short sentence was the turning-point of my career. “But you seem to me to know a good deal about gardening,” stuck to me for the next ten years, so as I could not get rid of the idea of being taken for a great man indeed, and I must do something to make the idea more than a shadow.

Then, to be told so by a man infinitely above me in that knowledge, and to be spoken to as kindly as if I had been his own equal, astounded me. He took me all round the garden, and through the houses, and to the framing-ground, and told his foreman to let me see everything whenever I chose to call; and I could now repeat word for word of all that was said on either side that day, at the distance of thirty-nine years this week.

The gentleman-gardener was no other than Mr. N. Niven, now of Drumcondra, near Dublin. He told me then that he was not quite sure if frost really hurt Artichokes; but he knew very well the question was a disputed one—his own belief in his own words was, that “the practice was the dictate of custom, and not the result of necessity,” as far as he could make out.

A change of gardeners at Beaufort Castle changed the system there of covering Artichokes, and none of them were protected there for three years before I left; but I forgot about the frost, and it was the winter of 1829 and 1830 before I could prove it under my own eye. A dire frost set in after the new year in 1830, but my Artichoke-beds suffered not the least harm, and for the next seven years the plan was the same, with the same result; but as there was no tremendous frost from January, 1830, to the end of 1837, and not till the following winter, I cannot say even now if Artichokes are hurt by our severest frosts; but during our ordinary winters for seven years, I did not lose a sucker or a stool of Artichokes, and they were all un-protected.

In the very severe winter of 1840 and 1841, my first winter at Shrubland Park, the Artichokes were not covered there, and they escaped one of the hardest winters of my day; but then the ground was deeply covered with snow, and after that the annual dressing of dung was given to the Artichokes before the winter set in, as part of the routine more than as means of protection. So that to the present day I am not quite sure if the Artichoke does, or does not, actually require protection.

I am quite sure, however, of what took place under the circumstances which I have instanced, and I think we might do worse now than canvass this question, as some gardeners did in the last generation.

But I have another string to my bow. I want to know if *Cyclamen neapolitanum* needs protection from frost. It is a native of England, of central and southern Italy, of Sicily, and of Algiers, and is as different in the leaf, in the different localities, as any plant in cultivation, if not more so. I have eight or nine different forms and differently marked leaves of it in my own collection. But all my stock is from central Italy, from "my Sardinian correspondent," and I do not know how far it may need protection or not.

The large-leaved *Cyclamens* of the London trade, which go under the names *macrophyllum* and *africanum*, are nothing more than genuine *neapolitanum* with different leaves, as far as my stock has yet bloomed; and I have one of them in bloom now, and have had the same for the last three months with no appreciable difference in the flowers.

*Hederæfolium* is the name by which *neapolitanum* is best known to English gardeners. Has any one ever known that kind to be cut off by frost? I believe not, yet my want is not supplied in the belief; and I am afraid the larger-leaved kinds of it from the far south, like our Globe Artichoke, will need some slight protection in most places, although I am not yet quite sure of the point for either the one or the other.

My *neapolitanum* has been too recently disturbed to be a fit subject for experiment this winter. Plants of the different-sized leaves of it ought to be two years established on the spot before experiments on them about enduring or not enduring frost, could be of much practical value. This, if I live long enough, I shall be able to put to the test. Meantime I want to know how far you, the readers of this JOURNAL, have traced the question. Have you planted out *Cyclamen africanum*, or *Cyclamen macrophyllum* in the open ground, and left them out without protection any time within the last ten years, or before that period, and how did it fare with them if you did?

I shall have *comum* and *vernum* in bloom this winter along with the true old English *neapolitanum*, otherwise called *hederæfolium*. The reason of that is this: My whole collection was frosted when in full leaf this time last year, or, at least, some of all my sorts which were planted out of pots for experiment on their hardiness, had their leaves frosted into jelly through an oversight on the part of the manager to put the covering over them for three or four days and nights, when we had the first hard frost last winter, and when I could not see to them myself. All that frost did not seem to hurt the bulbs or tubers, even of any of the finer races of *persicum*, for I had some of all of them in the wreck; but the *comum* and *Atkinsi* in variety, all had their leaves destroyed, but they were pitted and brought on three or four months before their time for the experiment which so ended.

The effect of that scourging frost was to throw them all out of their course of leafing and flowering; and, as in the case of young Norway, what I had long wished for chance brought to my door, though to my sorrow at the time.

You recollect how uppermost it stood with me not long since to have the autumn-blooming *Cyclamens*—that is, *europæum* and *neapolitanum* retarded; and the early spring bloomers,

beginning with *comum*, forced into late autumnal bloom, in order, if possible, to enable the two races to cross, and so obtain a race like *vernum* to bloom naturally from November on through the winter.

That very effect desired is now in my hands, and I can see how the same may be done every year, or every other season at all events, by just following my sad accident with part of one's stock. Order some London nurseryman who may have "a Sardinian correspondent," to obtain so many *europæum* bulbs, so many bulbs of *neapolitanum*, of *africanum*, and of *macrophyllum* from the wilds of Sardinia, and to lift them early in August before the kinds come into bloom. Then the lifting, the half-drying in the packing and during the journey to London, will put them off their blooming season, and you may keep them back from flowering a month or more after their arrival; and if they will begin to bloom early in October, none of them will finish blooming before this time or later, for they seem to take twice the time to get through their blooming by being thus kept so long out of their natural course.

Or, if we take such an instance at home as the case of Mr. Weaver, our *Cyclamen* correspondent at Winchester, who has large plants of the *neapolitanum* in the open borders, and probably of *europæum* also. Suppose he had a mind for this trial, or any one having the same opportunity, all he would have to do would be to lift a "root" with a large ball to it, as soon as he could see the buds for the bloom—say at the end of July, or early in August; he could partially dry it, but not let it become quite dry in the ball, and so keep it back fully two months, perhaps much longer. Would it not seem one of the easiest things in the world to have a *Neapolitanum Cyclamen* in bloom in November? then *vernum* would be naturally in bloom, and there would be no difficulty in preparing *comum* to bloom in November. I have a score of *comum* now in strong bud for blooming, which a few degrees of more heat would throw up and expand in a week or ten days. My recently-received *vernums*, and three roots of *ibericum*, are also in bloom-bud; and I have no doubt but if *Clusius's* true *hederæfolium*—that is, the late spring-flowering Ivy-leaf *Cyclamen*, had been in my wreck this time last year, it would now be in this interesting condition along with the rest of them.

Then, if the European *Cyclamens* will ever cross among themselves, this would seem to be the best chance for them. I cannot yet get rid of the idea that they have done so by some accident or design before I was born; for I can see nothing in *Goldie's ibericum* to distinguish it as a true species, or mark it in any way as different from sorts of *Atkinsi* that I have seen. Of course I may be wrong, but the proof is wanting. As to *vernum*, it is exactly what I should predict if a northern variety of *neapolitanum* were crossed with *comum*. After seeing the way *comum* subdued *persicum* with Mr. Atkins, and the way the *Atkinsi* breed has already branched out into dissimilar varieties at the Wellington Road Nursery, it would appear as if *ibericum* were nothing else than a dwarf seedling from *vernum* itself.

You may call that an odd way to account for the origin of species. Be it so; but I have seen the origin of too many species of that stamp and style in my day, to allow me to entertain a different opinion until that is controverted by proof positive, which proof can be made good again and again without a flaw in the procedure.

The next process is to bring the spring *Cyclamens* to bloom in November, without frosting them like mine, so as to meet the retarded autumnals for the purpose of crossing. I am quite certain now, from sad experience, that it is also quite as easily to be effected as the retarding of *europæum* and *neapolitanum*, *alias hederæfolium* of old English gardens.

Take any, or all, of the *persicum* breed and of *comum*, for there are two distinct varieties of *comum* in cultivation, the one having the flower much larger than the other, and that is the one which so many growers keep under the name of *vernum*. But take them both, with *ibericum* and with the true *hederæfolium*, if you can find it, and when any well-established plant of any of the varieties of the three races is throwing-up for bloom, be it in February, March, or April, cut off every one of the leaves, and all the flower-stalks and flower-buds you can perceive, and shake the plant out of the soil immediately, to prevent another effort of growth for the time being. Dry the bulb in that state—a far better state than that in which two hundred of my poor frosted bulbs were obliged to be dried-off last January, and early in the year. If the drying began in February or March, the bulbs should be potted again early in May, and the April-

dried ones in June, and be left to nature to get into leaf again, and to throw-off some blooms, probably, which you could not see to disbud in the spring. All this I have seen acted under my own eye this very season, only that the stoppage in the midst of their growth was by the frost; and now, if I had known it sooner, I might have had a score of spring bloomers full up to the crossing-point on the first day of November—that is, by giving them a lift in-doors of from 5° to 10° more heat all through October. Something about from 50° to 56° would probably do, but the degree they would soon settle themselves, and I could as soon see it. It strikes me, too, that the stimulus of about five more degrees than greenhouse temperature, would cause the persicums to cross the more readily—say from 40° to 45° or 47° of dry heat in November, would cause all Cyclamens to cross more readily than at their usual time of flowering.

D. BEATON.

### HEDGES—USEFUL AND ORNAMENTAL.

A CORRESPONDENT from one of the eastern counties, whose case no doubt resembles that of many others, asks advice on the management of hedges of various kinds, as enumerated below; and, as the subject may be of some interest to the general reader, the Editors have desired me to give such a reply as will meet the requirements of those similarly situated, and a few notes on hedges not mentioned in his list will also be given.

Taking the various cases in which the term "hedge" is used, we find it implies a fence, screen, shelter, or ornamental partition. Long and well-established practice has decided beyond the possibility of a doubt which plant is the best for all general purposes of a cattle fence; but others are at times used. For shelter or ornament there is, however, great diversity of plants, and very often accident is the cause of some of these being employed. Thus they may have happened to have been growing at the place where shelter was wanted, and were, consequently, made available to that purpose; and in a like manner many of our mixed hedges, crooked, and consisting of half a dozen or more different plants, have been simply appropriated to the formation of a fence, from having been found growing at the place that such fence was wanted. Hazel, Maple, Elm, Elder, Willow, Alder, and similar things, are often worked-in, not in consequence of having ever been planted by hand, but by being accidentally found there, and taken advantage of. The crooked, non-descript character of some old hedges may unquestionably be traced to this cause; but they are disappearing more or less speedily as the agriculture of the district advances. Boundaries of property and other causes will no doubt be the means of retaining many of them; and in some neighbourhoods the long time it takes to rear a good Quickset hedge renders a tenant unwilling to destroy one, which, however crooked and unsightly, answers for a fence. Though the generality of hedges for farming and other purposes of a like kind are of White Thorn, the culture and management of which belong more particularly to another class, yet for the guidance of those who may have such fences to plant and attend to, a few notices on these will be appended, as well as on the other kinds of hedge regarded as more ornamental. I will take them in the following order:—

- |                             |                              |
|-----------------------------|------------------------------|
| 1. White Thorn or Quickset. | 7. Box.                      |
| 2. Hornbeam and Beech.      | 8. Ivy.                      |
| 3. Holly.                   | 9. Arbor Vitæ.               |
| 4. Privet.                  | 10. Laurustinus.             |
| 5. Laurel.                  | 11. Other evergreen shrubs.  |
| 6. Yew.                     | 12. High hedges for shelter. |

**QUICKSET HEDGE.**—Nothing can very well exceed a good Quickset hedge when neatly trimmed and attended to; and I am told that some small fields, not more than a couple of miles from where I write, are surrounded with hedges of this kind so closely grown and compact, that if a hare were turned into one of them she would not be able to get out anywhere but at the gate; and yet these hedges are not more than a foot thick at the most, and often much less, and being planted on the level have no advantage from an additional depth of soil. The great secret is, that the soil suits them, and they are duly taken care of both at the beginning, and ever afterwards. A sort of slight digging with the fork is given once or twice a-year to the ground, about 18 inches or so on each side of the collar, and if the field is in tillage the cultivation reaches this margin; if in grass, the line of demarcation is like that of a walk cut in a turf lawn. Sheep are always kept from the hedges in summer by hurdles or

something of that kind; in winter they do not so much harm. The clipping or trimming of such hedges is generally done twice in the year, the first time often about the end of June, and the other in autumn or early winter, when the leaf has fallen. This is the treatment of an adult hedge. That of a young one is much the same; but it will be better to mention the planting first, as that sometimes determines the character of the future plant, and what is here stated is applicable to all situations.

Although this Quickset will grow and make a good fence on all kinds of soil where other ordinary crops will flourish, yet it does best on a soil of a dry and stony character. Wet soddened clays or marshes are unsuitable; neither is a very bleak situation, or one exposed to the sea spray, suited to it. The condition of neighbouring specimens will, however, give the best explanation of this; but if it be determined to plant one on the cold undrained clay of some districts, it would be best to plant on the top or side of an embankment, so that the roots being on a ridge will be drier than in the adjoining ground. This is the usual custom in districts less favourable to the growth of the Quickset than the one I write from; but it is certainly recommendable. On such ungenial soils it is also advisable to plant more liberally—say a double row of plants about 9 inches apart, and about 6 inches in the row. On drier and better soils a single row will do, and that on the level, giving the ground, however, the advantage of a good trenching; and if particular success be wanted, manure may be added, either at the time of planting or afterwards. One peculiar feature adopted here in planting is worthy of imitation everywhere, and is the same as we adopt in planting fruit trees of all kinds. The young plant is not cut down at the time of planting, but allowed to remain for one year, when it is cut down. The cutting-away of top and bottom at the same time is an ordeal some plants will not endure, but die under; and although the Quickset might not, perhaps, succumb to it, some solitary plants would do so, and leave the line gappy and bad. Some planters take the pains to bend the tops of the newly-planted Quicksets in such a way that the tips are buried in the ground at the collar of the second plant from them, forming at once a dwarf line of basketwork, and sometimes the shoots formed that season are not cut down the following one as stated above. This bending-down, however, cannot well be managed unless the plants are something like 2 feet high, and we would prefer smaller plants than this. Good fibrous roots are of more consequence than a strong coarser top, and being planted in good time in the autumn, in soil suitable, &c., a good result may be looked for.

The trimming of the young plant for the first two or three years must always be done in the autumn or winter, as cutting a deciduous tree of any kind in summer is an operation hurtful to it; and as the hedge wants encouragement rather than crippling, allow all but some very gross shoots to ripen their wood before cutting them in. The cutting-in may be more or less severe, as may be deemed necessary. Generally, however, if the hedge is thriving and robust, a foot each year will be ample addition to its former height until it reach the allotted height—say 4½ feet; but it is often advisable to cut-in to within 6 inches or 8 inches of the former year's cutting. It is erroneous to think that extreme cutting-in strengthens the hedge; such is not the case. The collar of a plant left entirely alone would be thicker than with any cutting at all; but a certain amount of shortening is necessary to secure a close compact body of shoots. The cutting sideways may, however, be more close, as narrowness is considered a qualification, if the mass that is left be close and compact. In dressing Quickset hedges, the hook in the hands of one well skilled in its use is a much quicker tool than the shears. The latter, however, must be used for the first few years until an established shape and form be given to the hedge.

**HORNBEAM AND BEECH.**—These are more generally planted for shelter than as a fence against cattle, and are, consequently, allowed to get much higher than ordinary fences. It is also considered an advantage to retain the old leaves on them all the winter, and it is, therefore, advisable to treat them accordingly. The Beech and Hornbeam being forest trees of large size, the dwarfing they undergo to keep them in the condition of hedge plants causes more or less unhealthiness in their growth, and this is one of the causes of their retaining their leaves during winter; but as another inducement for their doing so, it is advisable to cut and dress them once or twice during the season, taking care that the last time is not so late as to leave them no chance of making fresh shoots, for it is those late-unripened shoots that retain their leaves which give the shelter and

warm appearance these hedges present in winter. The Beech and Hornbeam thrive best on a dry chalky soil, and they quickly attain the condition of a full-grown hedge plant; and on bleak, high situations hedges of these plants will be found useful and more deserving of attention than they often receive.

**HOLLY.**—This is of much slower growth than the last; but, when once established, the hedge is second to none either in point of utility or appearance. Its deep glossy green leaves, matted thickly on stems robust and strong, seem to bid defiance to either man or beast. In fact, there is only one drawback to a Holly hedge—it does not grow so fast as one of Quick, and on some soils does not thrive at all. It has, however, the merit of doing well on rather damp soils—not those saturated with stagnant water, but damp hill sides more or less stony. In such places I have seen Hollies attain to fair-sized timber. Growth is more slow than most hedge plants, excepting Yew and Box; but when once arrived at that condition it will remain a long time without deterioration either in appearance or utility.

Hollies are said to be best planted in September, and it must be confessed they are not the best things to move. Small plants that have been frequently removed are best for a hedge, and with a little patience an excellent fence will be forthcoming in time. What cutting is requisite had better be done with the knife in early autumn, and, if necessary, with the shears in March; but to use the latter in September occasions the plants to look badly all winter, so many leaves being cut in two. Good soil will encourage the growth of the Holly as well as that of other things; and it is not bad practice to plant an occasional Holly in a Quickset hedge, the green patches looking well at all seasons.

**PRIVET.**—Where a hedge is wanted in a very short time this is one of the best plants for the purpose, as it grows rapidly and bears cutting well; but it is not by any means a substantial fence, being devoid of thorns, and, there being no thick wood in it, cattle are not easily turned by it; mixed with Quickset it is better. Its general hardihood and adaptability to all situations are features not to be disregarded. It will also grow under trees better than most plants, and when a hedge is wanted quickly, Privet is the plant; neither is its appearance bad, and it may be cut at any season.

**LAUREL.**—The common Laurel makes an excellent bank or hedge; but in general it yearly increases in size, the spurs growing out a little each year; still it makes a beautiful hedge, bank, or slope, and bears cutting-in to mathematical precision, and when once well established snow has no impression on it, which it certainly has on Privet and some other plants of a like kind.

A dry stony soil suits the common Laurel best, and on such soils it grows very freely, and also bears cutting well. We find the best way is to cut Laurel hedges over with the hedge-shears, about the second week in July, exactly to the shape wanted, and the after-growths of 6 inches or less we leave on all the winter, merely looking over them in autumn, and cutting out with the knife any long ones that protrude farther than the rest. At Linton these second shoots always ripen, and, consequently, stand the winter without turning yellow, which is not the case in places where the shoots do not ripen; in fact, in some cases it is no unusual thing to see the tips of such shoots all dead, and where the soil is not so well adapted to the Laurel, the plant often enough dies entirely, or now and then one succumbs to the unfavourable ordeal it has to go through. With us, however, this does not occur, although the number of years some of our slopes and banks of Laurel have been subject to close cutting would have sickened if not killed many other plants. Cutting with hedge-shears is a plan not to be recommended everywhere, for many of the leaves are necessarily cut through, and they look brown afterwards; but we do it for expedition, and established practice has enabled us to make sure of the speedy second growth which covers with verdure the brown disfigured leaves that were cut. A better way, and one I would recommend to all who have not gained their experience by practice, is to cut the Laurel hedge or bank with the knife, and if particular nicety is wanted let the cuts slant in such a way as not to face the eye of the observer. Generally in cutting between the finger and thumb the knife is so held as to make a slanting cut that looks one exactly in the face. This is wrong. All shoots below the eye ought to be cut from the under and not from the upper side, and a little practice will enable any one to do this as well as the other way. The same remark holds good with other hedges of evergreen that are cut with the knife.

**YEW.**—Of all hedges for ornament, this is perhaps, the most

ancient, and likewise ranks the highest in point of excellence. We are told of some hedges that have outlived two or three dwellings, and some are said to have been planted four or five centuries ago. An old Yew hedge is so venerable an object, that modern innovators generally pause before they condemn one. Being a native plant found wild on dry, chalky hills, as well as in other places, both on the exposed mountain-crest and in the shade, or enjoying the shelter of other trees, the Yew is very accommodating. Hedges of Yew are of slow growth, but the plant is not the worst to transplant, and it often happens that plants of 3 feet high and upwards may be made into a hedge at once. If the growth is only moderate it is best to cut the Yew in March; but if more robust it may be cut in dull, damp weather in July, when a trifling after-growth will give it a more cheerful appearance for the winter.

**BOX.**—Like the last this is of slow growth, even more so than Yew. It is also of a paler colour, but in many respects resembles the Yew in habit. It will grow on a stiffer soil than the Yew, and bears clipping well. When cut at the end of June or beginning of July it has time to grow a little afterwards, and recover the brownness that follows clipping. If possible, the cutting should be done in damp weather, and the disfigurement caused thereby to the foliage is the more quickly remedied. Box hedges seem to be long-lived, and they also attain a fair size when allowed to grow on. They are, however, no protection against cattle.

**IVY.**—It would be wrong to call the Ivy a hedge; the term "screen" is more proper. If a framework of timber or iron is fixed, Ivy planted against it will quickly occupy it and present an effectual screen in a shorter time than anything we know of, especially if the plants be good and in pots, and the soil they are planted in suitable. A little tying to the proper places as a sort of guide will enable the plants to ascend in the place most wanted, and it will be found that very little tying is wanted. The Irish and Heart-leaved Ivies are the best, and they quickly cover a wall, trellis, or bank. The cutting of Ivy is best done in this neighbourhood in August—say the middle of it, when we closely crop many houses and other places covered with it, leaving scarce a leaf, yet it regains its foliage before winter, and looks well after the first three weeks or a month after cutting. The Ivy is not particular as to soil, but the better it is the quicker the growth. I may, however, caution some inexperienced in such matters, that it will in time kill forest trees to which it clings, and of this we have had several instances in this neighbourhood.

**ARBOR VITÆ.**—This has risen into repute the last few years as a hedge plant, and, certainly, it seems suitable in many respects; but as I have had very little experience with it, I can only speak from impressions formed of what I have seen. One good quality it has—it moves well and grows quickly, and, I believe, bears cutting, but I would think it is better adapted for a high hedge than a low one. Good garden soil not too damp nor yet too shallow suits it best, and being pretty hardy it will endure any aspect. I am, however, not certain how it withstands the sea breeze and spray, but I expect not very well. It is, however, more of an ornamental plant than one adapted to hardships, and deserves to be treated as such.

**LAURUSTINUS.**—This makes an excellent hedge or bank; but it ought never to be cut with the shears, but large pieces cut out as wanted, so as to keep the mass in some degree within bounds, and in this way it looks as well as the most skilfully-cut hedge, and there is the additional pleasure of seeing it flower all the winter. A dry stony soil suits it best; but it will thrive and do well on one of a reverse description. Plant in September, and prefer good rooted specimens rather than large ones, and you will be rewarded in due time.

**OTHER EVERGREEN SHRUBS OR TREES OCCASIONALLY USED.**—There are many plants which the taste of individual growers have brought into use for hedges. Portugal Laurel will live, and some here (Linton), have borne cutting for twenty years or more; but, generally speaking, this plant is impatient of the knife, and it will not bear cutting below the leaves as well as the common Laurel. Phillyrea is better and looks well. Alaternus is not so good, the leaves looking rusty. I have not had much experience in Sweet Bay, but in soils that suit it I have no doubt but that it will do admirably. Some single specimens in our grounds are upwards of 30 feet high, and as vigorous as the Scotch Fir. Rhododendrons rarely make a regular line, and cannot well be made to do so without sacrificing their most important feature—the flowers. Whin or Gorse, single or double, looks well while in flower; but if very severe weather follows

after cutting in autumn, the brown, dead, and prickly mass looks badly. The same may be said of Broom; while Spruce and Scotch Firs are better adapted for high shelter than for the purposes of a hedge.

There are many other plants which may be worked into use in an ornamental way with advantage. I should think that *Grise-linia littoralis* might do very well: its glossy green leaves of a pale colour are inviting, and in favoured places there is no doubt but it will succeed well. There is also a plant which has been extensively used as a hedge plant by Mr. Ridgeway, of Fairlawn, in this county, and recommended by that gentleman as adapted even for cattle fences in situations where it will stand the winter. It is Osage Orange (*Maclura aurantiaca*), a prickly half-evergreen shrub, of far from a disagreeable appearance, the foliage being bright, shining, and abundant; the only drawback is, its points rarely ripen, and I do not know the effects of a very hard winter upon it. To this list many others might be added; but enough has already been said on hedges of an ornamental character.

**HIGH HEDGES FOR SHELTER.**—These are of various descriptions, and I think I have seen a Holly hedge, faced on one side, that was little short of 30 feet high; and some Quickset hedges are higher than that. There are hedges of mixed trees—Elm, Maple, White Thorn, and others, trimmed-up on both sides as shelter to the Hop plant, which are upwards of 40 feet high, and by their appearance seem likely to last a century yet; but I have never seen a high hedge of evergreen Fir trees at all satisfactory—they invariably lose their lower branches, besides which, as a single row, they never look well. The cold and high winds have so much effect on them, that a weather-beaten unhealthy appearance is the result even when not pruned, and very little cutting destroys all the life there is in the lower branches. The hardier deciduous trees had better be used if only one line of some 8 feet or 10 feet in thickness be wanted, and that something like 30 feet high. Some trees by their growth are not suitable. I am not by any means fond of Elder nor Willow. Some of the Poplars also quickly overcome their more useful neighbours; but Oak, Beech, Elm, Maple, and similar trees along with Thorns do very well, and if these be not thick enough, the wild Honey-suckle may be allowed to run up amongst them. I do not think it is advisable to encourage Ivy, it is apt to kill the other trees. But so many things tend to determine the trees that are most advisable, that it is not necessary to follow the subject further.

Before concluding I may say, I have omitted many plants occasionally used as hedgerow-plants, because in the most cases in which they were so employed, it was more in consequence of their accidentally being present than through the wishes of the cultivator. Black Thorn makes a formidable fence against cattle or anything else, but the live shoots are all at the top, and it is far below the White Thorn for general utility; and Willow Sallow, Dogwood, Hazel, Bird Cherry, &c., are only tolerated because others will not grow. But the ornamental list may, doubtless, be much extended, those given being only what I have had experience of.

J. ROBSON.

### CROSS-BREDS OF STRAWBERRIES.

Will any of your correspondents who have attended to the history of the Strawberry, kindly inform me whether any of the kinds now, or formerly, cultivated have been raised from a cross between any of the Woods or Alpines with the Scarlets, Pines, and Chilis? Also, whether any one has succeeded in getting any good from a cross between the Hautbois and any other kind? I am aware that Mr. Williams, of Pitmaston, succeeded in getting some sterile hybrids from the Hautbois and Wooda; but whether these were ever at all largely propagated, I cannot find out. I am, also, aware that Mr. Knight and Mr. Williams raised many seedlings by crossing Scarlets, Pines, and Chilis; but what I want to know is, whether any one has crossed these three latter kinds with the Wood or Alpine. I should feel greatly indebted to any one who would take the trouble to inform me on this head.—C. DARWIN, *Down, Bromley, Kent.*

[We shall be obliged by answers being sent to us in reply to this inquiry.—EDS.]

**CONSEILLER DE LA COUR PEAR.**—We have received a communication from Mr. George Lee, of Clevedon, near Bristol, to say that he is a market-gardener and not a nurseryman as we

stated in our notice of this fruit, and that he received his trees from Mr. Rivers, of Sawbridgeworth. This announcement is necessary, as Mr. Lee informs us that, in consequence of our notice of the fruit and of his name in conjunction with it, he has been besieged with applications for trees of that Pear.

### WATERING POTTED PLANTS IN A SUNK FRAME.

I HAVE always found some difficulty in watering crowded pots in a sunk frame without spilling much water among them, or, in the case of using manure water, without letting it touch the foliage. To avoid this difficulty, which I believe is of considerable consequence, I thought of a contrivance this year so simple that I should never have thought it worth your notice had it not been for the following remark of an eminent gardener to whom I mentioned it. He says, "I like your invention so much that I think it is worthy of more prominent notice. Send it to THE JOURNAL OF HORTICULTURE with a drawing." I can only add that if so simple a contrivance be of any use to your correspondents, I am glad to have the opportunity of making some small return for the full and courteous replies I have received to any questions (chiefly on bee-keeping) I may have had occasion to put through your columns.—A. W. B., *The Vicarage.*

A small tin tube about 3 feet long and half an inch diameter, with a funnel at top; to be held in the left hand while the water is poured into it from a jug or small can in the right. Mica is made to fit on to a small watering-pot at A, the rose of which will also fit on at B if required.



### BOTTOM HEAT FOR POTTED VINES.

Will you let me know the best way of managing my pot Vines, of which I have about three dozen two years old? I have no bottom heat, but a flue all round the house. Must I put the bottoms of the pots on the bare flue, or must I put a trellis under them? I wish to start them soon.—SAM SLICK.

[A couple of bricks set on the flue would do well for the pots standing on, leaving a space between the bricks. A large saucer on the top of the bricks would be advisable if water was not allowed to stand in it. Such vessels on the flue would also be useful in giving moisture before the Vines were broken.]

### GRAFTING ROSES BY THE FIRESIDE.

At page 171, Vol. XXIII., Old Series, of your Journal, Mr. Beaton states that Mr. Ruddock grafted Roses at his own fireside in March. Am I to understand that the Manetti stocks were really grafted while the roots were out of the ground, and do you consider such a safe practice? If so, is March a better season than any time during the late autumn or winter months—say at the present time?—B. W.

[Mr. Beaton repeated the tale from Mr. Ruddock's own account of the experiment. They were Manetti stocks, a lot he bought cheap at a sale. He grafted them by the fireside, and then planted them, and hardly lost one out of a hundred. You may give credit to its being a safe practice. March and April, in our latitude and climate, are the natural season for grafting all deciduous plants; and the autumn, and on to the new year, the most unnatural. That is thus accounted for: In the spring the sap is fast rising, and no time is left for the cuts to dry, but to unite by their edges. In the autumn and winter there is no perceptible rise of sap, or of growth "acting in" for months, and to graft when no means of healing or uniting is provided is just like grafting the wrong end of the stock. But gardeners often turn the autumn into spring, and graft and work accordingly. They cause their Vines to bud and blossom in the dullest months, and the Rose they bud and graft every week the whole year round—that is, they force the plants; and when once the Rose is under that natural impulse, the effort to grow and extend itself, it may be grafted or inarched, layered or budded,

no matter what the time of the season may be; but it will not do to graft Roses now, unless they are in a climate of from 50° to 60°, and kept so till the grafts have taken.]

### VINES IN A PLANT-STOVE.

A Reader having a stove 24 feet by 12 feet, well filled with good plants, will be glad to be informed whether ten Vines just purchased should be planted in a border outside the stove, taken through a brick wall 3 feet high, and trained on the spur system between the sashes? or should they be planted in pots, some of them trained between the sashes, and some on stakes in the pots? As a hot-water pipe (one of four) goes very near the brick wall, would the Vines suffer if exposed on the outside of the wall till near the coping? Would the heat required for the stove plants be hurtful to the Vines when resting in winter?

[Ten Vines would so crowd the roof of such a house in summer when once established, that you could hope to do nothing below them then with plants. There is in No. 84 a sketch of a double glass front for a house where the Vines could rest in winter, and be perfectly safe. Supposing you planted the half of your Vines outside, or say six out of the ten, and brought them in not through the brick wall but over the sill, you could place a small box with three sides and a top over the stems of the Vines, and could protect the stems there in winter. If part of that covering were glass, so much the better; and if there were some openings in the front wall, so as to shut and open at pleasure, the Vines might be gently excited before taking them into the house. Common frame-lights not used for the winter would do laid lengthwise. If you have any doubt about these modes, there need be none about growing the Vines in pots inside. The pots can be put in when desirable; and if a moderate crop is taken, the pots, when the wood is ripened, may be plunged in a shed before they are wanted.]

### REV. MR. BUSHBY'S VINERY.

As an encouragement to amateurs, we have much pleasure in chronicling Mr. Bushby's success in a vinery of very simple pretensions, but so managed as to give profitable returns to that gentleman and his family for a portion of the year.

This gentleman is at the head of the Episcopalian Church at Dalkeith; and mainly at Mr. Thomson's suggestion built a span-roofed vinery, about 25 feet long by 16 feet wide, which has produced, ever since it came into bearing condition, an excellent crop of Grapes, more especially the last two seasons. When we visited it some fortnight ago, there were some very good samples of Muscata yet remaining uncut; indeed, from that very house were cut the Muscat Grapes that took the prize in the open class at the Dalkeith Exhibition. The one side of the span is devoted to Black Hamburghs and the other to Muscata; and there were evidences enough remaining to show that such a house, so managed, is no more a luxury in the general acceptation of the term than the simplest fruit trees in the garden. Such a house as his could be built for £50; and if he was sending the produce of it to the market, it would pay very good interest for his money.—J. A.

### GREENHOUSE FERNS.

IN answer to "RUSTICUS," we believe that many of the tenderer Ferns are harder than is generally supposed; but many that would stand uninjured a good amount of cold will not endure a dry parched air, nor yet dryness, nor a soaked soil at their roots. Of the list you give, *Adiantum cuneatum* and *pubescens*, *Asplenium bulbiferum*, *Doodia cusdata*, and *Pteris rotundifolia*, will stand in a cool greenhouse, though the fronds may be a little injured; but the fresh ones will come up vigorously enough. We do not think you will succeed so well with *Asplenium lucidum*, *bulbiferum*, and *lanceolatum*, *Gymnogramma ochracea*, *Polypodium pectinatum*, *Pteris longifolia*, and *hastata*, if they just get the common treatment of the house. The last two are pretty hardy, and, perhaps, the *Gymnogramma* is the tenderest. To make sure of these, we would keep them together at the warmest end of the house, and, if convenient, place a hand-light over them, or make a small wood case or box, and cover either with moveable squares of glass, or even a piece of glazed calico,

that could be put off in fine, mild, dull weather, and put on when cold at night or extra bright during the day. The pots should also be plunged in moss that had previously been soaked in hot lime water to set all slugs, &c., adrift. With such a contrivance we believe you will succeed, if the average temperature of the house at night ranges from 40° to 45°. In watering, use water about 60° to 70°; but it will be safest to keep the moss rather moist.

Attention to these minutiae will explain why the *Trichomanes radicans*, &c., that grow at Killarney, under the canopy of heaven, requires to be protected by a bell-glass, when kindly treated indoors. This is always found in moist places, and often on rocks, considerably shaded, and where there is a constant trickling and vapour from water. To cultivate it successfully, the roots, slightly covered, must not only be moist, but the air in which the fronds grow must also be moist, and the air well changed. In "A Few Days in Ireland" sketches, which, in answer to many inquirers, we may say will presently be resumed, you would notice what fine specimens were grown by Mr. Bain, at Trinity College Gardens, by attending to these conditions, and also how well these plants thrive at Mr. Bewley's, under Mr. O'Brien's care, in houses for the purpose, and in glass cases—such as a beautiful one in a parlour window. The glass or the box enables us to give the conditions in a small space. All the tenderer hardy kinds will do best in a cool greenhouse. A list of the hardier exotic kinds will ere long be given. We shall publish a volume on Fern culture next spring.

### SMALL FURNACE FOR GARDEN STRUCTURES.

ABOUT eighteen months ago I wished to heat some small frames with flues instead of manure, and, preferring to do all I can by my own head and hands, I set to work to build a small furnace. Having neither fire-door nor ash-grate by me, I determined to devise something that should answer the same purpose. I accordingly built up the furnace of bricks and cement, leaving a square hole at the top to feed through, and over which, as a cover, I placed an old piece of sheet-iron about a quarter of an inch thick. As to the ash-grate, I secured the two portions of a broken iron bracket in the brickwork, and on them laid a moveable piece of strong iron wirework. Judge of my surprise at seeing in my this-week's Number an almost exact representation of my handiwork! The sole differences were that, as my cover was only about 7 inches by 5 inches, I had to build my furnace to correspond, that the ash-place fronts the flue, and that I have not indulged in the luxury of an attached iron handle; a trowel point doing duty for the same. I have only to add that it heated perfectly 18 feet of two-inch metal pipe (I have now brick flues), will keep alight for ten or twelve hours without any attention, and costs very little to make. It will, I think, burn anything: cinders, and occasionally small coke, being my fuel. A common brick placed before the ash-pit abates the draught, and makes the fire steadier.

The singular coincidence may, perhaps, excuse my troubling you with this letter.

The furnace is outside the frames. I almost think it would suit "H." and others.—L.B.

### GREENHOUSE FOR WINTERING PLANTS.

As I am strictly an amateur, and do not get home before half-past five, my cold frames often suffer. To-day (Nov. 12th), the frost was severe at nine A.M. when I left, and now, at noon, the sun has great power.

I purpose to build a pit 20 feet long by 11 feet wide against a wall 4 feet 6 inches high, and to double-glaze it; in addition I shall have a stout canvas roller-blind to cover all, and this, by keeping the divisions between the sashes deeper than usual, will be kept a few inches from the glass. The entrance will be at the east end: at the west I have a brick wall. As it is at the further end of my little reserve-garden I do not want the trouble of any night fires. The roof will ventilate like an ordinary old-fashioned greenhouse, and under the front sill I shall have a line of ventilators 4 inches or 5 inches deep. Will this suit to keep a stock of standard Fuchsias for bedding, *Veronica speciosa* and *variegata*, *Hydrangeas*, *Rhododendrons*, *Roses*, *Tritomas*, *Genistas*, &c.? I fear the spring growth of the Fuchsia will get frosted. I think of leaving earth banks and cutting-out the pathway; if so, I shall

plant many of the bedders (half-hardy) in the banks to save potting, &c. On the front bank I shall plant-out *Calceolarias*, Parsley, *Vinca major variegata*, &c. In summer, as the sashes will be moveable, I can cover with tiffany, and get a very useful corner.

I often wonder *Veronica speciosa variegata* is not more used in bedding arrangements, it is a very pliant and very pretty variegated plant.

Is *Vinca major elegantissima* hardy? I have taken the trouble to pot and house about six dozen.—H. B.

[There is a great difficulty in meeting such cases where there is no one at home to give air or to throw a little covering on in a keen frosty afternoon. As respects the plants you mention, they would be safe in the pit, as the double glass would prevent sudden extremes inside. But after the plants began to grow in spring they would require more watching, and the canvas might want regulating before you returned. We think that for any particular thing your pit, 11 feet wide and 4½ feet at back, will be very flat, more especially if the front wall is high enough to enable you to give air by it. You will be likely to have damp and drippings from the glass. As you want no fires, that settles the question; but, approving of your double glass, we think a small brick stove in the centre at the back would save much nicety in covering, and save you from hurrying home. For instance: after a frosty night, a little fire in the morning would enable you to give a little air before leaving; if there was much sun it would secure safety, if not much there would be no harm, and the heated bricks would keep all safe until your return.

The *Vinca* is pretty hardy. We have not tried the *Veronica*. You must have a fine stock.]

### POINTS OF MERIT IN GRAPES.

I AM very pleased such an authority as Mr. Thomson, and several other correspondents, have commenced a discussion as to the relative merits the different points should bear in Grape-judging. I hope the *pro* and *con*. will be so well given by all who, like myself, like to see a good dish of Grapes, and the best to stand first at the exhibition, that a good basis may be formed for future Grape-growers and exhibitors. I saw the other day at a local show, Red—i.e., Black Hamburgs, supersede jet Black Hamburgs, because the berry and bunch were one size larger than the black ones: thus making size the premier quality. I then thought the Judges did not know their duty, but must suspend my opinion if Mr. Thomson is right with colour so low on the scale. It is very seldom in Hamburgs and Muscats but that good colour and flavour go together; but bad colour and indifferent flavour accompany each other often. From these premises imagination through the eye has to be pleased on the exhibition table, and the eye as well as palate on the dessert table. I would place their points thus:—Colour, 3 points; size and evenness of berry, 2 points; size and proportion of bunch, 1 point.

One of your correspondents would take the flavour test from Melons nearly away; but, as all gardeners of experience know it is harder to grow a good-flavoured Melon than a large, handsome one, the flavour test ought very much to predominate.—J. A., *Hants*.

In your Number of the 11th inst., three different individuals apparently well up in the art of Grape-growing, as well as that of Grape-judging, seem to differ so much in their opinion as to the best method of settling the vexed question raised by your worthy correspondent Mr. W. Thomson, that I fear after all that may be written on the subject much will have to be left to the discretion of the judges.

But, in order to satisfy exhibitors, I think the time has really come when Grapes must be "tasted," as well as "looked at," and I am sure that judges carefully selecting a few berries from each bunch of Grapes, such bunches would not be disfigured to any serious extent; and, therefore, it is only to be understood by exhibitors that flavour is to be an essential point with the judges, and the decision in most cases will be satisfactory.

All who do not think that a plea of necessity may be urged in favour of flavour being an essential point in judging fruits, such persons should study the decisions of the Fruit Committee of the Royal Horticultural Society, and they will find that flavour with the majority of the Committee is the most important point.

And if so in committee, why not at the regular shows or exhibitions?

If your correspondent "J. B. W." had asked why Melons, Apricots, Peaches, Plums, Apples, Pears, and other fruits that might be named, were invariably tested by flavour, and not Grapes, he would have been nigher the mark.—A LOOKER-ON.

### THE RIVINA LEVIS AND CALLICARPA PURPUREA AS DINNER-TABLE PLANTS.

The following description of a very beautiful dinner-table plant, which we so much admired at Shrubland Park, is kindly given by Mr. Blair's own pen.

"The *Rivina levis* to which you refer is a very pretty thing, and is an acquisition as an ornamental plant for dinner-table decoration. Its small white flowers are not showy, but the berries, which might be mistaken for Red Currants, hang in graceful bunches all over the plant. It is propagated by seeds, which are produced in abundance, or by cuttings in the usual way.

"Supposing cuttings to be rooted, or seeds sown in August or early in September, they will make good plants the following season. As soon as the young plants are 2 inches or 3 inches high, take off the top, and as they increase in size shift into larger pots. Pinch off the joints as they grow, and keep them near the glass in order to make bushy and compact plants. Syringe gently in the afternoons of fine days, and keep a moist atmosphere. They succeed in a pit or intermediate-house, and grow well in peat, loam, and sand. After the berries drop a few of the old plants may be cut down, stored away, and kept rather dry until February, when they may be turned out of their pots and repotted into smaller ones, in which they soon root freely. When ready they can get another shift into the size required."

That which attracted my attention at Hardwick House is, according to a letter just received from Mr. Fish, the *Calli-carpa purpurea*, and Mr. Fish kindly adds—"That seed of this beautiful plant may be sown at any time, and should be grown in a temperature of about 60°. The more light it has the more berries it will produce, and if kept clean the leaves are also pretty."

I have no doubt that by sowing at various times, as Mr. Fish does, plants of this may be had at almost any time fit for use, and in this plant we have beautiful fruit and foliage combined.

This is only one of the many plants which we "fished out of Mr. Fish's collection," and particulars of some others, perhaps, will be interesting when time permits.

The above-named will, I feel sure, stand in the foremost rank as fancy-fruit-bearing ornaments for decorating the dinner-table.—J. PERKINS, *Thornham Gardens, Suffolk*.

### DISTRESSED LANCASHIRE WORKINGMEN BOTANISTS.

I AM happy to say that my success has been beyond my most sanguine expectations. I can assure you I have had a busy time of it, but I never mind work if good is being done.

On Saturday the 15th inst. I paid a house-to-house visit to all the distressed botanists I could hear of; and I could "a tale unfold" that would draw a tear from many who rarely shed one.

I found all the botanists at home save one, and all the houses so clean that I could have eaten my dinner from the floor of them. I could tell you many anecdotes which would interest your readers.

In one house we found the father sitting reading, and the mother making two petticoats out of one that she had pulled off from herself to give her two eldest girls one each. To our question of "How do you find things now?" the father replied, "Well, thank God, I can get us something to eat, but we've not been able to buy any clothing for the last nine months; but I am thinking of trying to get our oldest girl into one of the sewing classes to get us a few clothes." When we told him I had some clothing tears started in the poor man's eyes, and several of the others shed tears when we told them we had some clothing for them. I may say that I never met with a more honest class in my life; for they that knew that we had some clothing to give away did not say they wanted things they did not want, but honestly told us what they were most in need of, and the kind donor had never a more grateful class of recipients.

One man with a wife and five children told us they did not want any clothing, but could do with something more to eat than they had; so we agreed to give them a little money in lieu of clothing.

I have received since I last wrote to THE JOURNAL OF HORTICULTURE from "A Clergyman's Widow," 2s.; from "Lex" for Ferns, 10s.; "Patelin," 10s.; from Lady Hawke, £1 10s.; from the Rev. B. B. Major, Rugeley, £1 1s. for Mosses; from Dr. Bull, Hereford, £1 12s. for Mosses; from Mrs. Ham Wood, Hoolo House, Chester, £3 for stockings, clogs, &c.; from Henry Dean, Esq., of Appleton House, Warrington, £1 for Ferns, Mosses, &c.; "W. P. C.," 16s.; "N. B.," 10s.; and "A Grub-catcher" sends his mite to Mr. Hague's fund, 5s. I have handed the last sum to John Kinder, of 47, Charles Street, Ashton-under-Lyne; and Michael Ward, of Mary Street, Dukinfield, Cheshire. They are two working men who collect butterflies, moths, &c., and are in great need at present. They desired me to say to "Grub-catcher" that they would be happy to make him a return or present of butterflies or moths if he would be kind enough to send his address. They would send him any of the northern things they have by them, or would be glad to supply to other persons anything they have with duplicates. These men have not studied botany and entomology for the sake of pence, but for the love of the sciences; and one of them told me he would very nearly as soon part with his bread as his specimens if it were not for his children. I know it to be a fact, that some of them have travelled hundreds of miles to procure what they have.

I have £5 in hand to buy clogs, stockings, &c., with for the distressed families, and I will try to execute my commission to-morrow in that respect.

I shall send the lady who sent me the clothing for these poor distressed botanists all the receipts from each family, and in the name of these humble but honest votaries of science, I have to thank all the ladies and gentlemen who have kindly taken or ordered quantities of Mosses and Ferns, and they will ever feel a debt of gratitude to those who have so generously sent donations for their relief.—JOHN HAGUE, 36, Mount Street, Ashton-under-Lyne.

#### ENTOMOLOGICAL SOCIETY'S MEETING.

THE November Meeting of the Entomological Society was numerously attended, the chair being occupied by the President, F. Smith, Esq., of the British Museum. The exhibitions were numerous and interesting, and the donations to the library included the publications of the Royal Academy of Bavaria and Stettin, the Canadian Natural History Society, the Linnæan Society, Society of Arts, &c., together with Mr. Reading's "Catalogue of the Lepidopterous Insects of Devon," and Mr. Stainton's "Entomological Botany," reprinted from the "Zoologist."

General Sir J. B. Hearsey exhibited drawings and specimens illustrating the transformations of *Smerinthus denticulatus*, an Indian Moth belonging to the family Sphingidæ, the caterpillar of which is armed with a strong horn on the front of the head, in addition to the usual caudal appendage. The former horn is cast off at the last change of skin during the larva state. He also exhibited some stems of *Oelery*, the leaves of which had been infested by the mining grub of a small two-winged fly belonging to the genus *Tephritis*, of which an account of the transformations, with figures, had been published by Professor Westwood in Loudon's "Gardeners' Magazine."

An interesting collection of leaves of various trees and plants, carefully preserved, and showing the attacks of the larvæ of various species of Microlepidoptera and Diptera, which had been presented to the Oxford University Museum by Mr. S. Stone, of Brighthampton, was exhibited by Professor Westwood, who also made some comments on a paper upon the genus *Acentropus*, recently published by Mr. Newman, reiterating the grounds on which he had founded his opinion that the insect in question belongs to the order Lepidoptera; and referring to the report of his paper read at the British Association at Oxford, in which the transformations of the genus were proved to be those of the order Lepidoptera, and not of the Trichoptera, the distinctive character of which had been overlooked by Mr. Newman.

Mr. Stainton exhibited bred specimens of *Bactra uliginosa*, belonging to the family Tortricidæ, a species which differs from the majority of that family in being double-brooded, the summer brood differing considerably from the autumn one in the marking of the wings. The larvæ had fed on *Lythrum salicaria*. He

also made some remarks on a paper on the genus *Nepticula*, published by Herr von Heinemann, in which ten new species were described, and in which some interesting observations were made on the moulting of the larvæ; the short duration of the larva-state, especially in the summer; and the modification in the arrangement of the wing-veins, forming three sections in the genus.

Mr. F. Bond exhibited, on the part of Dr. Knaggs, some bred specimens of *Lithosia caniola*, together with a drawing of the larvæ. It was stated that the egg-state lasted ten days, and the larva-state ten months, during which time the insect changed its skin forty times! Also a remarkable specimen of the Death's-head Moth, *Acherontia atropos*, in which the wings on the left side were singularly crippled.

A monograph on the handsome species of Beetles forming the genus *Cataseopus*, belonging to the family Carabidæ, was read by W. W. Saunders, Esq., F.R.S., in which not fewer than thirty-five species were indicated, of which several brought from Sarawak, in Borneo, by Mr. Wallace, were described as new.

The injury committed upon Gooseberry and Currant trees by the larvæ of a species of Sawfly during the last two or three years, has attracted the attention of numerous observers, and specimens of the perfect insects, reared in Gloucestershire, were exhibited by the President, who considered them to belong to the *Nematus trimaculatus* of St. Fargean; the *Nematus ventricosus* of Vollenhoven's memoirs on the transformations of this family, translated in the "Zoologist," being regarded as a distinct species. In the instance in question, all the larvæ collected for observation proved to be females—a fact of some interest with reference to the economy of the species, and the possibility of its extirpation.

Mr. S. Stevens stated that the splendid insect described by Dr. Schaum at the September Meeting of the Society, under the name of *Scaritarchus midas*, had been published in August last by the Count de Castelnau under that of *Mouhotia gloriosa*.

Mr. G. R. Waterhouse read a paper upon certain British species of the genus *Quedius*, belonging to the family Staphylinidæ.

#### FORCING THE LILY OF THE VALLEY.

IN reply to "LILY OF THE VALLEY'S" inquiry, as to how long the plants are kept in the dark, I answer, Until they begin to show flower, which will be when the spikes are about 6 inches high. The inverted pots or boxes may then be removed, and, if dull weather, or if the plants occupy a shady situation, no further shading will be necessary; but, if bright sunny weather, and the plants are fully exposed, it will be proper to continue shading for a few hours every day—say from eleven A.M. to three P.M. for about a week longer.

The plants are thus gradually inured to full exposure to light. I need not remind "LILY OF THE VALLEY" that occasional waterings with tepid water are indispensable, as, when once fairly started into growth, they must on no account be allowed to become dry.

In my previous communication I recommended the second or third week in November as the best time to pot the tubers, and I still adhere to that opinion; but, in consequence of having been requested to have them in flower as early in December as possible, my first batch of tubers were potted on the 28th of October. After potting they were placed over the flue in a Vine-pit, every corner of which is at present full of bedding plants, and a little fire heat used occasionally to keep out frost and dissipate damp; the result of this treatment is, that they are now showing their flower-spikes, and, by the beginning of December, I expect they will be fully expanded.

I mention this merely to show that the Lily of the Valley can be had in flower prior even to Christmas; but I do not by any means recommend such practice to the attention of the amateur.

Of Crocuses, Snowdrops, and Hyacinths, it is unnecessary to speak, as these are not in demand here sooner than Christmas, or the beginning of the new year. A lot of each of the above were potted early in October, and the pots buried in a heap of half decomposed leaves, where they have since remained. On looking at them the other day I found they had pushed considerably, leading to the conclusion that the pots are now pretty well filled with roots, and ready to be introduced into a forcing-pit as occasion may require.—J. DUNN, Harrock Hall Gardens, near Wigan.

## CULTIVATION OF PEACH AND NECTARINE TREES.

HAVING cultivated the Peach and Nectarine for many years, in various soils and situations, with a success bordering upon perfection, I enter on the subject with no small degree of confidence. I commence with the border, one of the most essential points, and one too often mismanaged. Too frequently all that is thought necessary is to trench the borders to a good depth. The borders which I have prepared, and which have produced some of the most beautiful of fruit trees, were made in the following manner:—The width was 14 feet; less, I consider, will not do. In the bottom, through its whole width and length, was laid 15 inches of drainage, sloping considerably from the wall to the front, where ran a main drain to carry off superfluous moisture. The bottom under the drainage was perfectly smooth, in order to give the latter more effect. Where one end of the border is higher than the other, a cross drain must run from between each tree to the main drain in front, for effectual drainage is the greatest point; without it, it is impossible to grow fruit trees well.

The soil I have used is good friable loam, free from manure, not too light; indeed, a stiffish loam will be found to suit the fruit trees admirably, and in it they will flourish on the warm and comfortable bed of

drainage. The extreme depth of the soil for the border should not exceed 20 inches, and it should be allowed to settle thoroughly before the trees are planted. This is a point of no little importance, for if the trees are planted too soon, the settling of the border will cause them to be buried too deep.

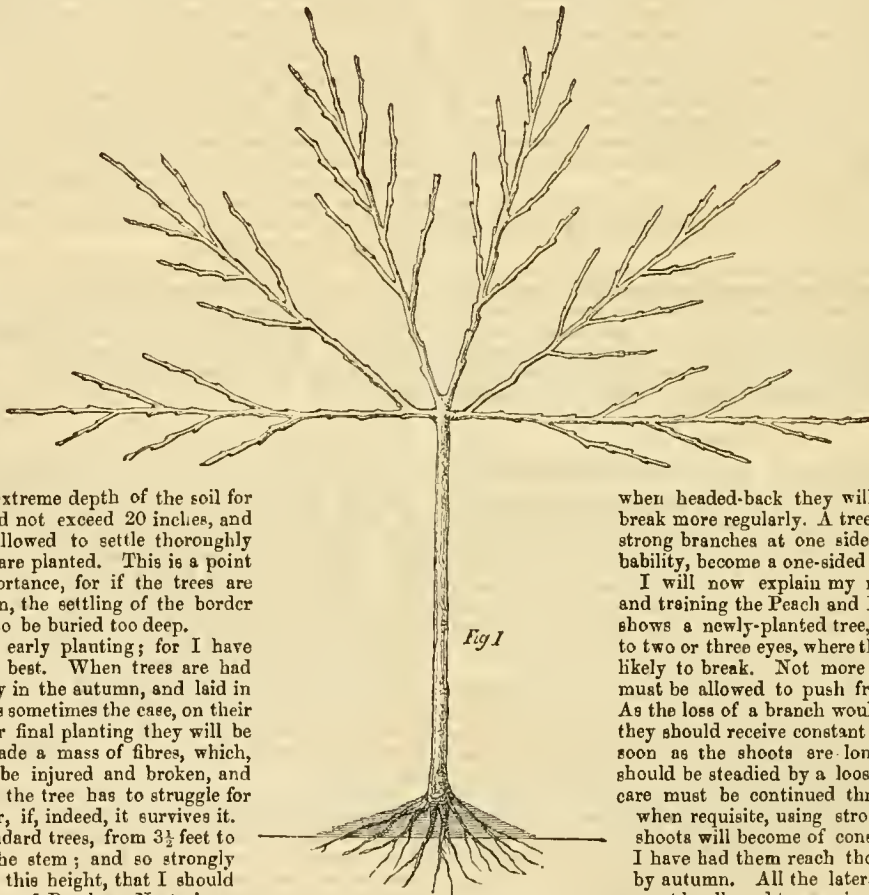
I recommend early planting; for I have always found it best. When trees are had from the nursery in the autumn, and laid in until spring, as is sometimes the case, on their removal for their final planting they will be found to have made a mass of fibres, which, of course, must be injured and broken, and against this loss the tree has to struggle for the first summer, if, indeed, it survives it. I prefer half-standard trees, from 3½ feet to 4 feet high in the stem; and so strongly do I recommend this height, that I should rejoice to see dwarf Peaches, Nectarines, &c., banished altogether from gardens. It is a well-known fact that the finest fruit is produced towards the ground. This being the case, the principal object must be to well furnish the bottom of the wall with bearing wood of good quality, and keep it so at all times. Seeing that half-standard trees, trained star-form (*fig. 3*), afford the greatest facilities for this object, their decided superiority to the dwarf fan-trained trees must be apparent, as in the latter case the more a tree has grown the more old wood there is along the bottom of the wall.

When the border has well settled down, it is fit for planting. The trees should be placed so as to have 3 inches or 4 inches of their roots above the ground level, as shown in *figs. 1, 2, and 3*. I invariably make it a rule to keep the neck of the trees two courses of bricks above what is to be the ground level, and, after planting, litter is put around each tree, so that they are well mulched for the first summer, and continue so until the following spring. If the summer should prove dry, they will require frequent and copious waterings. The following spring, whatever little remains, as well as the soil, among the forks of the roots

will require levelling down to the ground line (*fig. 3*), in which state the roots for the future are to be left exposed. Trees planted in this way will be found to flourish much better than if their roots are wholly covered. I plant about 12 inches from the wall, it being advantageous to keep a reasonable distance to prevent the stem getting sunburnt, which it is more than probable may happen if it is set close to the wall. Twenty-four feet apart is little enough for trees on a ten-foot or twelve-foot wall, and I have had them cover the whole of that space in four years from the time of planting, and produce the most abundant crops. So plentiful indeed have I had them in the third year after planting, that I have sent fruit to the hall table by the garden sieveful. Six years ago I saw some trees in excellent condition, which I had thus planted fifteen years previously.

I prefer two-year-old headed plants, with five or six branches

(such as *fig. 1*). The head should be clean and healthy, not over gross; the stems should be quite clean, straight, and healthy. Hide-bound, canker, or knotty stocks, and trees with large scars or with wounds in the head, should be rejected as likely to gum or canker. The branches forming the head should be, as nearly as possible, of equal strength, as



*Fig 1*

when headed-back they will probably then break more regularly. A tree with one or two strong branches at one side, will, in all probability, become a one-sided tree.

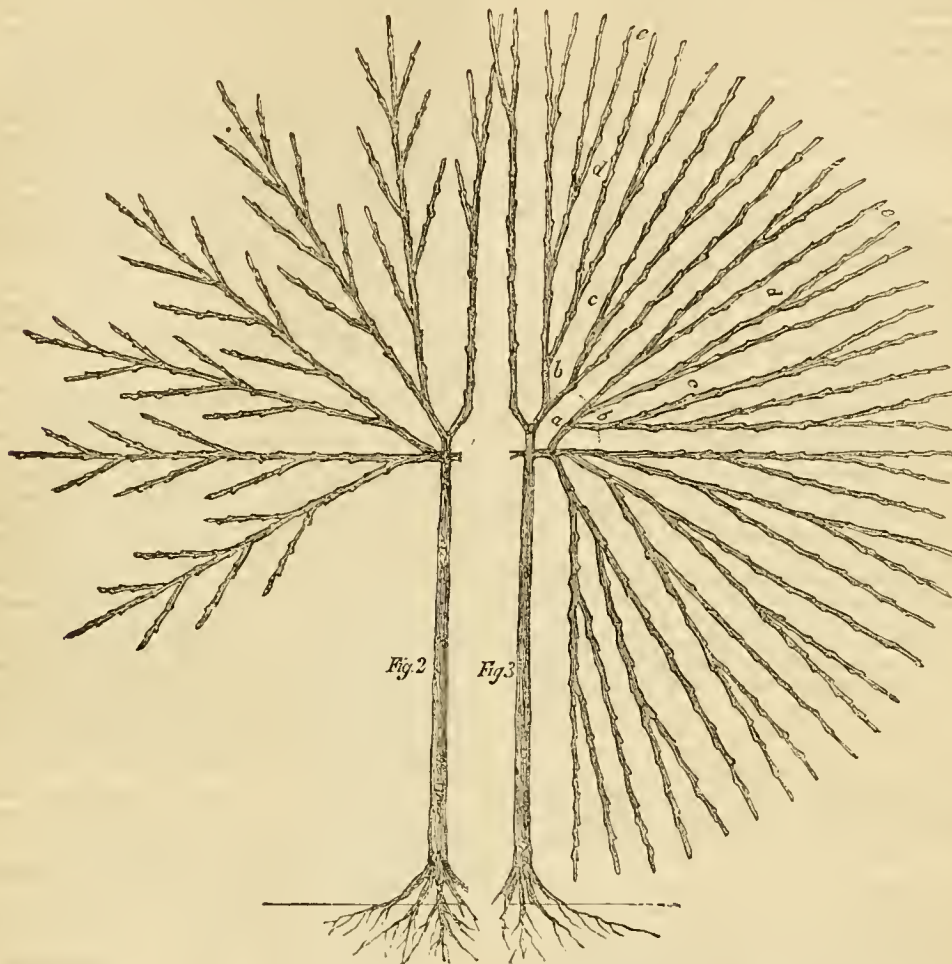
I will now explain my mode of pruning and training the Peach and Nectarine. *Fig. 1* shows a newly-planted tree, to be cut back to two or three eyes, where these appear most likely to break. Not more than two shoots must be allowed to push from each branch. As the loss of a branch would be irreparable, they should receive constant attention, and as soon as the shoots are long enough, they should be steadied by a loose shred, and this care must be continued through the season when requisite, using strong shreds, as the shoots will become of considerable weight. I have had them reach the top of the wall by autumn. All the laterals they produce must be allowed to remain, and the stronger ones tacked to the wall to prevent their

being broken by strong winds. The tree, after its season's growth, will have become such as is shown at *fig. 2*. Notwithstanding the size and strength of wood, it must be again cut back to three or four eyes, according to circumstances; and when the shoots break the following spring, select the two best shoots from each branch, and such as lay well to the wall. (These two first-year's prunings are shown at *a* and *b*, *fig. 3*). As vigorous shoots will, or ought, now to make their appearance, they will require extreme care in nailing, for they are easily broken off, and the loss of a branch now would be of the most material consequence. I recommend tacking loosely as soon as the branch is long enough, and to lay it close to the wall as soon after as possible.

The tree will now begin to acquire the form shown at *fig. 3*. Where the spring growth has attained 6 inches or 8 inches in length, the shoots are to be topped for the first time, as shown at *c*. In stopping, bear in mind that it must be done as soon as the young branches are of the required length, in the very soft

tissue of the points of the shoots, for if the latter are allowed to elongate, and are afterwards topped-back in the solid wood, they will not again break freely. In this system of training, this apparently simple point must never be forgotten. The shoots which now break out will be still more liable to break off than the first, if not carefully nailed to the wall. At this and the succeeding topplings, it is more than probable that more branches than are wanted will make their appearance; two or three more than necessary should be suffered to remain until those that are

required are secured, when they must be removed. The growth of the shoots will now be found so rapid as to require almost daily attention in nailing and training. Again, when this growth has attained from 10 to 15 or 18 inches, the shoots are to be topped. It is impossible to prescribe any special length, as much will depend on the strength of the shoots what direction they take, and the general formation of the tree; this topping takes place at *d*. The same care and attention as before must now be paid to the new shoots, and when they have grown an



equal length they are to be topped again (at *e*). Some trees will be more vigorous in growth than others; but many will require a fourth topping. This I have had to do frequently, and in the following spring had firm well-ripened wood, that cut more like a piece of Oak than what is generally seen as Peach wood, and the trees were well filled-in with bearing wood. Whilst these various topplings are going on, there are, of course, many vacancies in the trees, which I take for granted are filled up with weaker branches at full length, that the trees may be completely

furnished with fruit-bearing wood; and instances will also occur (as seen in *fig. 3*) where it will not be necessary to lay-in more than one shoot at the regular topplings of some of the branches, yet these vigorous branches will require to be topped to bring them into a bearing state. The Peach and Nectarine are the only trees which will submit to this system of summer pruning on the wall; the Apricot and others will not.—THOMAS HATCHER.—(*Gardeners' Magazine of Botany.*)

#### PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

**BERBERIDOOPSIS CORALLINA** (Coral-flowered Berberidopsis).—*Nat. ord.*, Berberidæ. *Linn.*, Enneandria Monogynia. Native of the forests of Valdivia. "One of the most beautiful hardy shrubs introduced of late years into this country." It is interesting botanically also, "completely uniting the orders Berberidæ and Lardizabaleæ, and fully justifying their union into one order." Stalks, perianths, &c., of the flowers all scarlet.—(*Botanical Magazine*, *t.* 5343.)

**RITCHIEA POLYPETALA** (Many-petalled Ritchiea).—*Nat. ord.*,

Capparidæ. *Linn.*, Polyandria Monogynia. Stove shrub from Abeokuta in Western Africa. Flowers white.—(*Ibid.*, *t.* 5344.)

**ARISTOLOCHIA GIBERTII** (Gibert's Aristolochia).—*Nat. ord.*, Aristolochiæ. *Linn.*, Gynandria Hexandria. "A fine, free-growing, tropical climber." Native of woods at Assumption, in Paraguay. Flowered in September, but its leaves are its best ornament.—(*Ibid.*, *t.* 5345.)

**HIGGINIA REFULGENS** (Shining Higginsia).—*Nat. ord.*, Rubiacæ. *Linn.*, Tetrandria Monogynia. It has been called also

*Campylobotrys refulgens*. Believed to be from South America, introduced by Mr. Bull, nurseryman, King's Road, Chelsea. Flowers crimson.—(*Ibid.*, t. 5346.)

*PANÆTIA LESSONII* (Lesson's Panætia).—*Nat. ord.*, Compositæ. *Linn.*, *Syngenesia superflua*. This only species in the genus is a native of King George's Sound. Flowers yellow, retaining their colour when dry, and, consequently, belonging to what are popularly called "Everlastings." Imported by Mr. Thompson, of Ipswich.—(*Ibid.*, t. 5347.)

*OPHIOPOGON SPICATUS* (Purple-spiked Snakes-beard).—*Nat. ord.*, Ophiopogonæ. *Linn.*, *Hexandria Monogynia*. It has with the same specific name been included in the genera *Convallaria*, *Liriope*, and *Fluggæa*. It is really a liliaceous plant. Leaves long and grassy; flowers bright purple blue, in a long spike. Native of China and Japan. Bloomed in a cool greenhouse at Kew, in October.—(*Ibid.*, t. 5348.)

GOLD-BANDED LILY OF JAPAN (*Lilium auratum*).—This has already been noticed frequently in our columns.—(*Floral Mag.* pl. 121.)

WHITE-MARGINED CLARKIA.—A very pretty free-flowering variety of *Clarkia pulchella*. It has pink, white-margined petals, and was raised by Messrs. Carter, Seedsmen, High Holborn, at one of their Essex seed farms.—(*Ibid.*, pl. 122.)

GLADIOLUS MR. J. W. LANE, raised by Mr. Standish, of the Bagshot Nurseries, and is named after a very successful florist in Ireland. Colour bright crimson red.—(*Ibid.*, pl. 123.)

ACHIMENES MAUVE QUEEN.—The name announces the colour of the flower. It was raised by Mr. Parsons, gardener at Danesbury House, Welwyn, Herts, "who has done more for the improvement of this flower than any other English grower." It received a first-class certificate from the Floral Committee of the Royal Horticultural Society.—(*Ibid.*, pl. 124.)

RHODODENDRON PRINCESS ALICE.—A cross between *R. Edgworthii* and *R. ciliatum*. Exhibited by Messrs. Veitch & Son, of Exeter and Chelsea, receiving a first-class certificate from the Floral Committee of the Royal Horticultural Society. Flowers white.—(*Florist and Pomologist*, i, 161.)

LADY DOWNE'S GRAPE.—This member of the Black Hamburg family, has for some years had a high local reputation in Yorkshire, but it was not brought into general notice until adopted for exhibition by Mr. Hill, gardener to Ralph Sneyd, Esq., Keele Hall, Staffordshire. "A very valuable Grape; as a late-hanging variety, perhaps, unsurpassed by any other."—(*Ibid.*, i, 168.)

## NEW BOOK.

*Flora Capensis Medicæ Prodromus, Second Edition. Synopsis Filicum Africa Australis. Silva Capensis, Second Edition.* London: Ward & Co., Paternoster Row. Cape Town: W. Brittain.

THE above pamphlets are by Dr. L. Pappé, Colonial Botanist and Professor of Botany in the South African College, aided in that relating to the Ferns by the Hon. Rawson W. Rawson; and we welcome them not only on account of their merit as good contributions to our knowledge of plants and their whereabouts, but on account, also, of the information they give relative to the economic and medical uses of the vegetable products of the colony.

No one can so readily obtain information concerning the medical properties of the plants of a foreign land, as he who mixes with its inhabitants and seeks from them that desired information. Such information is the result of experience accumulated during ages, and handed down by that best impresser on the memory from generation to generation.

The "Prodromus" is a faithful record of the accumulated results of experience; for Dr. Pappé says in its preface, "There are Cape plants of unquestionable worth which I have not enumerated, because they are not actually employed by the inhabitants." That the experience of the natives has led to information not generally diffused in Europe, is testified by many of the pages we are now turning over. Thus it is stated of *Pelargonium scutatum*, that it is "the Kafir-sorrel (Kafir-zuring) of the colonists. The sap of its leaves is astringent and antiseptic, and of good service in aphthæ, sore-throat, &c. The juice of its petals produces a blue colour of the tint of Indigo, and may, according to Burchell, be used advantageously in painting. It is very common in many parts of the Eastern districts."

As another example we take *Arctopus echinatus*, on which Dr.

Pappé remarks:—"This plant, the Platdoorn or Ziekte-troost of the Boers, is one of those few indigenous remedies which, from the very establishment of the colony, have been constantly used by its inhabitants. At that early period, the European settlers, being often without their necessary stock of medicines, had to learn from their Hottentot neighbours, who held this plant in great esteem. It is demulcent and diuretic, and somewhat approaches the *Sarsaparilla*. The decoction of the root is the general form under which it is prescribed in lues, lepra, or cutaneous chronic eruptions of all kinds. It also furnishes a sort of resin, which is easily procurable by making incisions into the root while it is fresh. It has been shown from chemical experiments, that the root of this plant contains an alkaloid, which, combined with acids, assumes the form of neutral salts. Thus the *Arctopium sulphuricum* consist of small, scaly white crystals, which are astringent in taste, and which in half-grain doses, produce coagulation of the saliva within the mouth."

We will pass over the "Synopsis Filicum," because, although it contains good descriptions of 161 Ferns found in Southern Africa, yet there is nothing of particular interest except to the botanist; but this observation will not apply to the "Silva Capensis," containing as it does the descriptions of 102 trees and arborescent shrubs of South Africa, with the uses to which they are applied by the natives and colonists.

Dr. Pappé visited the primeval forests of the country and procured specimens of the woods of those trees and shrubs, forming the most complete collection hitherto made, and the specimens are now deposited in the Museum of Economic Botany at Kew.

As an example of the information, we extract, without need of selection, this note upon the uses of *Pteroxyylon utile*:—

"A tree, from 20 to 30 feet in height, and 2-4 feet in diameter. The leaves have some resemblance to those of *Acer pseudo-platanus*. The wood is handsome, takes a fine polish, is strong, durable, and somewhat like Mahogany. It is used for various kinds of furniture and agricultural utensils. Being little affected by moisture, it serves as a desirable material in the construction of bridges and mills. From the fact of its producing violent sneezing when sawn or otherwise worked at, it has received the name of Sneeze-wood. It is also said to ignite readily, even in its green state, and is the *Omtata* of the Kafirs. Common in the forests of the eastern districts. Fl. October."

In every instance, in all the pamphlets, a concise but efficient botanical description of each species precedes the notes relative to its uses, of which we would give more extracts relative to the trees if there were not an appendix, entitled "Contributions to the South African Economic Flora," from which we must make numerous excerpts.

"*I. Aberia caffra*.—A shrub or middling tree, and native of Caffraria Proper. The fruit (*Kei-apple*), having the size and appearance of a large Plum or small Apricot, is of a sourish taste but edible, and makes good preserve.

"*Adenogramma galioides*.—This little herb, the Mugge-grass (*Gnat-grass*), of the colonists, which during the wet season occurs abundantly, is regarded as superior fodder for cattle, which fatten when feeding upon it.

"*Asparagus larinicus*.—The young succulent shoots of this and several other wild species of *Asparagus* furnish a most excellent dish; they have an aromatic taste, and are preferred by many to the European kind cultivated occasionally in Cape gardens. The diuretic property of *Asparagus* is well known.

"*Aponogeton distachyon*.—The root of this water-plant (*Water-ninjas*; *Water-Onions*), when roasted, is very palatable, and somewhat resembles the Chestnut in taste. Its flowers, which are highly scented, are eaten as Spinach, and used as pickles.

"*Andropogon Ivaaraxusa*.—The creeping fibrous roots of this grass have a peculiar and rather ferulaceous smell. By the name of *Akirwanie* they are known to most colonists, and serve as a preventive against the destruction of wearing apparel, &c., by moths and other noxious vermin. This grass is also very healthy and nutritious food for all kinds of live stock.

"*Annesorhiza capensis*.—The Turnip-like root of this umbelliferous plant is very nutritious, and has been used for many years past as food by the natives and colonists, who call it *Anise-root* (*Anys-wortel*). It is much improved by cultivation, loses its acid taste, and becomes a very good vegetable.

"*Cucumis africanus*.—This species of *Cucumber* (*Thorn Cucumber*), which is easily recognised by its prickly coat, inhabits the more remote northern portion of the colony. It supplies horses and cattle with a welcome cooling food in those dry and

dreary regions, and has found its way into the gardens of the colonists, who use it in the form of pickles.

*Cyperus textilis*.—A Rush, 2 feet or 3 feet high, which grows in marshy localities and in the beds of rivulets. From it baskets and mats are manufactured by the natives, who call it Mat-rush (matjesgoed).

*Elegia nuda*.—This useful Reed (Thatching-reed; Dakriet), covers the sandy tracts of a great portion of the Colony. Not only does it fix the otherwise shifting sand, but supplies the farmers with a most excellent material for roofing their houses.

*Emex spinosus*.—The young leaves of this herb, which belongs to the Sorrel tribe, are used as Spinach. They make a tolerably good dish, and are slightly aperient. The colonial name is Dubbeltjes-blären.

*Ficinia filiformis*.—On account of its elasticity, this Sedge is extensively used for stuffing beds, mattresses, &c. It grows in dense tufts, and is common in many parts of the Colony.

*Gnidia oppositifolia*.—The bark of the stem and larger branches of this as of all other Thymelææ, being exceedingly tenacious, is converted by the natives into a kind of very strong cordage or rope. It is the Kanna-bast of Hottentots.

*Grubbia stricta*.—The big, bulky roots of this shrub, which grows on the mountains of the Stellenbosch, Tulbagh, Caledon, and Swellendam districts, furnishes superior charcoal. Its fruit, which has the size of a peppercorn, is exceedingly hard and almost bony.

*Hermas gigantea*.—The thick, white, woolly integument of the leaves of this plant, serves the natives for tinder, and the women prepare from it very curious little fancy articles. The plant which grows on the mountains near Tulbagh, in Du Toitskloof and on the Kaudeberg (Clanwilliam), is known as the Tinder-bush (Tondel-blad).

*Hibiscus Ludwigi*.—The stems of this Hibiscus furnish superior fibres of great toughness and strength, resembling Jute or Manilla Hemp, and well adapted for the manufacture of cords, ropes, and similar articles. This plant, which is common in the George, Uitenhage, and Katrier districts, and known there as Rose-touw, deserves cultivation.

*Hydnora africana*.—This interesting and extraordinary plant, which grows parasitically on the roots of Euphorbia Tirucalli and other succulent shrubs, is one of the numerous discoveries made by Thunberg, who mistook it first for a Fungus. Its fruit, which, like that of the Earth Nut, is subterranean, has the form, size, and taste of a Potato. It is of a reddish-brown tint, thoroughly mealy; and when fried under the embers, very palatable. Some wild animals, and particularly the porcupine (*Hystrix cristata*), are fond of this fruit, which is called Kannip or Kaupim by Hottentots, and Jackals-kost by the Dutch Colonists.

*Moraea edulis*.—The mealy bulbs, commonly known as Uintjes (bulbs), are nourishing and somewhat approach Chestnuts in taste. In collecting them, it is necessary to have them dug up by persons sufficiently acquainted with the plant, and I have had an opportunity of cautioning the public elsewhere (Prodromus fl. med. Cap. p. 37), against the obnoxious properties of *Homeria collina* (the Cape Tulip), the bulbs of which had in one fatal esse been eaten by mistake for those of this plant.

*Moraea polystachya*.—In the Eastern districts this species serves the same purpose as the preceding. Its young leaves, however, are said to be unwholesome to horned cattle.

*Mesembryanthemum edule*.—The antiseptic virtues of this valuable plant are too well known to require comment. The fruit (Hottentots' Fig) has a pleasant, sourish taste and is eaten either raw or preserved, and used as sweetmeats.

*Osteospermum pisiiferum*.—The bony kernels or seeds are enclosed with an oblong berry-like fruit, which, though small, is eaten by the natives and called by them Biedouw-besjes. They are of a sweet taste and palatable.

*Oxalis cornuta*.—A weed, common throughout a great portion of the Colony, where it is known as the Wild Sorrell (Wilde Zuring). On account of their acidity, the leaves, mixed with other vegetables, are used for culinary purposes. The bulbs, eaten raw, are pronounced to be a good vermifuge.

*Pelargonium peltatum*.—The juice of the petals produces a blue colour of the tint of indigo, and may be advantageously used for painting; while the sap of the leaves is astringent and antiseptic, and of good service in ulcerated sore throat. The vernacular name of this plant is Kafr Sorrell (Kaffer Zuring).

*Penicillaria Plukenetii*.—The Pogo-grass of Caffraria and

Natal, from the grain of which the natives prepare an intoxicating liquor or beer.

*Physalis pubescens*.—Although this plant, the Cape Gooseberry (Appel der Liefde), cannot in the strict meaning of the word, be called indigenous, being a native of South America, yet it has become so common in this country, that it is found now in most shady localities, where it grows perfectly wild. The round fruit, a fragrant, smooth, yellow berry, of the size of a Gooseberry or Cherry, is agreeably acid and sweet, and very palatable. It is eaten either raw, or made into a delicious marmalade.

*Polygala myrtifolia*.—The grey bark of this shrub is used by the Mahomedans (who call it Langelier) for a particular purpose. It is scraped off when fresh with a knife or piece of broken glass, mixed with water, and stirred about until it scums. With this saponaceous preparation they are in the habit of washing their dead before interment.

*Prionium palmita*.—The bases of the macerated old leaves yield an abundant supply of strong, coarse fibre, fit for the manufacture of brushes and brooms. The rest of the leaves abounds in a more elongated and finer thready substance available for a variety of economic purposes. The young rootlets of the Palmiet furnish a good dish for the dinner table.

*Rubus pinnatus*.—The fruit of the Bramble or Black berry bush (Braambosch) ripens in the month of January. It is equal in flavour and taste to that of Europe. The roots are astringent, and used in the form of decoction against chronic diarrhœa, &c.

*Sorghum saccharatum*.—This hardy grass, the African Sugarcane, which abounds more or less in saccharine juice, is extensively cultivated by the Kafirs and Fingoes, who call it Imphee. The young shoots in particular are very sweet, and therefore chewed by these natives, while the mature grains serve them for the preparation of flour. Amongst the colonial farmers this plant goes by the name of Zeet Stronk or Suiker riet.

*Stapelia pilifera*.—The stem of this plant, which grows in the dreary wastes of the Karroo, is fleshy and of the size and form of a Cucumber. It has an insipid, yet cool and watery taste, and is eaten by the natives, who call it Gvaap, for the purpose of quenching their thirst. Infused with spirits, this plant is said to be a useful remedy in piles.

*Suhria vittata*.—The whole of this handsome sea-weed is soluble in boiling water, and transformed into a gelatinous mass. In the shape of jelly or blanc-mange it is usefully employed in pulmonary complaints, as a demulcent and nutritive.

*Trachyandra revoluta*.—The flower-heads of this plant, which thrives abundantly in the deep sands near the seashore, furnish a kind of culinary vegetable, which somewhat resembles Asparagus, and is known as Hottentot's Cabbage (Hottentot's Kohl). When stewed and properly prepared, they make no contemptible dish."

In conclusion, we recommend these three cheap pamphlets, for they are only 1s. 6d. and 2s. each, to be bound in one volume and added to the library as "Contributions to the Flora of South Africa."

## THE POTATO, AND ITS LEADING VARIETIES.

It affords me much pleasure, after a careful and studied investigation, to lay before you the details of the respective merits of the collection of Potatoes, comprising between fifty and sixty distinct varieties, exhibited by me at the autumn Exhibition of the Royal Horticultural Society of Ireland, at which they were recommended a special prize by the Judges, which was afterwards confirmed by the Council; as also at the Meath Horticultural Society's Show, held at Kells, county Meath, August 26th. Of the earliness of many of the varieties I am at present unable to speak, in consequence of the delay encountered in procuring the seed, and thereby being precluded from subjecting them to the same trial as varieties I had in my possession early in January. So important a deficiency, I am aware, is much to be regretted, as the early maturity of so valuable an esculent is a point that should particularly engross the attention of those interested in its culture. It is only by careful attention, and subjecting the different varieties to the same treatment, that we can arrive at the desired information. I do not hold myself responsible for the identity of varieties of recent introduction, as I give the names as I received them, and merely lay before your readers a statement with regard to their respective merits from my own experience of them. In the event therefore, of any error having incautiously crept in, I shall be most happy to find it rectified.

—JOHN C. MORRIS, *Oaklands, Sandymount, Co. Dublin.*

*American Earlies.*—Fine, rough-skinned, white variety, resembling in appearance the Regent Kemp, remarkably dry and well-flavoured; very fine cropper, and large size, and free from disease; very early; a first class Potato.

*American Ladies.*—Handsome, smooth-skinned, white variety, with eyes well set, round shape, and flat; abundant cropper; medium dry, and fair flavour, not subject to disease; late.

*Apples.*—A well-known red variety, with deep-set eyes somewhat resembling in appearance the Irish Cup; medium dry, and weak-flavoured; very productive, and free from disease; late.

*Arrowsmith's Seedling.*—Handsome, round, flat, smooth-skinned white variety; with well-set eyes, diffused with purple blotching; fine cropper, attains a good size, and free from disease; a variety of recent introduction; late.

*Ashleaf Kidney.*—Fine, smooth-skinned, long, white variety; most productive, very dry, and free from disease; one of the earliest.

*Ballygawley Pinks.*—Round pink variety; with deep-set eyes; very productive, remarkably dry, and possessing fine flavour; free from disease; late.

*Birmingham Prizetaker.*—Long, smooth Kidney, very dry, well-flavoured, and most prolific; subject to disease; early.

*Blue Ferts.*—Handsome, flat, smooth-skinned white variety, in appearance resembling the Early Wellington; eyes well-set, around which are diffused purple streakings; fine cropper, and free from disease; early.

*Chapman's Early Ashleaf Kidney.*—Very like Golden Drop, but rounder; very dry, possessing fine flavour; free from disease; very early and good forcer.

*Cheshire Pink Eye.*—In appearance not unlike the last; remarkably dry and well-flavoured; medium sized and fair cropper; free from disease; early.

*Cumberland Bangor.*—Long white Kidney; very dry, and well-flavoured; most abundant cropper; and attains a large size; subject to disease; early; a good variety.

*Daintree's Seedling.*—Fine, rough, thin-skinned, round, white variety; good cropper; remarkably dry and well-flavoured; free from disease and very early; a capital variety.

*Dalmahoy's.*—Round, rough-skinned, white variety, remarkably dry; a fine-flavoured, heavy cropper; medium size, free from disease, and very early; a first-class Potato.

*Deane's Early Prolific Kidney.*—Rough-skinned white variety; shape nearly round; medium size, abundant cropper; dry, well-flavoured, and free from disease; early.

*Early Handsworth.*—Round, rough-skinned (better adapted for forcing than general culture); medium size, and cropper; very dry and well-flavoured, and perfectly free from disease; very early.

*Early Wellingtons.*—Handsome, round, flat, smooth-skinned variety; surface blotched with pink streaking, resembling Arrowsmith's Seedling; very prolific, possessing good flavour, and free from disease; early.

*Early Radicals.*—Rough-skinned round variety; white, with pink eye; medium dry, yet well-flavoured; abundant cropper, and free from disease; early.

*English Reds.*—Long smooth-skinned variety; with eyes well set; attains a large size, very productive; moderately dry; weak flavour; sound; late.

*Flounders.*—Flat, round, rough-skinned variety; very prolific; attaining a large size; very dry, well-flavoured, and free from disease; a first-rate variety for early field culture.

*Forty Fold.*—Rough, red variety, medium size; very prolific, dry, and free from disease; early.

*Flukes.*—Long, flat, smooth-skinned white Kidney; medium dry; very productive, attaining a large size, and free from disease; late.

*Golden Drop Kidney.*—Long, smooth-skinned yellow Kidney; medium size, dry, and well-flavoured; abundant cropper and free from disease; early.

*Glory of England.*—Long white Kidney; similar in shape to Cumberland Bangor; very dry, and fine-flavoured; fine cropper, and attains a remarkably large size; slightly subject to disease, and very early; a first-rate table Potato.

*Golden Seedling.*—Handsome, rough-skinned, round variety, with well-set eyes; abundant cropper; remarkably dry and well-flavoured; free from disease; a first-class early Potato.

*Haigh's Seedling.*—Handsome, rough-skinned, long kidney-shaped variety, with well-set eyes; very productive, remarkably dry, well-flavoured, and free from disease; a fine early variety.

*Harbury Kidney.*—Handsome, smooth-skinned, white variety;

very long, rounder than the old Ashleaf; a first-rate cropper, dry, well-flavoured, and free from disease; very early.

*Irish Blacks.*—Round, with deep-set eyes; remarkably dry, and possessed of good flavour; very productive, yet subject to disease; late.

*Irish Cups.*—Round, light red variety, rugged, with deep-set eyes; very productive, fine flavour, and free from disease; late. A variety nearly extinct.

*King, The.*—Round, rough-skinned, white variety; medium size; fair cropper, moderately dry, and flavour middling; free from disease; early.

*Lancashire Hero.*—Round white Kidney; medium-sized and cropper; very dry, remarkably well-flavoured and free from disease; early variety.

*Lemon White Blossom Kidney.*—White variety, similar in appearance to the Oxhorn Kidney; small size and cropper; dry and free from disease; early.

*Mona's Pride.*—An improvement on the old Ashleaf Kidney in appearance; attains a large size; good cropper; not altogether free from disease; medium dry, possessing a weak flavour; very early.

*Myatt's Ashleaf Kidney (Prolific).*—Round white variety, good cropper, and medium size; remarkably dry, well-flavoured, and free from disease; a variety well known in the London markets for its earliness.

*M' Mullen's.*—Round white variety, with deep-set eyes; similar in appearance to White Rocks; good cropper; dry and well-flavoured; free from disease; late.

*Norfolk Wonder.*—Handsome, smooth-skinned, white variety, with deep-set eyes; abundant cropper; very dry and well-flavoured; attains a large size; slightly subject to disease; late.

*Orkney Reds.*—Long, smooth-skinned, purple variety, with well-set eyes; fine cropper, remarkably dry; flavour similar to Irish Blacks, and free from disease; late.

*Oxhorn Kidney.*—Long, narrow, smooth-skinned, white Kidney; rugged shape; medium size and cropper; not very dry; early.

*Pheasant's Eye.*—A handsome, round, rough-skinned variety, with purple eye, inclined to grow long; medium dry, very prolific, and free from disease; early.

*Pink Eye, Kemp's.*—Rough-skinned white variety; shape long, resembling in appearance the Regent, with handsome pink eye; medium dry; fair flavour; abundant cropper, and free from disease; very early.

*Pink Eyes.*—Handsome, smooth-skinned, pink-eyed variety; with deep-set eyes; very dry; of colour, pale when boiled; possesses good flavour; fine cropper, subject to disease; early.

*Perkins' Seedling.*—Round, rough-skinned, white variety, with well-set eyes; in shape like the Regent Kemp; most prolific, very floury and well-flavoured; free from disease; a good late variety.

*Primroses.*—Pale red smooth-skinned variety, with well-set eyes; medium round, very dry, and possessed of fine flavour; a good cropper, and free from disease; late.

*Red Martins.*—Round rough-skinned dark red variety, with deep-set eyes, similar in shape to the Black Cup; good cropper, medium dry, and good flavour, and free from disease; late.

*Red Irish Roughs.*—Round, rough-skinned, dark red variety; with deep indented eyes; medium dry, and weak-flavoured; not productive; late.

*Red Rocks.*—Light red, rough-skinned variety, with deep-set eyes; round; in appearance like the White Rock; remarkably dry and well flavoured; not subject to disease; late.

*Rylott's Flourball.*—Round, smooth-skinned, white variety; remarkably dry and well-flavoured, abundant cropper; medium size and free from disease; early.

*Shaw's Early.*—Long, smooth-skinned white variety; most prolific; very dry, and well-flavoured; attains a large size, and free from disease; very early.

*Skerry Blues.*—Round blue variety, with deeply-set eyes; medium dry; weak-flavoured, remarkably productive; attains a large size; free from disease, and will keep well; late.

*Soden's Early Oxford.*—Round, rough-skinned white variety, with eyes well set; very dry, and possessed of fine flavour; free from disease; well known for its earliness.

*Walker's Earlies.*—Very fine, rough-skinned, long white variety; very dry, and fine-flavoured; very heavy cropper, and remarkable for attaining large size; free from disease; for early field culture is unequalled.

*Webb's Imperial Kidney.*—Handsome, smooth-skinned, white

Kidney; grows very long, and attains a remarkably large size; abundant cropper, medium dry, good flavour, and free from disease; early.

*Wonderful Red Kidney*.—Handsome, light red, smooth, thin-skinned variety, abundant cropper; medium dry, fair flavour, and free from disease; very early.

*White Kemp's*.—Rough-skinned round variety; good cropper; moderately dry, flavour weak; free from disease; early.

*York Regents*.—Fine rough-skinned variety, with well-set eyes; remarkably dry and well-flavoured; fine cropper, and free from disease; early.—(*Dublin Agricultural Review*.)

### BALANCE OF BIRDS.

HAVING had an opportunity of reading most that has been said about small birds, I have no hesitation in saying that Mr. Robson, in the Number for October 7th, expresses more good, sound reasoning than anything said by any one I have read before, and which I think no one will deny that lives in a well-wooded country as I do; and as to how far he is right in the balance he has pointed out I think I can bear testimony from eight years' experience.

I will begin by stating that the estate where I am gardener is about 5000 acres, in a ring fence, with a walled kitchen garden of two acres in almost the midst of it. There are splendid timber trees all over the estate, immense game covers, woods, Ash-beds, and great hedgerows, even close up to the garden, and eight years ago there was no gamekeeper on the estate, nor for some years before—only some men that worked in the woods and about the place to look after the game at certain times. Consequently, there was no vermin-killer, and then and for three years afterwards, all around me there were lots of owls, white and grey, likewise hawks of three different sorts, stoats, weasels, and fitchets, and a cat or two at every cottage and farmhouse, and I always had three cats about the place, and sometimes more.

The white owls were very tame, and would come out in early evening and skim over the garden and all the adjoining fields, and up all the old hedgerows. They would come within 20 yards of me, and hunt all the place over like so many terrier dogs after the mice; and the consequence was, I had no trouble in those days to net anything but the Cherries, and by being up by break of day for a few mornings to knock over a stray jay or two among the Peas, I managed pretty well. I would rather have ten jays than three tomits.

Now, mark the difference. There has been a gamekeeper for these last five years, and there has been a regular war going on against my above-named friends. I cannot even keep a cat, neither have I seen but one cat in the parish for these two years, and I had but a glimpse of that one, for she was no more the next day. Well, the consequence is, that the small birds have had it all their own way for four years out of the five: therefore, the balance is lost, and to such an extent, that I cannot keep anything in the shape of fruit or Peas without nets, and hardly with, though I stand in the garden with a gun all day into the bargain; besides my Gooseberry trees were subdivided to such an extent, that I was obliged this year to grub-up thirty-five trees, and all the others were sadly damaged.

My worthy employer has been all for the protection of the small birds, but he began last year to see that it was being carried too far, and I got him in the humour to begin to restore the balance again, and we set to it in right good earnest. Early last spring we destroyed the blackbirds by hundreds, by taking all the eggs and young ones about the garden and shrubbery, and trapped, and shot, and caught in the nets all through the summer, and served the tomits the same; and up to the day that all the Currants, Gooseberries, and Peas were gone, the birds did not seem to be one whit thinner. There is a heavy load of berries on the Hawthorn this time, and we shall wage war against the blackbirds if it come hard weather.

No doubt I shall be called a most cruel fellow, but I cannot help myself. Only imagine having to net every row of Peas that is to be grown for a large family, and the destruction of nets, as the nets must be pegged down to the ground, up each side of the row, and that part is all rotten before the season is over; besides the time it takes to net and unnet every day to gather the pods. Then, all the finest and best of the fruit on the standard trees and others, which we cannot net, are spoiled by the tomits.

I had an excellent row of Champion of England Pea, not

15 yards from my cottage door this season. As my cottage is in the garden, they were not netted, as I had not a net out of use. They were attacked one Sunday afternoon, and I was obliged to sit at my cottage door, and every ten minutes or so get up and throw handfuls of gravel or soil into the Peas till the birds were gone to roost, or they would have entirely spoiled the crop before night.

Only picture to yourself, also, from forty to sixty blackbirds amongst the Gooseberries and Currants; and as my employer walked through the bushes, they would fly up two or three at a time, and just skim over the wall. He shot them just going over, but never more than one at a time. He would kill six or seven every day for weeks, but you could see no difference in the number, and they became so bold that they would all come back in ten minutes after the discharge of the gun; and I have seen them fly straight across the garden at an Orleans Plum tree against the wall, and twist off a Plum in a moment, just rise over the same wall, skim the top, and down into an old hedgerow with the Plum in their beak, or rather the beak in the Plum. I could not keep a red Plum without netting. Green Gages they did not touch.

In losing the white owls, I am overrun with field mice, and I may here add, that I have been attacked with caterpillars as usual, and I see no other way of proceeding than by thinning the birds or having the garden netted over from wall to wall.—WORCESTER.

[There is no doubt that those who destroy owls and hawks act most erroneously, for these birds of prey benefit an estate much more by destroying small marauders, and keeping the balance of animal life corrected, than they do harm to the estate by killing its game. So far we coincide with our worthy correspondent; but we venture to suggest that the old Saxon love for the exhibition of expertness in hitting a mark, and bringing down the quarry by a skilled shot, gives the casting vote in favour of the gun. We say this, because no one can deny that every small bird killed deprives the neighbourhood of a destroyer of caterpillars, aphides, &c., during the season of nestlings; nor can any one deny that two or three old women would scare away all the birds from the largest kitchen garden that ever was enclosed within four walls. They would not cost much more than do the powder, the shot, and the time of a skilled workman; and we will add, never do we sanction the discharge of shot among fruit trees.—EDS.]

### THE HOUSE-SPARROW (*PASSER DOMESTICUS*).

IN commencing my defence of this useful bird to the farmer and gardener, I will say with Barry Cornwall—

"Long live  
The household sparrow! may he thrive for ever;  
Long may he live; and he who aims to kill  
Our small companion, let him think how he  
Would feel if great men spurned him from their hearths."

The sparrow, like the redbreast, is one of man's companions: it seeks out his habitation, and unites its fortune with his. From the north of Scotland to the African Continent, from the one side of the Himalayan Mountains to the other, he is found. To the storm-tossed mariner a symbol of land, and to the lost pedestrian wanderer a token of the habitation of man.

Though the sparrow neither attracts our notice by the sweetness of its song nor the beauty of its plumage, it is of the greatest use to the cultivator of the soil. If he was not so, he, like his black persecuted neighbour the rook, would not be so generally distributed over most parts of the world. Nor is he less abundant in great cities than about the rural homes of our cultivated districts. That sparrows do eat grain, and at times to a considerable extent, no true naturalist will deny; but we never, as yet, heard of a farmer or a gardener being ruined by them, as some of their enemies have endeavoured to assert; but it is well known that whole fields of grass and grain, as well as root and garden crops, have been destroyed by various species of insects which form the sparrow's chief food. Of these I may name the large cabbage butterfly (*Pieris brassicae*), the green-veined white (*P. napi*), the small garden white (*P. rapæ*), the cockchafer or Maybug (*Melolontha vulgaris*), which of itself has been known to destroy whole fields of pasture and garden lawns in its grub state, eating away the young fibres so effectually that the turf could be rolled up, as if it had been cut with some instrument. Again: the wheat-midge, gnat, or fly (*Cecidomyia tritici*); the green fly

or plant lice (Aphidæ); the black caterpillar, black canker, or nigger (*Athalia centifoliæ*); the turnip fly or beetle (*Maitica nemorum*). Nor are we exempt from the possibility of an importation of that dreaded and far-famed insect known to our American friends as the "Hessian fly," to lay waste our fields of corn, as in the vast valleys of the Ohio and Mississippi, or those dreaded locusts which have in all ages been ranked amongst the most dreadful of human calamities.

That sparrows are the wholesale destroyers of our crops which some writers represent them to be is far from being correct. Let such watch them during the season of incubation, when they are most voracious, and no better locality for such can be selected than a farmyard, surrounded with hedgerows, stretching away towards a wood side. The sparrow will be seen to fly out of its nests with a rapid and bounding flight, and after scouring the hedges, he returns with a caterpillar, or some other insect, in his bill, and is welcomed home with a chorus of sweet chirrupings; and so on for many a long hour in the bright days of spring and summer, when there is not an atom of grain for him to devour—watching over the comforts of his offspring till they are able to fly and provide for themselves with a zeal and affection that would put many a Christian to the blush.

A single pair of sparrows having young to maintain will destroy, by my own observations, upwards of four thousand caterpillars and other insects in one week; and Mr. Abbey, one of our best writers on the subject, has shown in *THE JOURNAL OF HORTICULTURE*, "That a nest of sparrows is fed forty times in an hour; and presuming that one bird is fed, or one caterpillar taken at one time, we shall have, for sixteen hours for a working day, a grand total of 640; but as sparrows often take four and five caterpillars at a time, that estimate is considerably below the approximate amount. However, we will be content with the smaller number, and when we multiply the daily consumption by the period that transpires between hatching and leaving the nests (fifteen, and from that to twenty days), we have 9600, the amount of caterpillars destroyed by a pair of sparrows."

The house-sparrow will rear three broods of young in one season, and each brood consisting of five to six individuals, so that the period of their insect-destroying and the number of their young induce me to believe that even the above calculation is very far below the amount of good they do in this respect. In France, the extermination of this bird has been carried to such an extent that caterpillars have increased so alarmingly that Government has been compelled to legislate for the preservation of these useful birds. Bewick, in his "British Birds," endorses my calculation that a single pair of sparrows during the time they are rearing their young will destroy four thousand caterpillars weekly, besides the butterflies and other winged insects, each of which, if not destroyed, would produce several hundreds of caterpillars the following season. The late Bishop of Norwich found that sparrows fed their young thirty-six times in an hour, and calculating fourteen hours to a day during summer, will give 3500 times per week; and another authority of equal credit calculated the destruction of caterpillars at 3400 per week. These calculations have all been made by close observers and for scientific purposes. They are not the haphazard ravings of ignorance and prejudice.

Now, what would these 9600 caterpillars destroy in that time of the food of man, supposing that only 3000, little more than one-third of these, arrived to the state of perfect butterflies and moths, and lay their eggs? Why we should be overwhelmed with a far more serious pest than the poor house-sparrow is accused of being, which we could neither shoot, trap, nor poison. Who, I ask, has not observed the persecuted sparrows dart upon that all-destroying pest of our Cabbages, &c., the common white butterfly, while seeking a favourite spot to lay her eggs, which are to produce voracious caterpillars by thousands? Watch them again in a field of Beans, clearing that important crop of aphides, a race of insects that perplex naturalists by their angularities, and the facility with which they increase their vast numbers, and their destructive properties to plants, of which we have this last year had painful experience—

"These insect pests, powerful though small,  
Blighting at once the green leaf and the grain."—(Graham.)

Again, who has not observed them pulling the thatch out of the roof of cottages and outbuildings during winter? What is this for? Not for mere wanton mischief, as is generally supposed, but for the myriads of flies (*musca*) which are quartered there for the winter, to issue forth in the spring to annoy us or our

cattle, or to pollute our food, and otherwise to become an intolerable nuisance. The sparrow frequently attempts the capture of insects on the wing, but with poor success. Nature never intended him to catch flies in this way, though the hunting of butterflies by sparrows trained for the purpose, is said to be one of the royal sports of Persia. It is not only on insects that the sparrow feeds. I have watched them devouring snails and slugs (*Helix* and *Limax*), which are well known to be wholesale destroyers of vegetable life in its young state. It is quite amusing to watch them hammering away at the shell of *Helix virgata* and *rufescens*, which in some fields may absolutely be collected by bushels, particularly in the chalk counties of Kent and Dorset. If the mollusc is too large, they will place one foot on it, and tear it to pieces with their bill; if small, it is devoured whole. In this way thousands of these pests are devoured unknown to man.

No sooner do the leaves of the Hawthorn appear than the sparrows may be seen hunting the hedgerows for insects, even before they have young. I have for hours watched them in large Rose-quarters, in company with other birds, in nurseries and gardens clear the young shoots of every aphid. I have watched them examine every crevice of a wall, clinging to its face like the "wall creeper," devouring spiders and other insects. A long series of observations enables me to assert that the sparrow prefers insect food to all other, when he can procure it. In fact, their summer haunts are chosen with reference to a supply of such food.

To accuse the sparrow of nibbling off the buds of trees, &c., for food, is a most mistaken idea; they do nothing of the sort. They are also accused of plucking off the flowers of Auriculas, Polyanthuses, and even of dieting upon the petals of the Dahlia. They might as well be accused of dining off the hind-quarters of a hippopotamus or rhinoceros.

Has it never occurred to these persons who thus accuse them that it is insects they are in search of, particularly that destructive pest the common earwig (*Forficula auricularia*), that insect of unconquerable dislike in all countries and through all ages, from the absurd idea of its insinuating itself into persons' ears, though unsupported by a single fact? What I have already advanced is with reference to the rustic sparrow. The city-bred gentlemen are differently situated; they are obliged to pick up all the nutritious particles from the streets, roads, yards, and dunghills—no part of the crowded city seems to daunt them. In the railway station, with its snorting, puffing engines, as they dash through with a velocity that makes the earth tremble, you find the sparrow at home. In the Zoological Gardens you may observe him feeding with the majestic eagle, and splashing merrily about in his bath; you may find him in company with the elephant, rhinoceros, hippopotamus, or the wild swine, skipping about with utter indifference; visit the crowded markets, especially where vegetables are sold, there you find the sparrow. Who has not observed him hopping about the streets, even under the very feet of the horses as they stand in the cabs for hire? How frequently may he be observed pouncing upon the piece of bread which lies on the pavement within a yard or two of you as you walk along, and carry it off to its mate seated on a window-sill or roof of a house. Indeed, nothing can exceed the self-complaisance of the town-bred sparrow. You see him build his nest and rear up his young amongst the richest tracery of a church roof or window; within the very coronet or escutcheon set up over gate of hall or palace; he would build in the Queen's crown itself if it were placed conveniently for his purpose.

A pair, some few years ago, built in the mouth of the stone lion on the Duke of Northumberland's house in Charing Cross, London. A pair built in the "bunts" of the main and mizen topsails of the "Great Britain" ship while it was lying for repairs in the Sandown graving-dock. A pair built upon the furlled sail of the "Aurora," of Belfast, which was destroyed on the ship's route to Glasgow. A pair built under the slings of the foreyard of the ship "Ann," of Shields, just before leaving port, and sailed out to sea, coming down on the deck to feed on the crumbs which were spread for them by the sailors. The sparrow, in fact, suits himself to any spot or place, using any material he can find to line his little abode; he is alike at home under the roof of the poor man's cottage as he is hid in the ornamental carvings of Her Most Gracious Majesty's palace—

"At home, abroad, wherever seen or heard,  
Still is the sparrow just the same self bird."

In Tartary, Thibet, and in China he is, perhaps, more im-

udent than in Europe, for we are well informed that his nest and his brood are always religiously respected, and he enters every house quite at his ease, and picks up whatever he can from the food of the family. Would that this example were to some extent followed by his enemies in this country! It has been the fashion of most writers on the history and habits of this bird to brand it as an ugly and vulgar-looking bird; this is really not the case. Let us take, for example, a rustic cock sparrow, examine his plumage, and for a moment consider how much there is in that compact little frame which would baffle the power of the wisest man to explain, and you will not pronounce him ugly—

“He who feels contempt  
For any living thing, hath faculties  
That he hath never used, that thought with him  
Is in its infancy.”—(*Wordsworth.*)

In South America, the sparrows were persecuted with such unremitting perseverance that insects increased to such a degree that many cultivated lands were so ravaged that it became quite impossible to raise any crops upon them. Naturalists are acquainted with the results of the destruction of sparrows in one of the Wheat-growing districts of the Baltic, and where it was afterwards found advisable to import sparrows, to replace those destroyed, in order to keep a check on the insect pests. The same occurred in a division of Prussia. The farmers were much annoyed by sparrows, and sought to eradicate them by a kind of poll-tax. The authorities allowed part of the imposts to be paid in sparrows' heads. They succeeded, but what was the consequence? In two seasons they were obliged to apply to the neighbouring countries for a supply of sparrows, for their crops were nearly consumed by flights of insects which the sparrows would have devoured; so dangerous is it to act against the decrees of nature. Providence is wiser than man. I know a gentleman in East Kent, a large landed proprietor. He laid a wager of £1000 that he would destroy every sparrow in his parish. In this he succeeded only the night before the time expired; he, therefore, won his bet, but he lost double and treble the succeeding years by the damage done to his crops by the ravages of insects. Man is justified in protecting his crops, but in this he should act with caution; for let those “societies,” sparrow clubs, &c., or whatever their local name may be, for killing sparrows, beware, lest when they find their crops in the jaws of a more deadly enemy, which they can neither shoot, trap, nor poison, they may wish that they had paused in their work of destruction, and left a few of their poor enemies the sparrows to rid them of the pest.—OMEGA, in *Scottish Farmer.*

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

EVERY opportunity of favourable weather should be promptly employed in carrying out whatever digging, trenching, and draining have been marked out for completion during the winter months. Deferred until a late period, severe weather may set in, and thus the operations may be retarded to the loss of the ameliorating influence of frost and other advantages. *Asparagus*, if new beds are to be made, trench deeply, and apply manure unsparingly; for it is better to enrich the ground well at first than to trust to subsequent top-dressings. Now is the time to see about getting ready for spring planting. *Cauliflowers*, the plants under hand-lights to have the soil occasionally stirred about them, and abundance of air to be given in favourable weather. *Herb-beds*, if they are not yet cleaned and done-up for the winter, they should be attended to without delay. A slight coat of very rotten dung to be laid on them for the double purpose of protecting the roots from severe frost and to enrich the soil. All wood ashes and soot to be preserved with care; both are valuable as manures. As the labour can possibly be better spared at this than at the spring season, and as an advantage attends the practice, wheel on the manure to the land, and dig it in; throw up the unbroken spits of soil to be pulverised by the frost. The land which should be manured most particularly is that intended for Peas, Beans, Cabbage, Onions. Do not manure the division intended for Potatoes unless the soil is extremely poor.

### FLOWER GARDEN.

We again urge the necessity of getting all intended alterations and improvements commenced or brought to a close as speedily as possible. Now is a fine time for taking-up and laying-down

Box-edgings. This is also a good season for altering the surface of the flower garden, and for laying down turf. If the ground is newly made, see that it is rendered perfectly solid before laying down the turf, so that there may be no giving way afterwards; when all laid down, to be well beaten all over with the turf-beater, which will close the edges of the turf; flatten-out the surface, and level-down all irregularities. Rustic baskets and vases planted last summer should now have the soil taken out of them in order to keep them from being injured by frost. *Fuchsias* and other half-hardy plants that have been killed down will now require to have their roots mulched to keep the frost from injuring them. Where shrubberies are too thick take up some of the best specimens, and transplant them, or cut-down inferior sorts to give more room, light, and air to the others. Continue to sweep, roll, and clean lawns, walks, &c. Annuals and herbaceous plants killed down by frost should now have their stems cut down and taken to the rubbish-heap; the most choice kinds to be labelled to prevent them from being destroyed when digging the borders. Seeds not yet collected to be gathered on a dry day.

### FRUIT GARDEN.

The planting of young fruit trees, and transplanting or raising those of larger growth, to be vigorously prosecuted, as the season is very favourable, and the earlier these operations are performed the greater the success. Fig trees to be protected: the best plan is to loosen them entirely from the wall, to tie the branches closely together, and to wind thick haybands round them from bottom to top. Let all superfluous nails be drawn from wall trees, and proceed on every favourable opportunity with pruning and nailing, except, perhaps, in the case of south walls, which had better remain till the end of January, as the buds are apt to become unseasonably excited.

### GREENHOUSE AND CONSERVATORY.

The *Geraniums* intended for early blooming should now be stopped and plenty of room afforded them. Let them be tied-out, and as soon as they begin to break let them be repotted and their growth slightly encouraged, always keeping them near the glass. Give abundance of air on all mild days to keep the plants from growing.

### STOVE.

Keep the temperature rather low than otherwise that no new growth may be promoted. Much more injury is likely to result from a high temperature at this season than is generally supposed. Sixty degrees of fire heat is ample for all stove plants. Continue to look sharply after mealy bug, scale, and other insects. This is the season more especially when stove plants can be got thoroughly clean.

### FORCING-PIT.

Get in all kinds of Dutch bulbs, American and other flowering shrubs, *Lilies of the Valley*, *Heliotropes*, *Pinks*, *Roses*, *Double Roman Narcissus*, *Crocuses*, *Neapolitan Violets*, *Mignonette*, and *Cyclamens* to begin with in gentle heat, as many of these bloom early without much forcing. Keep down the green fly by occasional fumigations of tobacco.

### PITS AND FRAMES.

As the nights are now cold, the lights should be closed at night, and the frames well covered with mats and litter if required, avoiding fire heat until it is absolutely necessary. Look carefully over plants requiring water every fine day, but avoid watering at this season in dull weather. In a cold pit, should now be safely stored such plants as will furnish the forcing-pit in succession, such as good bloom-showing plants of *Rhododendrons*, *Kalmias*, *Belgian Azaleas*, *Sedums*, &c., to be selected and lifted with good balls and potted for the purpose of being taken care of in this useful structure. W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

SECURED vegetables as mentioned last week. Covered over Sea-kale plants with a little ashes in the form of long cones; planted the *Asparagus-bed*; earthed-up *Mushroom-bed*; gave protection to *Radishes* out of doors; packed-up roots in sheds; wheeled rotten leaves over *Asparagus-beds* on frosty mornings, &c.; gathered a lot more of *Capsicums* and *Chilis* for cayenne pepper. These have ripened more slowly than usual this season, which I attribute partly to planting them out in a bed under glass, instead of keeping them in pots, and where much heat

could not be given them. The fruit was finer than usual, but the luxuriance given to the plants made it ripen slower. Much of the quality of the pepper depends on the bright red of the skin. I find the seeds are but little used, as they would detract from the colour—so much are we in everything the slaves of appearances. Even lovers of pickles must have them green, though well knowing that no *artiste* can make them so without spoiling them with copper, or something else as deadly.

#### FRUIT GARDEN.

In frosty mornings rotten dung and leaves were wheeled between the rows of Strawberries, and a little used for surfacing dwarf Apple and Pear trees. Not many years ago, I found at one time men making tallies on a hard frosty day, and not long afterwards they were wheeling manure and soil with the wheel of the barrow almost out of sight in mud, and of course there was a constant standing dish of grumble that half enough of men were not allowed for the place. The making walks, &c., right after such work, would take up about as many men and as much time as doing the work altogether would have required in frosty, or even in dry weather. Timing work will often be the means of avoiding making work. Doing a job in such a way as not to make another, is what distinguishes chiefly the intelligent thoughtful workman from the careless, slovenly, six-o'clock practitioner. Cleared, pruned, and fastened-up Raspberries. After trying many modes, find no plan better than growing them in rows 4 feet or 5 feet apart, and fastening them to a couple of slight rails an inch in diameter, fastened to posts in the row. Syringing Cherries and other trees with soapsuds, holding a little salt in solution, which, in addition to being unpleasant to insects, helps to remove mosses and lichens from the trees and walls. Commenced pruning Pears, &c. Orchard trees in pots, we have not had time to wash and secure the pots from frost, but the latter has not been severe enough to touch them. Syringed them, however, several times with water about 160°, holding soap in solution, and even after that found some of the black beetle creeping on the pots. Will, if possible, give all the soil in the house a watering with hot water, and will remove all surface soil from the pots. We have a vast deal more faith in prevention than in cure.

Stripped most of the leaves off the Figs in the Fig-house, and all the smaller fruit, leaving only the larger to ripen. The bed is chiefly filled below with large Begonias, and will soon be occupied with other things. The soil, though dry, we will not water for a month or six weeks to come. The plants had been originally grown in pots, but have now been turned out for a number of years in a shallow bed, and are allowed to fill the space in a rough manner, there being several longitudinal rods along the house, just to tie down a branch to that comes too near the glass. Looked at now, or shortly, there is roughness instead of symmetry, and wildness instead of training. Well, our advantage is, that we save all the time it would take to make them look nice and neat, and the expense of a trellis; and when the plants are full of fruit people think more about that than any training and tying. Our only secret is, plenty of rich manure water when growing and swelling, and dryness when at rest. The great thing is to give a little water by degrees before the young fruit get much larger than Peas, or they would drop off, and a deluging then would have much the same effect.

The Vines in the houses attended to as last week; all houses crammed where fruit is not hanging. In a narrow pit shut up, and filled with the latest bedding plants in pots, the Vines have been cleaned and painted, and the temperature raised from 43° to 48°, the roots of the Vines, which were very dry, being moistened with warm water about 90°. This will bring them along gradually. The Vine-border outside of houses covered with stubble, and not much of that, is still 50°, 3 inches below the surface. A few Strawberries will be placed on a shelf at the back of the Vine-pit. The Fig trees out of doors, which, on the whole, did pretty well, have had the whole of the fruit left larger than a Pea stripped-off, or, rather, cut neatly off, and the trees thatched with Laurel branches, either tied against them, or nailed to the wall by passing the nail through the branch. I tried this plan last year, and it answered perfectly. It is a mere chance to be sure of them without some help here. Formerly I used to unnailed the trees, and fasten them close together in bundles, and stuffed some straw about them, fastening a mat or something of that kind over them. The objections to that plan were, that the unpacking them was apt to be too long

delayed, and the trees needed protection afterwards, either from bright sun or frost; and again, from being so busy at that time in spring, the laying-out and nailing the branches were apt to knock off a number of the fruit. By merely placing the Laurel branches against the trees, there is no unnauling wanted. They will be sufficient protection against a common frost. Additional protection can be given if we come near to zero. The air and light, too, will permeate among the young fruit, giving it a hardy green appearance, that will suffer nothing when the branches are removed by degrees. Swept leaves from Apricot trees; some, however, are rather green yet. Dwarf Pears, &c., are ripe, as they ought to be, and most other things under cover. Tomatoes are making their appearance; but they look after insects now, but will go to the buds as soon as these fail.

#### ORNAMENTAL GARDENING.

The frost having gone, commenced in the middle of the week to give the lawn the last mowing, rolling it previously. Have got the greater part of the dead flowers removed from beds and borders, and found the quantity more than usual, as the whole were so densely packed and so vigorous before the frost came. The leaves are not yet all down, and until that is the case it will be sweep, sweep, and sweep again. As soon as possible beds will be dug, borders ditto, herbaceous plants regulated, &c. Pretty well finished putting away in the faggot style lots of Scarlet Geraniums, &c. They had stood so long under cover and so thickly that the leaves were getting all faded and yellow, but that made them all the easier to come off, and as the roots and stems were all sound, that was all we cared about. A few of these were potted separately; but most of them were put, a dozen or a score, like a faggot in a pot. We must, however, here give a little minutiae. The soil used was just moist enough, light sandy loam and leaf mould. The roots were getting rather dry; each lot of plants as dressed was set for five minutes in a pail as deep as to cover the roots and 2 inches or 3 inches of the stem, the water about 60°. This was to distend the roots, and the soil being packed firmly about them, no water will be given for a good time to come. A lot of these were put in a cold pit with a layer of tree leaves a little warm below them, and we believe that in moderation as to dryness the fresh roots will run sooner than in soil saturated with moisture. Others were placed beneath the stage in a vinery, the stage being filled with plants in pots. Those below the stage, if much fire heat should be used to keep out frost, will have a slight syringe during the day to keep the stems from shrivelling. We should do much the same if the plants were kept in stable, garret, or byre, and in all such places may such plants be kept, and best in summer young plants that received the kindest treatment. We saw a lot last year in a garret that would have been first-rate if the frost had not nipped the stems. A woman's apron would pretty well have saved them. Another lot in an airy cellar would have been first-rate, but a girl, who must be doing something, soaked them with water, and they could not help themselves, and were obliged to rot. Had they remained as packed until the middle of March, and then got light on fine days, they would have been first-rate in the beginning of May. They will be all the better if they make not a single leaf during the winter.

I was delighted with our friend Mr. Beaton's account of the celerity with which Mrs. Bird pitches in her Calceolaria cuttings; but what do you think? my men and boys will not take it in that the lady's plan is any improvement on theirs, and do not believe it is managed a bit quicker, even than they did them, as the lady could only use one hand when dropping the cuttings, whilst they would fasten the cutting with one stroke of the dibber with the other. We have, years ago, also done a great many by one of the dropping-modes. The holes were made from top to bottom of the bed, or a slit of equal depth; a handful of cuttings with the bottom ends are then held in the left hand, and as fast as the right hand can go down goes the cutting, and before the thumb and forefinger leave it, the soil is pressed to it with one move; or if only a few cuttings are held in the right hand, the left hand follows, and does this firming work, and then all the cuttings stand upright, which my men rather doubt will not be the case in the mere dropping-mode of Mrs. Bird. However, I am at present inclined to give the palm of victory to the lady; and one thing I am sure of, that some who make such a fuss about a few Calceolarias will have their eyes opened when they see such beds. Of our first batch I do not see one wrong; the only thing I regret is that they are

beginning to root, and I would have liked better if that had not taken place until after the new year.

House plants, bulbs, &c., much the same as last week.—R. F.

### TRADE CATALOGUES RECEIVED.

J. Scott, Merriott Nurseries, Crowkerne.—*Descriptive Catalogue of Fruit Trees.*

Carey Tyso, Wallingford, Berks.—*Descriptive Catalogue of Flower Roots, Plants, &c., for 1862-3.*

### TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

GLADIOLUS (*W. H. Box*).—The accent is on the second syllable, and the *o* is not uttered at all, but the name is pronounced as if spelt Gladiulus.

BOOKS (*W. G. H. C.*).—Dr. Lindley's "Vegetable Kingdom" does not contain anything about plant-culture. The other book you mention, McIntosh's "Book of the Garden," is very copious on all subjects connected with gardening. It is in two volumes, price £7. *6d.* In addition for a good gardener's library, we recommend Thompson's "Gardener's Assistant," "The Cottage Gardener's Dictionary," Lindley's "Theory of Horticulture," and Johnson's "Science and Practice of Gardening."

WATER FOR AQUARIUM (*Rusticus*).—Rain water, conveyed from the roofs of buildings in the country, entirely uncontaminated by soot, would be very well for an aquarium. Even a slight impregnation with soot would be no objection if the water were quite pellucid, and plants only placed in the aquarium. It would be injurious to fish and water insects.

WEEKLY CALENDAR (*L. R. W. L.*).—The temperatures in the table at the head of the first page usually show in whole degrees the highest and lowest of the thermometer during each day, as "33-13." If a fraction of a degree is stated, as "35°.3," which rarely happens except when averages are given, so many degrees, and so many tenths of a degree, are indicated: thus, in the instance given, the temperature indicated is 35° and three-tenths of a degree.

EXCELLENT MODE OF SHOWING A FLOWER-GARDEN PLAN (*M. D.*).—Capital. Six or 7 square inches of green paper, full of flower-beds, with the names of the plants under them. The shape of each bed is cut out of paper of the same colour as the flowers, the edgings the same way. The green paper represents the lawn, and with this way of marking the beds on it one can see the effect with half an eye at once. The letter was in three lines on the back of the green paper, and our answer is, The garden will, indeed, be a most effective composition.

CINERARIA FLOWERS NOT OPENING (*Wm. M. Jun.*).—We suspect you have repotted your Cinerarias into rather large pots, and rather late. When once the pots are crammed with roots, and plenty of air is given, and the plants are sufficiently supplied with water, we think you will have no want of flower-trusses.

CUTTING A VINE SHOOT (*J. G. D.*).—If you had stopped the shoot, now 17 feet long, and allowed laterals to grow, the lower part of your rod would have been stronger. Now, you should not have more than 5 feet for next year. It would most likely bear a heavy crop if you let it; but it would be injured for the future.

LAPAGERIA ROSEA (*Mrs. W. S.*).—Very full directions have been given for the culture of this beautiful plant in No. 575 of this Journal, which you can have free by post for 4d. It will do well in your cool conservatory, and the chief care it requires is abundance of drainage to prevent stagnant water, good health soil mixed with a little fibry loam, and never to want for water. The roots do not naturally run deep, and, therefore, moisture is indispensable. If one end of the house is warmer than another, we would place it there.

LIQUID MANURES OF SHEEP'S AND PIGEONS' DUNG (*A Seven-months Subscriber*).—Use them both, but weak and alternately, and alternately with clear water; but use them in none of the cases mentioned until the plants are knotted for bloom. In the case of Begonias, use it chiefly after the sun has gained power and they are growing freely late in the spring.

PROPAGATING INDIAN AZALEAS (*Ignoramus*).—"Buy Greenhouses for the Many," "In-door Gardening for the Many," and "Window-Gardening for the Many," they will give you all the information you mention. You need not be particular as to the time of propagating Azalea indica. You may proceed now or as soon as the days begin to lengthen. Select a number of small shoots of last season that have no flower-buds, greenish but firm at their base, and from 2½ inches to 3 inches in length. Cut them across at the base, and remove a few of the larger bottom leaves, and then insert in silver sand, in pots well drained, and a layer of sandy peat below the sand. Water well, and when the cuttings are dry cover with a bell-glass. Allow these to stand for a month in a shady part of the greenhouse, or if not shady, have a piece of paper to put over the glass in bright sunshine; ease the glass a

little to admit air in mild nights. In a month plunge the pot in a mild hot-bed and attend to air at night. Water when necessary, and shade in bright sunshine, and as soon as struck pot off and keep close for a time, until the young plants are growing freely.

STOKERIA CTANEA (*Rusticus Expectans*).—This plant was introduced from Carolina nearly a hundred years ago, and produces blue composite flowers. The flowers are too thin to suit a florist's fancy, who must have a Cineraria like a perfect circle. We are not aware of the plant standing out during the winter; but think that young plants would stand secure in a dry cold pit. In general seasons we should expect it to bloom out of doors in the autumn. If it bloomed freely in winter it might be desirable for that purpose, grown as you have done, or potted late on purpose. We think you would have had flowers but for the extra luxuriance. As far as we recollect the notched leaves are as singular and even more worthy of admiration than the flowers.

VARIOUS (*Westmoreland*).—We do not know the Pear you have sent. It must be some local sort, and it is one we should not think anything of in the south for its flavour. We see no reason why the tar of wood should not answer quite as well for making waxes and floors as gas tar. All tar when boiled becomes hard, and this would be so deleterious to vegetable life as coal tar. If you train up the Cottonaster microphylla, you may get it 6 feet high in soil where it thrives. We have seen it against a wall much higher than that; but you need not despair of speedily getting a hedge 3 feet high.

PHLOXES (*M. F.*).—On the supposition the Phloxes were planted out after being the four years in pots, you have left them two years too many unremoved; and if they were established plants from old stools, you had left them three years too long. The best bloom which the best management can get out of the best kinds of Phloxes is, when the plants are old and on the spot to lift the old plants any time from the end of October to the beginning of March, and take four lumps from the outside of each ball or stool; or first quarter the stool and then take the outside of each quarter, where the roots are soft, free, and fleshy, and where no wry old "bottoms" are met with; to plant the young stock in fresh places, and no place was ever yet made for a Phlox of the present race so good as a Rhododendron-bed—that is, for a fine bloom; but the plants will grow in any soil, even in the very worst. It depends on whether the old plants were properly done or not, if the new plants flower best the first season or the second year after planting. Some renew their Phloxes every year, in February, but we always keep a certain portion of our stock two years for two reasons—in order to have taller and bigger plants, which must overtop our Rhododendrons before the flowers could be seen; and, secondly, to make people, who see them from a distance, believe the Rhododendrons themselves are in full bloom in all the shade of the two families. But for the borders we renew our Phloxes every year, and give each lump or plant a large spadeful of very rich light compost.

GARDENERS' RHEUMATISM.—The way I have treated rheumatism for a long time is this. As soon as I find it coming on I get some spirits of turpentine and rub well into the painful part. I then get some old piece of cloth, as an old shirt or the like, and put it six or eight times double, then dip it in a bowl of cold spring water, squeeze it just so that it does not run about from the cloth, put that cold on the part, and as soon as it begins to get nearly dry or uncomfortable, wet it again. I take some cold water to bed with me and follow it up night and day till well, and apply the turpentine once a-day, twice a-day, or once in two days, according as the pain is. When the pain ceases I leave off the turpentine. This is the best remedy I ever tried. No one told me this, neither could I ever get any one to try it; every one seems afraid, and many have said I should have my sinews drawn up and lots of other calamities, but instead, it has done wonders for me. Turpentine eases the pain almost immediately, and the wet cloth brings down the swelling by evaporation. If the patient cannot bear the cold, the cloth may be just held before the fire to take the chill off.—WORCESTER.

HEATING A PIT (*An Amateur*).—The other week you would see much on heating such a pit by a fire, and there seems nothing we can add to it. You must have a chamber of some kind over the fire or round it, or the heated air will not get out freely for top heat. Neither should the cocoa-nut fibre touch the fire. There is no doubt that otherwise your plan will answer. The fire will be much cheaper than an Aroott's stove with boiler and pipes. The cheapest of all would be an Arnott's stove alone, placed at one end, where the furnace is proposed to be. This placed low enough so as to have a chamber and openings into it, would be the simplest if you could do it. (See page 632.) Such slopes do not work well with much length of horizontal pipe; and, therefore, the smoke had better be conveyed in a rising direction to the back wall. We do not think these simple stoves, or kiln-gases, have ever had full justice done to them. If you do not understand their simplicity you had better stick to the flue. For such a place as yours, we would go 4 feet brick on bed—that is, lay the brick on its flat side, 4½ inches, the rest brick on edge—that is, 2½ inches wide. For such a fire two bricks on the side or edge would be sufficient, and 7 inches wide outside would be enough, so that a foot tile would cover all. We plaster none inside, a little outside if you like. Portland cement pipes would do 6 feet from the furnace. You have missed details about flues.

PROPAGATING HEN-AND-CHICKEN DAISIES BY SEED (*C. D.*).—The condition called hen-and-chicken in the flowers of Composites being not in the nature of sports, nor yet in that of a step towards donbleness, but a further development of flowers through the scales of the involucrem, and not through any portion of the florets, we have every reason to believe that a Hen-and-Chicken Daisy will reproduce itself at some certain rate per cent. But the case has never been tested as far as we know. All deviations from the normal type come more true from seeds in Composites than in any order of plants, as far as our observation extends.

LITTLE DOT GERANIUM (*J. B. Fremde*).—Your Geranium Little Dot is the most dwarf, the best horseshoe mark, and the most profuse bloomer we have seen of the breed of Luca Rosea, and we would recommend it as a distinct kind for edging large beds with. As you have proved it under the shade of a large tree, we should like to see a bed of it under one of the Yew trees at Hampton Court.

GRAPE (*John Ferme*).—We do not know whether the Abbe and Black Monukka Grapes are to be had of the nurserymen; at least, we do not know of any who have got them. If you are a Fellow of the Royal Horticultural Society, you could procure some cuttings of both. The Hushsee is not the same as the Abbe of Dr. Hogg's "Fruit Manual," but is a long dull red Grape, in shape like a long, narrow Filbert, and with no particular merit to recommend it.

MANURE FOR AZALEAS (*An Old Subscriber*).—Manure is not only not good, but is actual poison to Azaleas, Rhododendrons, and Heath. Never think of such a thing, nor of giving them manure water.

HEATING FROM A CISTERN (*R. L.*).—Your cistern (not tank), is a general reservoir, whence the heated water is to proceed and be regulated. If so, then all your proposals are wrong. The most simple thing for you to do so, is to have your cistern, or tank—say 18 inches by 18 inches—larger if you like—raised 18 inches above your highest pipe for top heat, which will be 36 inches or 42 inches above the highest pipe likely for bottom heat. Place the top of your boiler lower than the lowest pipe. Take the flow-pipe from the boiler into the cistern by a hole in the centre of its bottom. According to your plan of heating each side of your house separately, and to have top heat and bottom heat at will, you will require four more holes in the bottom of your cistern for pipes to be placed in them. One for each side for bottom heat, one for each side for top heat. These pipes you supply with plugs or valves, to open, shut, or regulate at will, and at first they will need a little attention. After this you have nothing more to do with this cistern or tank. All your returns will communicate with the bottom of the boiler by means of a single or double T-piece. Now, supposing that the cistern is at the end of the house, settle upon the level for your top and bottom heat; only from that level, in a length of 40 feet we would let the flow-pipe gradually rise from 2 inches to 3 inches to the extreme end, and fasten a small open gas-pipe on the circular bend  $\curvearrowright$  there. Of course, then the return-pipe would slope backwards in the same way until it descended to join the boiler. No air will thus accumulate; and so long as you keep the cistern supplied, and apply heat, there must be circulation. Some plans were given some time ago by Mr. Fish, showing how many places might be heated from such a cistern. The above is the simplest you can try.

FORCING LILIES OF THE VALLEY (*Idem*).—That was an excellent suggestion about forcing the Lily of the Valley for Christmas. The reason for covering them to keep them in the dark at the first going-off, is the grand secret of all about forcing them and many bulbs, and you have been doing the very same thing all your life without knowing it. You put so much covering over the Asparagus-bed every year, and it was only a year or two back since you had long chimney-pots over your Rhubarb. Why did you do that, and how long did you keep the covering on? Spent hops, or cocoon-fibre refuse, 6 inches deep, over a Hyacinth or over Lily of the Valley, will cause the flower-stem to push up 6 inches before the flower-buds will be more forward than when you could first see them; then the bloom is obtained on a good stalk, instead of coming dumplings as they would so early without the covering. Watch till the flower-stalks are long enough to your liking—they will be as white and blanched as can be; but, in a few days, the light and the heat will give the proper colour. Those who force bulbs for market do them just the same way—keep them covered in the dark until the flower-stalks are as long as they want them: that is the rule, and not how many days or weeks. You will see another answer in our columns to-day.

NAME OF FRUITS (*A. B. C.*).—Marie Louise Pear, undoubtedly. (*A. C.*).—Apples.—1, Albiston; 2, Yorkshire Greening; 3, Hanwell Souring; 4, Mère de Ménage; "1 small" Dutch Mignonne; "3 small" Court-Pendu-Plat; "2 small" unknown, frightfully acid, good for Apple Jelly probably. Do you know anything about it? "4 small" Golden Harvey. Pears.—1, Beauté de Rance; 2, Passe Colmar. (*P. Lang*).—We have paid 1s. 4d. for the carriage of the fruit you have sent to be named. We do not take cognizance of any fruit that is so sent, and beg that you will forward us that amount.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

DECEMBER 1st, 2nd, 3rd, and 4th. BIRMINGHAM. *Sec.*, John B. Lythall, 14, Temple Street, Birmingham.  
 DECEMBER 9th, 10th, 11th, and 12th. CRYSTAL PALACE. (Poultry, Pigeons, and Rabbits.) Entries close November 8th. *Sec.*, W. Houghton.  
 DECEMBER 16th and 17th. LOAN TREDEGAR'S, Newport, Monmouthshire. *Sec.*, Mr. J. G. Palling, Newport.  
 DECEMBER 26th. HECKMONDWAYKE. *Sec.*, Mr. J. Thornton. Entries close December 20th.  
 DECEMBER 29th, 30th, and 31st. MANCHESTER.  
 JANUARY 1st, 2nd, and 3rd. GLASGOW. (Pigeons and Canaries.) *Sec.*, Mr. T. Buchanan. Entries close December 22nd.  
 JANUARY 6th, 7th, and 8th. KENDAL. *Secs.*, George C. Whitwell, and T. Wilson.  
 JANUARY 13th and 14th. GLOUCESTER ORNITHOLOGICAL. *Sec.*, Mr. G. Cummings, 89, Southgate Street.  
 JANUARY 21st and 22nd. LIVERPOOL. *Sec.*, J. T. Lawrence, 3, Cook Street. Entries close January 5th.

### POULTRY IN FROSTY WEATHER.

THERE is something exhilarating in a frost. When the early morning breaks on the earth covered with rime, and the hard ground seems to spurn the foot that treads on it, and the sun rises like a disk of burning copper, there is something cheerful about it. Nature has donned her masquerade dress of white. Your horse cannot contain himself; and the steady old friend for some months past, content to shake his head, or whisk his tail, as the only answer to what a granddaughter of our's calls a "good cut o' the whip," now seeks to devour space, and to try conclusions with your strength or that of your reins. In like manner your tried friend, the old dog, gambols, and, in the gleesomeness of his feelings, he picks up a shred of cloth in the field, and shakes and tosses it for very wantonness. Your eldest boy seeks his skates; his sisters look out their warm clothing, the stout boots, and they accompany their brother on mysterious excursions to old gravel-pits, lonely ponds and such places, and return glowing with health, although curt and uncommunicative

on the whereabouts of their rambles, and it is not till the frost has broken up you learn that "Emily slides well," and "Adela can skate a little."

The appearance of real winter is then a holiday to many, but (ah! those *buts*) not to all. It is none to the poultry. Water is frozen, the ground is so hard they cannot scratch; there is not an animal of any kind on its surface, and they must depend on their owner for everything they want. See they lack nothing. First, they must have water. Few people have any idea of the suffering caused to birds by the lack of water. Their power of maintaining life on the smallest possible quantity of food is wonderful, provided they have water; but a practised eye can tell in a dead fowl or Pigeon whether it suffered or not from thirst. The skin becomes hard, dry, and red; the flesh contracts, as it were, and becomes brown, and the whole body looks as if it had been suddenly shrivelled and dried-up. You must bear in mind they require more food and better than they do in milder weather, and, if you can, let them have a greater variety. They want substitutes for the worms and insects. Now, the scraps of meat and fat from the table should go to the fowls. Save the drainings of all the glasses, pour them together, and sweep all the crumbs and odd corners of bread into it. Feed the birds often, and, if there is snow, sweep a place clean, and feed there. Never feed any kind of birds in such manner that they shall pick up snow with their food: it is strong medicine to them. The Lark that fattens in two days on the white hear-frost becomes a wretched skeleton after two days' snow. The wild Duck that has cautiously crept into the stubble every evening, and laid hidden in the sedge or rushes all day till it has become plump and lazy, loses all the moment the melted snow has poisoned the water—it is then literally only skin and bone. Everything that depends on itself for food becomes thin during a frost. This has to be guarded against. Be careful, then, to keep them supplied with water. Feed often, and give more stimulating food than in milder weather. Do not let them have snow mixed with their food. Provide them with ashes—wood ashes are the best—in which they may scratch and take their bath.

Yet if this seasonable weather gives some extra work to the amateur, it has its favourable side. It is healthy for the fowls; it is dry, and it purifies everything. It searches out the nooks and corners, nothing escapes it; unpleasant odours disappear, and other works being stopped by frost, all these jobs in poultry-houses should be done. In hot weather many are put off; they can be better done when it is cold, or in the winter. Let them be done now. Save whitewashing or painting, this is the time for poultry-house work.

### LEEDS AND WEST RIDING HORTICULTURAL AND POULTRY SOCIETY.

WE have received a letter from Mr. J. Wade, charging the Secretary with false statements in his letter which we published on the 11th inst., but it does nothing else, and we decline to publish it, for it leaves uncontradicted the glaring fact that the *Committee have not paid the prizes awarded by the Judges!*

It is no defence saying that the entrance and admission money did not amount to enough to meet the expenses, for the Committee are bound in honour to pay the prizes which, in their prospectus, they offered without any such reservation.

Mr. Holdsworth informs us that he resigned the Secretaryship because he was not able to attend the meetings regularly.

We now leave the subject, regretting that such a number of Yorkshiremen can be found in Leeds to act so unjustly, and who would be ready enough to condemn such conduct in any other committee.

### JUDGES AT THE NEXT BIRMINGHAM POULTRY SHOW.

I WAS glad to find the question I asked respecting this important matter in your last Number was answered by Mr. Hewitt in the same. His explanation to me appears to be most substantial; but all this correspondence, unfortunately, I do not think will remedy the evil of the exhibitors being deprived of his valuable services. Unfortunately, the poultry by the Council is considered of very small importance in connection with the Show, and hence it is that this important arrangement, the appointing of judges, should be left for one only to decide.

The poultry is, no doubt, the backbone of that Exhibition. It commenced with poultry; it was poultry that made that Show what it is; and if the Council do not more carefully study the interest of exhibitors, it will be poultry that will finish it. Practical influence must be used to settle this important matter, and I suggest that a meeting of exhibitors be called to meet at the Queen's Hotel, Birmingham, on the Tuesday of the Show week. Mr. Hewitt, I dare say, will be courteous enough to attend; and if some influential exhibitor will do this through the medium of your paper, or otherwise, it would be the time to get a stronger muster together than any other that could be appointed. I am convinced it would be largely attended. I am in the habit of meeting weekly a large number of poultry exhibitors, and I know the feeling upon this point. This unfair system of appointing Judges to emanate from our mother Show, proves to me the importance of a poultry club. This also might be discussed at the meeting.—AN OLD EXHIBITOR.

### SALE OF THE LATE MR. BULT'S POWTERS.

ON Tuesday last, November 18th, Mr. Stevens submitted the entire stock of the late Mr. Bult to public competition. The reputation of this strain of birds attracted buyers from almost all parts of England, and the result was a very spirited competition, and a most satisfactory sale.

The birds were seventy in number, and in such capital condition as to reflect great credit on those in whose charge they had remained since the lamented death of their late owner.

They comprised Blue, Black, Red, and Yellow Pies, as well as the White and Mealy varieties. Four of the old birds—a White, a Red, a Blue, and a Black Pied realised five guineas each; seven others went at between £4 and £5 each; and the average of the remainder may be estimated from the fact that the seventy birds, old and young, produced upwards of £180.

Some of the best of the old birds did not produce as much money as might have been anticipated from their very superior character; several of them in private hands would readily realise £10 each, but the deficiency in their value was fully made up by the extraordinary prices of the second and third-rate birds, many of which went at from twice to thrice their value. When we state that two hens of no very remarkable character or length of limb, one a Black Mottle and the other a Mealy, produced over £3; the Pouter-fanciers amongst our readers will readily see that the inferior birds were well sold. We can only attribute these prices to the desire to possess some birds of Mr. Bult's strain, and the fact that this was the final sale of his stock.

The best of the strain remain in the hands of the members of the Philopisteron Society, of which Mr. Bult was Chairman. Two of the members alone expended upwards of £100 in the purchase of the most desirable birds. Few events have caused greater interest amongst Pigeon-fanciers for many years than this sale, and the general attendance of gentlemen from all parts of the kingdom, must be, to the members of Mr. Bult's family, a gratifying tribute of respect to his memory.

### MR. TATE AGAIN!

SOME time since I wrote to a man named G. R. Tate, at Driffield, for a white-legged Game Bantam cock. He sent me two to choose from, first demanding payment. Fortunately, I refused to pay for them until I saw them. One I liked and retained, sending the other back with post-office order for his price, paying also carriage both ways. Mr. Tate wished for a willow-legged pullet, and as I had some very good ones I sent him one, stating the price in money, or that I would exchange it for a cock. After several excuses and delays, and much correspondence had passed, I wrote to him peremptorily demanding the bird back again. Finding I was in earnest, he writes to inform me that he cannot send the bird back, as he has "sold it!" With this cool communication, he forwards to me a miserable little Bantam cock, with white wings and splashed breast, not worth the 2s. 9d. carriage, and tells me I can have it by paying him 7s. 6d. more than the price I asked for my pullet!

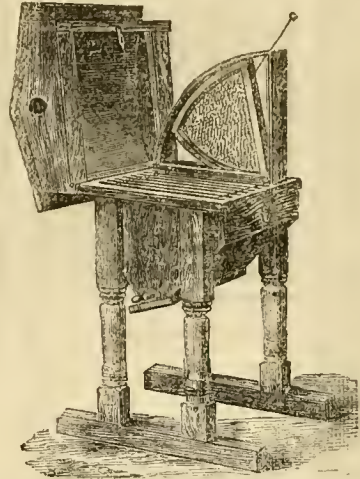
You are at liberty to make any use of this communication, and I will take the responsibility; and if your readers are made aware of the facts, perhaps the man may not succeed in taking-in another.—T. C. HOSE, Harpenden, Herts.

### HONEY HARVEST ON THE YORKSHIRE MOORS.

My four hives together do not reach 40 lbs. in weight, so that I am feeding as fast as possible before the frost sets in. They were sent to the moors, but were lighter on their return than when sent off, having cost me at least 15s.—J. C., Mill Bridge near Leeds.

### BEEES AND BEE-HIVES IN THE INTERNATIONAL EXHIBITION. (Continued from page 581.)

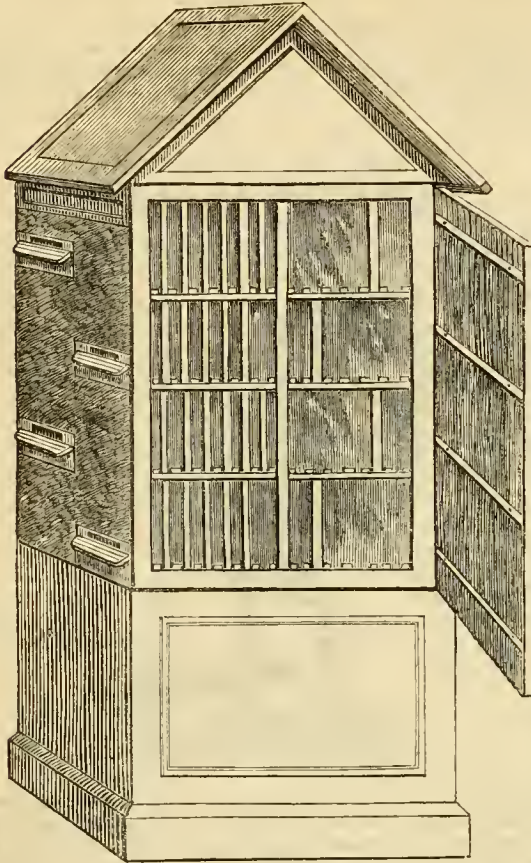
PETTITT, W. J., Dover, No. 2162, shows one of Major Munn's bar-frame hives, of which we give an engraving. It is stated



that "each comb can be lifted out and examined without interfering with any other part of the hive, or occasioning the loss of a single bee. The whole of the interior of the hive is open to inspection at any moment, and a choice can be made of the combs containing the most honey; or the apiarian is enabled to trace the devastation of the wax-moth and ascertain the presence of any other enemy without the assistance of any fumigation whatever. Ligurian queens can be introduced into this hive without difficulty, the glass observation-frame affording the necessary protection to the most timid operator." Major Munn's ingenious hive was invented, and, we understand, was patented by him both in England and France many years ago, but has never come into general use. Mr. Pettitt also exhibits a White's hive with a covered way between the two boxes. The communication with supers is formed by a sort of grating cut in the top of the stock-box; the interstices between the bars of which being only three-sixteenths of an inch wide, are expected to exclude both queen and drones from the super.

DOWNIE, ROBERT, Barnet, No. 2107 (in Taylor's conservatory), has a small wooden hive, 10 inches square by 9 inches deep, placed on a shelf, within a larger box, on what is usually called the American plan. The hive itself is fitted with frames, the interstices between which are closed by simple blocks of wood of the requisite width laid across the top of the hive and between the bars. When the bees have filled the small box, they continue their combs below the shelf, and may be inspected through a window in the back. Mr. Downie states that the under shelf with the combs attached to it may be taken out and returned without injury. This American plan is curious and interesting from the fact of the bees extending their combs below the hive itself, much in the same manner as they will sometimes do in the open air; but the queen cannot be kept from breeding in the combs thus built, and, as the plan affords few facilities for deprivation, we have been unable to discover the advantages which it offers. There is also a ventilator for bee-hives, which is simple and easily managed; and a unicombe-case, which is proposed as a substitute for a unicombe-hive, and to supersede the use of bell-glasses or supers of any kind. It is a flat case with glass sides, accommodating a single comb which can be removed and returned at pleasure, and is intended, we presume, to be worked as a super on the top of a hive.

DENMARK.—NIELSON, J., *Frederiksberg*, No. 66.—Dzierzon's bee-hive improved.—We have engraved this hive as the type of



a class of bee-dwellings introduced by Pastor Dzierzon, and very generally used throughout Germany. They are called "twin-stocks" or "double-stocks," the unit being a hive capable of accommodating two distinct stocks of bees side by side on the same level; and when this arrangement is doubled, trebled, or quadrupled, the hive is known as a "vierbeuter," "sechsheuter," or "achtbeuter" as the case may be. The one before us is an "achtbeuter," or a hive for eight stocks of bees. From our point of view we see the entrances to four of these, whilst the open door affords us a view through their glazed sides of the same number of interiors. Were we to take up our position on the opposite side we should command a view of the entrances to the remaining four compartments, and a similar door would afford us the opportunity of inspecting their interiors. Taken individually, each compartment may be considered to form a complete "lager" hive, which a partition placed at a distance of two-thirds its length from the entrance subdivides into "brood-room" and "honey-room," communication between which can be allowed or interrupted at pleasure. There are ten frames in every brood-room, and five in each honey-room, all being of the same size—viz., 9 inches wide by 10 inches deep, and of such width and at such distance apart as to be 1½ inch from centre to centre. The glazed side of each compartment is moveable, and by this means all operations of depriving, &c., are conducted. The whole exterior except the roof is well thatched with straw; and we can imagine that the combined animal heat of eight stocks of bees, which are only separated from each other by partitions of thin wood, is well calculated to set at defiance even the severity of a winter in the north of Europe.

(To be continued.)

THE ALANTHUS SILKWORM.

The more experience we have of the management of this insect, the more we are convinced that its culture is destined to become an important branch of native industry. We have just

received a communication from Lady Dorothy Nevill in which her ladyship says, "To show their hardness even in this bitter weather (thermometer 25° Fahr.), I have some worms spinning under some garden-lights just placed against the wall, where the frost has got in and killed all the leaves of the Alanthus they are feeding on. Some have died, but I have got a few nice cocoons only gathered a week ago, and there are others still spinning."

Nothing could be more confirmatory of the hardness of this worm, and it seems to be only a question of supply of food and organisation on a sufficiently extensive scale when this industry shall be established in the country.

OUR LETTER BOX.

COCHIN-CHINA COCK (*A Subscriber*).—Your Cochin cock with a rattling in his throat has a cold, and nothing more. In an airy house, with door and window, you never want a stove—all artificial heat of that kind is bad. Extra warmth should be produced by extra feeding. Your selection of food is varied, but not judicious. Take off the Indian corn, potato peelings, and sharps. Give ground oats mixed with water; for a change, whole corn and the sweepings of the table after every meal. Lettuce is better than cabbage. Give the cock some bread and ale twice per day till the rattling is gone. We advise you to breed only from the white Cochins that are not vulture-hocked. There is no hope of breeding perfect birds from defective parents.

FOWLS SUFFERING FROM DIARRHŒA (*C. S.*).—Your fowls purged and voiding slime, &c., suffer from disease of the digestive organs of most decided character, and we believe if you were to dissect one, you would find the gizzard ascid and totally unable to perform its functions, which are those of a mill; hence the passage of the stones, which should remain to crush the food. Shut up the diseased birds in a place where they can be easily caught and watched, give them daily a tablespoonful of castor oil, feed on stale bread only. Continue this treatment until the colour of the evacuation is brown mixed with white. When this takes place the bird is cured. If the dose prescribed seems too much, you may lessen it. When the bird has visibly improved discontinue the oil, and give the bread steeped in ale. Much green slime will probably come from the bird, and when the evacuations are firm, brown tipped with white, the bird is well. Fat would not account for this disease.

GAME COCKS BACKWARD IN MOULTING (*W. J.*).—Give your fowls stale bread, eggs if you have any to spare, cooked meat chopped fine, especially the knuckle of leg or shoulder of mutton, and a few peas or small Heligoland beans daily. Let them roost in a clean house and free from draught. You will see a great change in a fortnight.

WEIGHT OF TURKEYS, DORKINGS, AND AYLESBURY DUCKS (*Farmer's Wife*).—Thirty-eight pounds would be a good weight for three six-month-old Turkeys. You need not be discouraged if they weigh a little less. They should have, if they are to be comfortably shown, a pen at least 5 feet long, the same depth, and 4 feet high. There is no objection to its being rather longer. If you contemplate exhibiting, we advise you to put the birds together for some days before they go to the show, as it is not uncommon for the cock to spoil and sometimes to kill the hen by beating. The Dorking chickens are hatched late if they are for exhibition this autumn, but perhaps you have neighbour's fare. Cock and two pullets should weigh 18 lbs., a pen of Aylesbury Ducks 16 lbs. Make them heavier if you can. We have given you the ordinary weight of birds not prepared in any way for exhibition. Your Dorkings should have a coop or basket 42 inches high, 30 inches long in front, and 30 inches deep. If they are to be shown in the open air at this time of year, let the back and sides be covered with carpet or sacking.

WHITE DOWNY-FEATHERED FOWLS (*Othello*).—They are the Silk fowl, or Silkies, natives of China, Japan, and some parts of India. They are not rare, and having no particular merit no special prizes are offered for them. They are found occasionally in the class for "Any other variety." They require the same treatment and food as the Bantam, or, indeed, any other fowl.

DUCKS (*J. Bradley*).—There is no separate work about these birds. There is an abridgement in our "Poultry Book for the Many" of the articles concerning them which appeared originally in "The Poultry Book" with coloured prints, but which is now out of print.

RABBITS (*Gardania*).—If Rabbits are fed on green food, or even partially on green and partly on dry food, they do not require water; but if they are fed wholly on dry food—such as clover hay, meadow hay, oats, and bran, they should have water regularly twice a-day. The best daily food for Rabbits is clover hay, or oats, and bran morning and evening; and green food—such as sow thistles, endive, green clover, turnips, or mangold wurtzel in the middle of the day. As to the quantity, Rabbits will not eat more than they require. You will soon be able to ascertain how much to give them by noticing how much they leave after every feeding time.

BEES DESERTING THEIR HIVES (*An Old Waterloo Pensioner*).—The insects you enclosed appear to be immature specimens of an ordinary species of *Psocus*, which is frequently found in old combs, but which can exercise no injurious or other influence on the bees themselves.

SICK CANARY (*M. T. S. L.*).—The bird gasping and sneezing, &c., has a severe cold. It should be kept in a warm place free from draughts, a little chopped egg and bread given to it, and a piece of liquorice about the size of a pea put in the water. It must also have a glass of fresh water every morning if liquorice be given.

LONDON MARKETS.—NOVEMBER 24.

POULTRY.

Trade is very dull at Leadenhall, and we see no prospect of an improvement. The supply is greater than the demand.

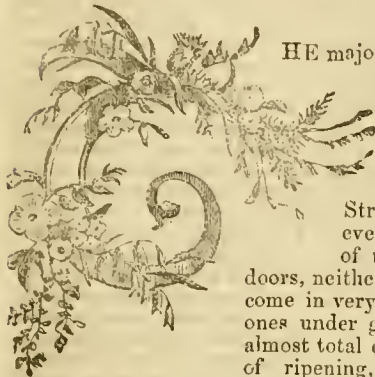
Large Fowls .....	3 0 to 3 6	Ducks .....	2 0 to 2 3
Small do .....	2 0 ,, 2 3	Partridges .....	2 0 ,, 2 6
Chickens .....	1 3 ,, 1 6	Hares .....	2 0 ,, 2 9
Geese .....	6 0 ,, 6 6	Rabbits .....	1 4 ,, 1 5
Grouse .....	2 0 ,, 2 3	Wild do .....	0 8 ,, 0 9
Pheasants .....	2 6 ,, 3 0	Pigeons .....	0 8 ,, 0 9

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 2—8, 1862.	WEATHER NEAR LONDON IN 1861.												
			Barometer.	Thermom.	Wind.	Rain in Inches.	Sun Rises.		Sun Sets.		Moon Rises and Sets.		Moon's Age.	Clock after Sun.	Day of Year.
							m.	h.	m.	h.	m.	h.			
2	Tu	<i>Acaia juniperina.</i>	30.674—30.295	50—20	N.E.	—	17	47	52	43	45	3	11	10 22	226
3	W	<i>Acaia taxifolia.</i>	30.211—30.165	53—18	S.E.	—	49	7	51	3	53	4	12	9 59	227
4	Tu	<i>Camellias.</i>	30.114—29.821	52—23	S.	.30	50	7	51	3	59	5	13	9 35	228
5	F	<i>Chrysanthemums.</i>	29.744—29.693	49—22	W.	—	51	7	59	3	0	7	14	9 10	229
6	S	<i>Corraa pulchella.</i>	29.671—29.271	51—40	S.	.46	52	7	50	3	rises	0	15	8 45	230
7	SUN	2 SUNDAY IN ADVENT.	29.384—29.195	60—34	W.	—	51	7	50	3	57	4	16	8 19	231
8	M	<i>Erica vestita.</i>	29.674—29.411	55—39	S.W.	.23	55	7	49	3	55	5	17	7 53	232

METEOLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 47.2° and 35.2° respectively. The greatest heat, 60°, occurred on the 7th, in 1856; and the lowest cold, 14°, on the 5th and 6th, in 1814. During the period 114 days were fine, and on 131 rain fell.

SEA-KALE FORCING.



THE majority of our ordinary fruits and vegetables are in the best condition when grown without any application of artificial heat. Forced Strawberries rarely, if ever, have the flavour of those grown out of doors, neither have Peaches that come in very early, though later ones under glass, which receive almost total exposure at the time of ripening, are undoubtedly good; and Grapes rarely or ever

ripen properly in this country without such assistance. Fruits that will ripen during our summer are invariably better flavoured than the same kinds when forced into use at an earlier period. I do not mean that those which are starved into a sort of half-and-half maturity in the autumn are so good; for these evidently wanted a longer summer to perfect them.

A like remark holds good with vegetables that are subject to artificial heat. Kidney Beans in February rarely taste so well as out-of-door ones do in July, neither do Rhubarb and Potatoes, although the almost total exposure which is given to the latter before taking-up time makes them in a great measure out-door productions, and the season they come into use renders them acceptable; in fact, all forced things are more or less esteemed in consequence of the unnatural period at which they present themselves.

Taking, therefore, for granted the fact of most forced fruits and vegetable being inferior to the same kind when grown in a natural way, it may be safely pronounced that the one I now speak of is an exception to that rule; for when Sea-kale is grown in an ordinary way with full exposure to the atmosphere, it loses that crispness which is its most essential point of merit. Forcing, therefore, instead of diminishing the quality of this vegetable improves it, or, at least, a peculiar mode of cultivation is necessary to bring it to the condition fit for table, and this condition being so essential to the article, no apology is needed in bringing the matter before the readers of THE JOURNAL OF HORTICULTURE at the present time.

It is needless to point out the antiquity of this vegetable. It is likely its first qualities as an article suitable for human food may have been found out by some poor fishermen or others living by the seashore, who, attracted by the succulent and apparently edible character of the shoots rising through the sand, were induced to try how these tasted in a boiled condition. Having found them a greable in this state, it is easy to conjecture that culti-

vation followed on the heels of such a discovery; not fast, it is true, as there was no COTTAGE GARDENER in those days, and the spirit of inquiry was only sharpened so far as to secure the requirements of the individual rather than to compete for the fame which successful experiments invariably entitle the lucky discoverers to receive at the hands of a discerning public. It is, therefore, likely that some ages elapsed ere Sea-kale was thought of in any other light than as a useful weed, available at a certain time for human food, and receiving no further attention at the place it grew than field Mushrooms and some other things get at our hands at the present day. Be that as it may, certain it is that Sea-kale has been in cultivation for a long time with but little change in the mode of treating it, which, simple as it is, has, nevertheless, certain features in it which, if not duly attended to, the result is seldom satisfactory. I offer, therefore, a few observations on the subject.\*

SOIL.—It is easy to conceive that a plant inhabiting the seashore must of necessity like a fair share of salt spray: hence some growers have thought that adding large quantities of salt to a stiff clayey soil was all that Sea-kale wanted—nothing could be more absurd. Beef and pork require large quantities of salt to keep them; but no one ever thinks of using this useful seasoning to preserve summer fruits. And although salting a piece of clayey ground is not so bad, perhaps, as putting salt instead of sugar into Mrs. Storecloset's jam, marmalade, or jellies, the difference is less than many would think who have not noticed the effects of large quantities of salt on stiff clayey ground. It is, therefore, better in all cases where Sea-kale has to be planted on such ground to dig-in with it as much sand as can possibly be obtained, removing as much of the clay as possible, and after obtaining a depth of 2 feet of loose porous material with a perfect drainage, Sea-kale may then be planted with a fair chance of success. If plenty of sharp sand has been added that is free from all mineral matters of a noxious kind, salt may, after a little time, be given as a dressing, very little at a time; previous to that, however, I may say that some useful manure may be applied, for Sea-kale is not indifferent to good living—it likes other things as well as urine. Soils possessing the above requirements

\* The common people on the western shores of England have, from time immemorial, been in the practice of watching when the shoots begin to push up the sand or gravel, in March and April, when they cut off the young shoots and leaf-stalks, then blanched and tender, and boil them as greens. The precise period of its introduction to the garden is unknown, Parkinson and Bryant state, that the radical leaves are cut by the inhabitants where the plant grows wild, and boiled as Cabbage; and Jones, of Chelsea, assured Mr. Curtis that he saw bundles of it, in a cultivated state, exposed for sale in Chichester Market in 1753. Maher states (Hort. Trans., vol. i.), that the *Crambe maritima* was known and sent from this kingdom to the continent more than two hundred years ago, by Lobel and Turner; but Miller, in 1731, was the first who wrote upon it professionally. About the year 1767, it was cultivated by Dr. Lettson, at Grove Hill, and by him brought into general notice in the neighbourhood of London. In the "Gardener's Dictionary," published in 1774, by Gordon, at Fountain Bridge, near Edinburgh, directions are given for the cultivation of this vegetable, and for blanching it, by covering the beds 4 inches deep with sand or gravel. Professor Martyn has printed some valuable instructions for its cultivation, from the MS. of the Rev. M. Laurent; and Mr. Curtis, by a pamphlet on its culture, did more to recommend it, and diffuse the knowledge of it, than any of his predecessors.

in abundance, or, perhaps, superabundance, must have a little more depth given, and, if very dry, a larger proportion of salt may be added here than to the plantation resting on a clay bottom; for, notwithstanding the artificial mixture the roots may be in, such bottoms have a tendency to render composts laid on them somewhat like themselves. Sea-kale, however, is very accommodating, and rarely fails to grow anywhere, but in certain places it does so better than in others.

**SOWING AND PLANTING.**—It is a very good practice where a fresh bed in wanted to sow the seed on a bed of good garden soil, and when the plants are about the size of table Radishes to take them up carefully, and plant them where wanted. This operation ought to be done in moist weather. Sometimes the seed is also sown in rows 18 inches or more apart. When the plants are allowed to grow, to be taken up for forcing, some little thinning here is also wanted; but in very good soil, crowns with roots like fair-sized Carrots may be had in one year, and these do admirably for taking-up and forcing. In planting for forcing on the ground, on the old-fashioned system of covering them up with heating material—as leaves, dung, or tan—the plants may be about 3 feet apart each way, and if three plants were planted together at one place, something like flowering Stocks in a mixed border, there would be a better chance of a good head than if only one plant were put in. Plants from seed are best, but we have sometimes taken up an old plant, and having cut up its roots into small portions of 1 inch or 2 inches long, scattered them on a bed of good soil, and slightly covered them with fine mould, taking care that they did not suffer from drought until they began to sprout, and when sufficiently established to move they were transplanted to their final quarters. Seedlings, however, are better when they can be had.

**FORCING.**—Hardy as this plant is, and bad as the treatment it often gets, and yet recovers from, it is, nevertheless, not to be driven too hard at all times, and before Christmas it requires more coaxing than it does afterwards. The reason of this is obvious. The plant, like all others, requires rest, and as this does not take place until October it is not to be wondered at that it becomes impatient if urged into activity in less than a month afterwards. Very urgent forcing then is, therefore, resented; the plant either refuses to grow at all, or sends up a weak spindly head not much better than straw—a mere apology for what it ought to be. Slow and careful forcing must, therefore, be accorded to it for the first crop; the second may bear a little more urging, and after the middle or end of January it will endure pushing-on without complaint. Generally speaking the easiest way to obtain an early batch is to prepare some plants for taking-up, to lift them with as much root as possible, and to plant them in some corner of the Mushroom-house. If that is not available, a good deep box may be filled with roots planted in soil, and placed in some warm, but not too dry, dark place. The Sea-kale will begin to grow in good time, care being taken to exclude all air and light from the growing shoots by a covering of some kind. In some places where this vegetable is extensively grown there are, however, pits heated with dung or fire heat, in which are shelves of the proper depth to receive the roots at once. A moist heat must be given, otherwise the shoots instead of being crisp would be tough; a common hotbed frame or box with a darkened top answers very well, and covering ordinary glass lights with litter is also successfully resorted to; only at such times glass is much wanted elsewhere. But the modes in which this easy kind of forcing may be carried out are so varied and yet so easy as to present themselves to all who have only the most limited means.

Forcing in the ground is another matter, and though much discontinued in places where heating materials are scarce, it is still done extensively in most country places. The plants occupying sites about a yard apart, pots somewhat like chimney-pots, or boxes of a like shape are put over the heads, and a sort of lid over the orifice of each. The whole ground and these pots or boxes are then covered over with heating material, the ground underneath and the air inside the pot or box being, consequently, warmed, the plant is induced to grow, and is examined at times to see if all be going on right. Over-heating is the powerful evil to contend against here. It is better, therefore, to use leaves only if they can be had, as they seldom heat to injure anything; whereas, horsedung and tan often heat to excess. The gentle heat imparted by oak or beech leaves will bring on Sea-kale as fast as necessary, and the more slowly it is grown the stouter it is. Occasionally examining the heap to ascertain if any part of it lacks the necessary warmth is proper

now and then; for it sometimes happens that by a long succession of drying easterly winds penetrating the mass there is no heat. In such cases a barrowload or two of hot stable dung inserted in a place altogether, not mixed with the mass, but in a lump amongst it will create a heat which will be imparted to the surrounding leaves, and a good result will follow; but it is necessary to examine now and then to ascertain if any part be too hot, and if so, this evil must also be rectified by removing a part of the heating substance before it does much mischief, otherwise scalding, as it is technically called, will occur.

**CONCLUDING REMARKS.**—It is needless describing what a good head of Sea-kale is, that only good, healthy, well-grown plants can produce early in the season, afterwards it becomes stronger from plants that were no better in the autumn. Forcing always sacrifices quality in proportion to the extent to which it is carried. Some care is also due to the plants after the heads are cut off, which they do not always receive, and suddenly exposing such plants to the severity of a February frost is trying in the extreme. Gradually uncovering them until mild spring weather sets in must be adopted, after which the ground may be dug with the fork, and the plants allowed to grow on for the summer. Do not remove the flower-stems that will in all cases show themselves until they have been all fully out into flower, when all but such as may be wanted for seed may be cut away, and they will not form any more seed-stems then; but cutting off every effort to flower at the beginning only encourages other efforts in that direction. Should any plant die off, remove as much of the old soil where it has grown as possible, and bring in fresh before planting others, as like most other things they do not like to grow on the same spot again. I had almost omitted to say that in addition to the successional forcing in the open ground, the last batch may be covered-up with pots or boxes in the usual way, and instead of these being covered over with heating material they may be filled with sand or sand and ashes, through which the heads of the plant will force themselves, and produce a better article than can be obtained by forcing; it will, however, be late: nevertheless, on that account may not be the less useful. Darkness is the most essential thing to obtain good Sea-kale, whether in a forced or natural condition. J. ROBSON.

#### THE PLANT FROM NAZARETH—CENTAUREA CANDIDISSIMA AND GAZANIAS.

WHAT about the "plant from Nazareth," page 573, the *Paronychia arabica*—that "very pretty basket-plant out of doors in summer," and that "very pretty, interesting, and peculiar-looking plant?" And what about the fact, too, that nobody asks anybody else ought more about so "very pretty" a plant? a basket-plant, too, to hang outside the window in pairs, at the opposite corners, or from the doorsteps of the library, or from brackets, where you could see them, just at the height of the eye, glistening in the sun with their silvery, shining leaves, and their "peculiar-looking" tufts of emerald green, in close-jointed knots, along the full length of their gracefully slender pendulous stems. Surely all this is not going to pass off like that which goes in at one ear and out at the other.

But what else can we have, or what so "peculiar-looking," and so "very pretty," as the plant from Nazareth, and more especially so when grown as they grow plants in London?

The next thing will be how are we to procure a supply of it from seeds, for in no other way will it pay to grow it. Who has the best Syrian or Tyrian correspondent? The one or the other, or both in one, might manage to obtain it in quantity. But the fact is, we have had it already in abundance in the London seed trade; and in Surbiton, too, we had large supplies of it for ever so long, and no treatment would grow it half so well as that in the Waltonian Case.

Mr. Walton himself had the credit of surpassing every man and master in Surbiton in the management of the plant from Nazareth—the *Paronychia arabica*; but whether he picked up the seeds on his travels, or bought them in London like the rest, I do not know, but I know some bought seeds of it in London, for I saw the plants four or five years back.

In the long vacation, our best people in Surbiton travel all over the face of the earth. It was only last May that a lady here brought out two plants for me to name for her. The seeds were gathered the autumn before, on the very spot where Jericho is said to have stood. The plants were the common sweet Tarragon. The same party might have taken Nazareth

on their way to Jericho, if they went by the low country. But it is more likely the plant might be seen all over the country. At all events, we must have a supply of the seeds next spring if they are to be had, and see what can be done with it.

I was not aware that the plant was such a good basket-plant till I read of it in this Journal; but, when I was on my botanical horseback, this was just the sort of plant to pay for its keep, and if they had then spoken to me about a Dahlia without a bull's-eye, round as a target, I would sooner spur against a five-barred gate than listen to such folly.

*Paronychia arabica* is a very miffy plant for the first month after sprouting from seed, but, once established in single pots, it gives very little trouble. It often struck me as almost certain, that the way of lawyers in their studies, and in their practice of the law, is the next best way to ours to be first-class gardeners, and the best on the list for being the most successful amateurs. You might think the medical profession had a better start for gardening than that of the law: I thought so too at one time, but I am now sure of the contrary. It is not that deep study into the nature of plants as into the depths of our being, which can make a man a first-class amateur in gardening. It is only through the application of the simplest niceties—the minutiae as we call it, that an amateur can come up to a gardener in many things. The minutiae, or the essence of nicety, is constantly present in the mind of a lawyer, and by that quality of his mind he can split a hair into two equal parts, which is equal to dividing his attention to half a fraction in the summing-up of a process, or in the doings for a plant however minute. And all this time he is on the exact road for a plant to go on its course to whatever its nature is capable of being pushed to, while the man of means and medicine is still in the circle of the mysteries of the plant's being.

Then, to grow *Paronychia arabica* as Mr. Walton has done here in Surbiton, you must split the hairs between having it neither wet nor dry, too cold nor too hot, without too much or too little light for the first month of its coming from seed. Also, you must use very light soil, and the little seedlings must be put six together in a No. 60-pot at the first potting, and when that is quite full of roots divide the ball into six equal parts, and each part with its plant to have a No. 60-pot for itself, and the hair-splitting to go on all this time, and to the day that each No. 60-pot is fit to be changed for a larger, and from that day forth there is no more risk in doing it than there would be in growing *Lobelia speciosa* from seeds saved on your own premises, or at the Crystal Palace.

The next plant on my list I must put off, to tell of a very pretty little *Geranium*, which is mentioned at page 685, or last week, in the column for correspondents. Little Dot is the name, and it belongs to our worthy friend, "THE DOCTOR'S BOX." Well, "THE DOCTOR'S BOX" sent two cuttings of it in the summer of 1861, rather late, and they went the way of all *Geraniums*, in that frost which did my *Cyclamens* down to the roots; and so it was till towards the end of the last bedding, when "THE DOCTOR'S BOX," nothing daunted, sent up a full-blown plant of it, and I had it to prove, in full bloom, to the very end of the season, and the responsibility of the verdict rests on my shoulders.

Little Dot is the most dwarf I have seen of the *Lucia rosea* breed; it is also the best horse-shoe-leaf I have seen in that strain, and it is the most profuse bloomer I have yet seen of that much-admired section of the bedding classes. Young plants of it would make a match edging to a bed of old plants of *Christine*, and the flowers would be as much a contrast as the size of the plants, and the marking on the leaves of Little Dot. The shade of colour is very near that of *Lucia rosea*; but it might be a shade deeper or lighter in the height of summer.

The next lowest *Geranium* after Little Dot is my own seedling Harry Hicover, which, when planted in two rows for an edging, makes the most perfect ring of all round the garden; but unless the plants are two years old, one row of it is hardly sufficient for an edging.

I saw another *Geranium* at Mr. Salter's nursery the other day, which came out last spring for the first time, and I think it would take a place between Little Dot and Harry Hicover. I quite forgot to take down its name, but it is of the strain of *Lucia rosea*, and very lively and dwarf.

These very dwarf sorts are gaining in public estimation year by year. Mr. Gordon tells me that *Blush Minimum*, the least conspicuous of the lowest order of bedders, is more talked of at the Crystal Palace than any of the best large ones, and that is

why he uses it in all parts of the garden so freely as an outside row, or as a row next to *Lobelias*, or plants like them.

Now, Little Dot, Harry Hicover, and Mr. Salter's seedling of last spring, will be invaluable at the Crystal Palace, where people begin to look already for the best and greatest novelties.

I saw another move at Mr. Salter's which deserves extensive imitation with *Centaurea candidissima*, the most noble-looking of all our white plants for edgings, and for ribbon rows. A large batch of it was planted out last spring in pots, as is now done with *Unique Geranium*, and other bedders about London, to have them in bloom a month earlier for the London season. The plants must have been small in the spring, for they were in No. 60-pots; but the roots grew out at the bottom of the pots, and over the rims at the top, and made strong bushy plants, which stood all the frost of this November without a single leaf being hurt. This, then, appears to me to be the very best plan for amateurs to adopt with *Centaurea candidissima*—to have the plants in No. 48-pots in April, to plunge pots and plants 2 inches below the surface, to water the hole for the pot before putting it in, and to see the plant itself has been recently well watered, and if the time of planting is very dry, or very hot, or windy, to see the pots watered once more in about ten days, then to let them take their chance for the rest of the summer. Now what is more handy, when we are all on the trot by the frost, than to find, or to know that the very best plant of all the bedders may be left out without injury, as long as the glass keeps on the safe side of 20° of frost? Then up with them, pots and all, and if you are hard-up for pots, as most people are at that push, why the *candidissima* may be plunged in some light, half-dry compost in a cold frame without any pots, and be as safe as any of the cold-pit plants in common use.

There is no reason, therefore, why the cottager, who can have his Tom Thumbs in order, should not also have the most princely plant of the day by the selfsame process, if not by a far more simple one. I think my own plan is about as simple as any for keeping all odds and oddities over the winter without pots. I have twelve lights crammed as Mr. Fish crams his faggots into pots, but not over a score of pots beneath, and they with only one plant in a pot, some pot plant or another I can keep the frost off, and that is all.

The secret is in two parts. I take every morsel of a leaf off, the leaf-stalks, and the blades which accompany the joints; but I make no cuts to fester. Every shoot of *Geranium* is left the full length it was at the time of lifting, and such pruning as I may think necessary done some time before the lifting; then the whole are planted in a light moist compost as close together as they can stand; and as the work proceeds the whole surface is covered over with rather more than an inch deep of dust-dry compost, made so on purpose for this work, and for four months no water is given to three thousand plants. The lights are open every day that is not wet or frosty, and it is very seldom indeed that I see a damp shoot or any signs of damping. *Lobelias*, *Cyclamens*, *Gazania splendens*, *Cherry-pies*, *Aretotis*, *Farfugiums*, and all kinds of *Geraniums*, are thus treated the whole winter, and that puts me in mind of another turn I had this season, and which is not amiss in its way.

What would you say to doing *Gazania splendens* as Mr. Fish does the *Calceolarias*?—put in the cuttings in the middle of November, and keep them as cool and as moist as the *Calceolaria* cuttings through the whole winter. Well, from what has occurred with me, without trying for it, it strikes me that will be the best plan with *splendens*. But I put in my usual stock of cuttings of it at the end of August in the open ground, just like cuttings of *Scarlet Geraniums*, and nothing could do better; they all rooted, and while they were rooting the stems ripened and hardened, so that no damp can hurt them at all events, planted in that pit as closely as they can stand.

But I had three large old plants of it in pots the whole season with some of the shoots 18 inches and 20 inches long, and kept half-starved in pots on a high stand full in the sun, the shoots hanging down as from a vase. That plan was adopted as the last I could think of to cause the plant to seed, and if it seeded to cross if possible; but all would not do, the *Gazania splendens* will not seed here by any means known to me or that I can think of, neither will *Gazania rigens*.

In the beginning of October I shook the soil from their roots, cut off the long branches, and put the plants in by the heels in the open ground, and in the beginning of November I had them planted in my omnibus pit, and before I had all in I had to

change the *Gazania* plants to another light, and then I found every part of the stems which was in the ground, or touched it, had rooted as freely as if it were July, perhaps more so; and as the old roots were almost all cut away with the balls, and no sign of growth in the parts of the roots which escaped, while all the young wood or shoots were one mass of young roots, it would seem that November is as good as any, if not the best, time to put in the cuttings of splendens, and if so, probably also those of rigens and uniflora.

Another way would be still as handy for people who are pinched for room at the time of housing the harvest of the beds. It is this, and it is not too late now—to lift so many of the old plants out of the beds, or rows, to cut away all the spreading shoots, leaving only a cluster of very young shoots near the collar of the plant, and to plant the whole in a narrow box, or boxes, so that the young growth might hang out on either side of the box without coming in contact with the soil which might cause dampness. Several boxes of that kind of make have been so planted this and last season hereabouts, and at planting-out time last May, every old plant made so many plants by dividing, besides a whole complement of cuttings by the middle of last March, and the plants so obtained were not one day behind those which were had from autumn-struck cuttings, which had to be carefully kept and watched all through the winter. But who will put in a batch of cuttings now of *Gazania splendens* to see if they do as the *Calceolarias*? D. BEATON.

### FORTHCOMING ROSES.

THE opinion that I expressed after my run through the Paris Rose-nurseries in July seems to be but partially correct—viz., that this year would not witness so large a number of new Roses sent out as last. In the main it is so, and especially so far as the Paris folks are concerned; but still the number is sufficiently large—much, too much so, I have no doubt. Knowing the eagerness with which any information relative to the queen of flowers is sought after, I have appended to this a translation, as literal as I could, of the descriptions furnished by the several raisers. For the general list I am indebted to the kindness of Mons. Eugène Verdier, fils aîné, although, of course, he is not responsible for their correctness. Those only which I have seen are *Louise Margottin* (Bourbon), and *Madame William Paul*; and of both I am inclined to form a very favourable opinion. If one is to be guided at all by the former doings of the several raisers, we might guess that 2, 7, 8, 11, 13, 21, 23, 28, 26, and 42, are likely to be the cream of the others, but of this time can be the only judge. The raisers are extravagant enough in their praises, and in the names of the colours they employ. There is some difficulty in comprehending what a "Rose virginal" is; but what in the name of all that is matter of fact are we to understand by "euisse de nymphe satiné?" A nation that can fight for "an idea" may be able to comprehend it; but poor John Bull can only hide his blushing face, and say it beats him.

I believe that never since Roses were grown have so many been sent forth from the various growers as this season. From all quarters I hear the same story—overwhelmed with business, and unable to overtake the orders: and such contests as there will be for cups, and medals, and prizes, surely have never yet been seen. If the year 1863 be favourable it will be a Rose-year indeed. Many of the new Roses will, I think, take a good position; and vigour of growth is, I think, likely to be a marked feature in many of them. I hear, too, of more new English seedlings. Mr. Cranston has some of which he hopes well; and Mr. Ward will not be contented to be the winner in one battle, but hopes to bring forward others to follow in the wake of John Hopper. There will be work for all next year if we are spared to see it; and may prosperity attend the court of her Rose majesty!

### NEW ROSES OF 1862-63.

#### TEA-SCENTED.

1. *Comtesse de Brossard* (Oger), plant very robust; very full of flower, full canary yellow. Standard.

#### BOURBONS.

2. *Emotion* (Guillott père), plant robust; flower pretty full. Perfect form.

3. *Louise Margottin* (Margottin), plant very robust; flower large, full, and very well made; rose, soft, very satiny, verging into a white. Very fine.

4. *Mons. de Lunières* (Robert & Moreau), plant very robust; flower tolerably full.

5. *Rochambeau* (Robert & Moreau), plant very robust; flower tolerably full, blooming in clusters. Fine lively rose.

#### HYBRID PERPETUALS.

6. *Tricolore* (Robert & Moreau), rosy lilac. Very effective.

7. *Alfred de Rougemont* (Lscharme), plant robust; flower large, full, well-made, tinted crimson purple and shaded with bright red. Superb.

8. *Baron Adolphe de Rothschild* (Lscharme), tree robust; flower large, full, well made, lively fiery red, often tinged with white. Very effective.

9. *Belle des Massifs* (Ducher), plant robust; flower moderate, blooming in clusters, form of *Anemone*, lively rose. Flowering very abundantly.

9\* *Belle du Printemps* (Damaïsin), plant robust; flower tolerably full, globular, rose striped with red. Sport of *Duchesse de Cambacères*.

10. *Bellotte* (Souper & Notting), plant robust; flower tolerably full, form perfect, rose carmine, darker in the autumn.

11. *Caravane de Nîmes* (Damaïsin), plant very robust; flowers very large, well made, scarlet red. Blooming freely in autumn, and of highest merit.

12. *Deuil de Prince Albert* (Gruad), plant very robust; flower large, full, imbricated, very dark blackish-crimson, shaded in the centre with bright lively red. Very fine.

13. *Duc de Bassano* (Portemer), plant very robust; flower large, full, of a cup-shaped dark velvety crimson. Superb.

14. *Hortense Blanchette* (Damaïsin), tree robust; flower tolerably full, well made, white centre, blush. Flowering in clusters, and producing a good effect.

15. *Impératrice Maria Alexandrina* (Damaïsin), tree robust; flower tolerably full, very well made, white.

16. *Jean Goujon* (Margottin), plant robust; flower very large, well made, guard petals well-rounded, those of the centre smaller, fine clear red.

17. *La Esmeralda* (Fontaine père), plant robust; wood and foliage similar to *Jules Margottin*; flower large, full, lively cherry shaded with dazzling carmine.

18. *La Pivoine* (Robert & Moreau), plant robust; flower large, very full, globular, pæony-shaped, bright poppy-coloured; very flowering and effective.

19. *La Tour de Croucy* (Fontaine père), tree very robust; flower very large, full; very pretty, colour rose.

20. *Laurent Dascourt* (Liabaud), plant robust; flower very pretty, nearly full, interior velvety purple, reverse shining rose, flowering very abundantly. Excellent for grouping.

21. *Le Baron de Rothschild* (Guillott fils), plant very robust; flowers very large, dark red carmine, sometimes shaded with violet. Very fine.

22. *Le Juif Errant* (Granger), plant robust; flower large, full, purple, blackish-violet.

23. *Le Rhône* (Guillott fils), plant very robust; flower very large, full, well made, vermilion red; colouring very rich and brilliant. Plant excellent for grouping.

24. *L'Éclatante* (Guillott fils), plant very robust; flower medium sized, sometimes large, full, or nearly so, well made, black red, shading to purple violet. Very fine colour.

25. *Madame Bianson* (Fontaine père), plant very robust; flower very large, perfect shape, fine bright red carmine, shaded with poppy colour; free flowering. Superb. First-class plant.

26. *Mad. Crespin* (Damaïsin), plant robust; flower tolerably full, regular shape, rose shaded with dark violet.

27. *Mad. Emau* (Pernet & comp), plant robust; flower large, nearly full, globe-shaped, slatish-red purple.

28. *Mad. Freesman* (Guillott père), plant very robust; flower middling, very full, oval, yellowish-white.

29. *Mad. Hélyer* (Portemer fils), plant very robust; flower large, full, globe-shaped, red carmine with black tinge.

30. *Mad. Valenbourg* (Oger), plant robust; flower large, full, well made, bright purple, sometimes shaded with indigo.

31. *Madame William Paul* (Ch. Verdier fils), plant robust; flower medium, sometimes large, full, globular, well made, purple violet, shaded into crimson. Superb.

32. *Murillo* (Fontaine père), plant robust; flower middling, well made, full or nearly full, red velvety purple, shaded carmine and violet, flowering abundantly. Very pretty.

33. *Paul Desgrand* (Liabaud), plant vigorous; flower middling,

full, globular, clear red tinged with violet, flowering continually. Very good for grouping.

34. Peter Lawson (Thomas), plant vigorous; flower large, full, globular, well made, bright poppy shaded with velvety purple. Very beautiful.

35. Prince Henri des Pays Bas (Souper & Notting), plant vigorous, and flowering freely in autumn; flower middling full, well made, nearly globular, bright crimson; petals velvety purple, the reverse lilac. Very beautiful.

36. Princess Alice (Ducher), plant very vigorous, nearly thornless; flower very large, full, bright rose, on the reverse whitish, very sweet-scented, and very beautiful.

37. Sœur des Anges (Oger), plant vigorous; flower very large, very full, very pale carnation rose, passing to white. Sport of the Rose Duchesse d'Orleans; superb and first-class.

38. Souvenir de Charles Montault (Robert & Moreau), plant vigorous, free-flowering; flower large cup-shaped, fine appearance, bright fiery red. Seedling of Géant des Batailles; very fine.

39. Triomphe d'Angers (Robert & Moreau), plant vigorous; flower large, full, flat, very well made, dark velvety purple, shaded with bright red and Bishop's purple; free-flowering. Superb and first-class.

40. Vainqueur de Goliath (Parnet & comp), plant vigorous; flower very large, full, fine, bright fiery red. Stalk firm; foliage remarkable.

41. Valentine de Nerval (Robert & Moreau), plant vigorous; flower middling, full, open, regular, fine bright rose colour, whitened on the edges, free-flowering.

42. William Paul (Guillott père), tree vigorous; flower middling, or large, full, bright crimson red.—D., Deal.

### THYSACANTHUS RUTILANS FOR DINNER-TABLE DECORATION.

I HAVE been much interested in the various articles on this head which have recently appeared in your Journal; and I write to express my surprise that Mr. Robson has omitted in his list *Thysacanthus rutilans*.

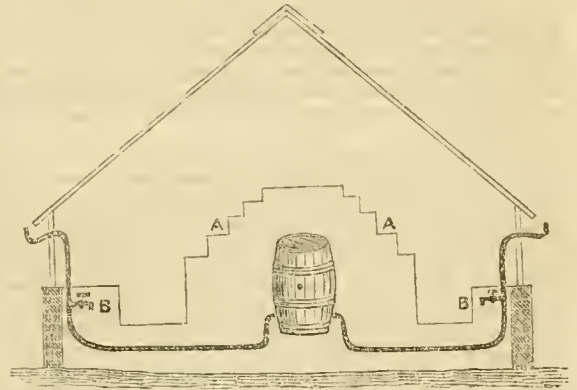
It is, when well grown, perhaps one of the most suitable as well as most splendid plants for this purpose. Its long, tropical-looking, jointed stem carries the crown above the line of vision; while its delicate pendent racemes of brilliant scarlet flowers, show brilliantly by candlelight, without intercepting the view. I speak from particular experience at my own table.—A. D. A.

**THE GREAT EXHIBITION.**—A meeting was held on the 26th ult., at the Board-room of the Horticultural Society, for the purpose of presenting to Dr. Lindley an address from the Colonial Commissioners, expressing their thanks for the very valuable services rendered by him during the course of the Exhibition as Superintendent of the Colonial Section. The address runs as follows:—"Before the final closing of the International Exhibition of 1862, we, the undersigned Commissioners, beg to convey to you our warm acknowledgements for the admirable manner in which you have discharged the arduous duties confided to you by Her Majesty's Commissioners. No small share of the great success of our department, to which his Grace the Minister for the Colonies bore such gratifying testimony, a testimony echoed by the voice of public opinion, is due to your advice and co-operation. Personally, we have to thank you for many acts of kindness, and we shall not fail to convey to our respective Governments our appreciation of the valuable services you have rendered to the agricultural, commercial, and industrial interests of the British Colonies." This document, which was signed by thirty Commissioners, was presented to Dr. Lindley by Sir Daniel Cooper, Commissioner for New South Wales, whose short but eloquent remarks were cordially applauded by his brother Commissioners. Among those present were Sir William Holmes, British Guiana and Trinidad; Sir Henry Drummond Wolff, K.C.M.G., Ionian Islands; Mr. Knight, Victoria; Mr. Brown Chamberlain, Canada; Mr. Cowper, New South Wales; Mr. Chitty, Jamaica. Letters of excuse were sent from Sir Charles Darling, Mr. Denison, and others. An address of a similar character was then presented to Mr. Simmonds, a gentleman who has ably assisted Dr. Lindley in his duties. A resolution was then afterwards carried that the address should be communicated to the Duke of Newcastle.

This is not the first occasion on which the Colonial Commissioners have testified their respect and goodwill towards these two gentlemen. During the course of the summer a dinner was given to them at the Ship Hotel, Greenwich, and numerous attended.—*Times*.

### WATER IN GREENHOUSES.

IN greenhouses in the country, where soft water cannot be easily procured, it is highly important that the rain water from the roof should be saved, and in many cases underground cisterns of a costly kind are constructed, out of which the water has afterwards to be pumped. This arrangement is both troublesome and expensive, and can be easily avoided. By purchasing one or more old oil-butts, which can generally be had at the rate of one cent a-gallon, and which usually contain 150 to 175 gallons each, and placing them on end under the centre stage and by bringing an iron, lead, or tin pipe from the eave-gutter (as



shown in the wood-cut annexed), you can always draw the water from under the front stage or table by the tap at B. If more than one cask is required, they can be placed nearly in contact and connected with a short piece of leaden pipe bedded in white lead.

I would also recommend that the centre stage should be boarded-in entirely. It not only conceals a part of the house which is always unsightly, but it diminishes the volume of air to be heated almost one-half. By introducing a row of small lights in one of the risers of the steps at A A, sufficient light will be furnished for a good potting-room, access to which can be gained by a sash-door at one end. I had a greenhouse built on the above plan some five years ago, and have found it to answer perfectly.—(*American Gardener's Monthly*.)

[Without advocating the use of the enclosed portion as a potting-place, for we should prefer it for blanching Rhubarb, Sea-kale, &c., there is much to be commended in the above suggestion as to the receptacle for water. A slate tank might be substituted for the casks.—EDS.]

### VINES IN POTS AT BACK OF A PINERY.

I HAVE just made a stove 20 feet long by 15 feet. It is a lean-to with south aspect; wall 11 feet high; ventilation front and back near the top; door in the centre of one end. I have a six-foot bed in the middle for Pines, 2 feet 6 inches bench in front, and 2 feet bench at the back. Should I have a good chance of growing Grapes in pots on this back bench perpendicularly, or would it be better to have the pots in front, and run the Vines over the Pines? If the Vines would do well at the back, the front bench would be available for stove plants.—JUNUS.

[There is no doubt but that the Vines in pots will do very well on the back bench, if the wood is well ripened, and the Vines are brought on gradually. The plants, if convenient, might have their buds swelled in a frame or pit with a little fermenting matter, and then they would take no harm from being introduced to the heat of the stove at once. Other means, even in the stove, might be resorted to, for bringing them on gradu-

ally. Of course, we are supposing that the pit and the Pines in the centre are not so high as to prevent the light passing over to the back wall. If one hot-water pipe or more passed beneath the back bench, all the better.]

### WHY DOES THE SAP RISE WITH MOST FORCE VERTICALLY?

Has the reason been ascertained of the well-known fact that the sap of a tree pushes with most force in a vertical direction? When a trainer of fruit trees wishes to reduce the vigour of a too-luxuriant branch, he bends it towards the ground. A weak branch, on the other hand, he trains as far as may be in an upward direction, that more sap may flow into it. Other instances might be given: but how is it that the juices of the tree ascend most vigorously in that direction where there is the greatest resistance to their ascent from gravitation?

By-the-by, if the above law holds good, as I believe it does, was Mr. Fish right in saying in one of his communications last year, that the fruit which hangs downwards on a Strawberry, will be larger than those whose stalk is upright? Of course, the larger fruit bends downwards with its weight. But I imagine this largeness is in spite and not in consequence of the bending-down, and that if the stalk were held up the fruit would be larger still.—WYESIDE.

[Had we time and opportunity we might enter at great length into the subject of which your question treats; and if we wished to look learned and conceal our ignorance, we might introduce a great number of high-sounding phrases and scientific terms to show that, in our own estimation at least, we were perfectly conversant with the reasons why, as a general rule, one part of a plant reared itself upright into the light and air, and another part as uniformly buried itself in the earth and darkness; and why it is, as a general rule, not now alluding to exceptions, that the upright stem of a plant receives more of the general nourishment than the subsidiary branches; and why it is that the terminal bud of that upright stem is not only larger, but in general produces in the following season a stronger and longer leading shoot than comes from the subsidiary branches. We think it, however, to be more philosophical, and a great deal more honest, allowing that, as a general rule, the sap flows most strongly in a vertical direction, at once to confess our inability to explain the phenomenon. We just so far recognise it as a fact, and act upon that fact, though we are no more able to explain it than we are in the case of numbers of other facts connected with organised living existences, either in the vegetable or the animal world. In both cases we can investigate the machinery employed, and perceive its thorough adaptation to a destined purpose; but we have little hopes of being able to explain how that machinery works at one time in unison with, and at other times in opposition to, what we are pleased to call the usual laws of nature, until we are able to comprehend the whole of the secrets and phenomena of life. Of that very common thing, life, we know very little, though it be the mainspring in all the movements of organised existence; and until we know more it will be sound policy to reason from facts observed, rather than to puzzle ourselves unnecessarily as to the wholly or comparatively hidden causes of these facts. Having seen nothing in our own observation and experience to enable us to give a satisfactory answer to our correspondent's queries, and having met with nothing in the writings of others, but what to our dull comprehension seemed to render obscurity more obscure, we should all the more willingly and delightedly join our correspondent in wishing for more definite information on this interesting subject, and more especially if such information were the result of experiments and facts, and not of mere theoretical imaginings.

The two practical ideas to which our correspondent alludes are of general importance. When we grow trees for timber, the main stem is the chief consideration; and we allow or direct the chief flow of the sap thither, either by thick planting, in which case the lower branches drop off for want of light and air, or we resort to side-pruning to produce a similar result. When we wish a plant that otherwise might grow too upright for our purpose, we stop the strong shoots frequently, in order that the desired bush form may be gained. When we wish to have a large spreading tree as an ornament to a park, we allow the side shoots to grow along with the main stem, and the sap flows freely into the former, because naturally most of the large branches will start not at a right angle or horizontally, but at an

acute angle, very often of 45°, from the stem. When we cultivate a fruit tree, as fruit and not wood is the object, we must either wait until the stem naturally attains a degree of maturity, or we must resort to means to check the powers of growth, and direct them into processes of fruitfulness. In all such cases extra luxuriance and extra fruitfulness are thoroughly opposed to each other. Hence the whole system of disbudding strong, extra strong, shoots is more effectual for diverting the sap into weaker branches than even removing such shoots altogether. Hence the importance in fan-training against walls of giving a good start to the sides, and keeping back the centre until the sides are well forward, and when the space is filled preventing extra strength in the centre by disbudding, &c. Hence the importance of root-pruning for accelerating fruitfulness, and the mere bending of strong shoots for effecting that object. Bringing the shoot or branch from its upright position causes the sap to flow not only more regularly and slowly, but every leaf is more acted upon by sun and air, and from the increased elaboration of the sap and maturity of the wood fruitfulness is thus induced. But such a branch would in course of time be apt to lose its fertility from several causes—such as, for instance, if the bent branch were forced to make a right angle or an obtuse angle with the upper stem, whilst the generality of the other branches were joined to it by acute angles; if at the point of depression a strong shoot were allowed to grow upwards from the branch, and thus so far rob the rest of its due supply; or if a few branches were much bent near the base of the tree, and the rest allowed to grow upward naturally. The bending process to be successful without weakening must be rather a general process over all the strong branches of the tree. The strengthening effect of elevating the weaker shoots, if we are at all right in our conclusions, will depend not only on the vertical position of the points of these shoots, but also on their starting at an upright acute angle from the main stem. It is true that this will be greatly modified by the law of use and wont; for whatever the natural position of a branch, there will be a relative and correlative action between it and the stem. Hence, we shall be told, that in horizontal training, as in Pears, with branches on each side of the main stem, and placed at right angles or nearly so with it, there are not found the disadvantages of which you speak. But here we would say, that in addition to use and wont, the lower branches had the start over the upper ones; but that even when the space was filled, and the branches very equal in luxuriance, the allowing the stem of the tree to expand into a head above the wall would often starve all these low branches into barrenness. Again, in these cases of standard trees, or half-standard trees, trained in the star or circular manner, we shall be told that the depending branches will remain as healthy and fruitful as the more upright part of the tree; but here, again, we submit that this can only be done by preventing the upright part of the tree getting an extra supply of luxuriance; and that something will also be gained by having these depending branches starting from the bole at an acute rather than an obtuse angle on the upper side. The bend would only be a little sharper, but we have no doubt the flow of the sap would be more uniform. Thus in the representation given of a tree, at page 676, *fig. 1*, the second branch from the base if bent down so as to form the bottom of the tree, we should expect to keep in vigour longer than the base trunk shown, or one leaving the stem at even an angle more obtuse on the upper side.

Much, however, will depend after all on the law of use and wont, as where the sap has once flowed, and buds are formed, the buds and the sap will act and re-act on each other. In all such cases the more vertical parts of the tree must be kept under discipline. There are many cases where a knowledge of this vertical flow of the sap and the law of use and wont enable us to counteract it to suit our purposes, so far as to obtain an equal diffusion: thus, in such a plant as the Vine, spur-pruning will be more apt to equalise the sap than long-rod-pruning, and if the main stem is placed horizontally instead of vertically the object will be still more gained. In the case of a long young rod, the placing it horizontally is almost necessary to the getting every bud to break regularly; if placed vertically, the top buds would break first and strongest. When all have broken, each will, afterwards, pretty well look after itself.

The other practical fact alluded to as being somewhat in discordance with these—namely, Strawberries swelling faster and larger when hanging down than when they are tied-up, we may not be able to explain; though, after trying both modes repeatedly, we still believe that the dependent mode has the advantage.

Of course, if the main fruit stems were to be as much bent as to be injured, that is quite another thing; or if, grown in pots, they were allowed to be injured against the sides of the pots. When grown on a shelf, it may be necessary to guard against this by strings or otherwise, but still to allow them a bent position. Our practice is, that as soon as the flower-stems appear we give them every encouragement; if the leaves are luxuriant—at all extra—we take a lesson from our correspondent, and bend them down over the rim of the pot, so that any extra strength may go into the flower-stems. When the fruit in these begin to swell, and to become pendulous of their own accord, the proper juice passes freely through the main stem and the little stem of the individual fruit, which is not the case when you tie the stems upright; as, unless very great nicety indeed is used, there is not only this vertical flow, but there must be a directly opposite flow through the little stem that supports each fruit. We think, judging by analogy, we thus get good fruit in consequence of this unbroken flow, and not in spite of it, and that the swelling fruit acts as a strain in drawing more nourishment to itself, much on the same principle that the blacksmith's arm becomes strong in sinew and muscle from the use of the hammer. We could give numerous illustrative examples, such as, this season more especially, the best Pears on dwarf standards were those near the ground, and near the point of shoots, where their own weight seemed to bring more of what was needed; as Melons, which are always heaviest and best in proportion to size when the fruit has hung from the vine; as the fact that, in the case of Vines in deep borders, when the incipient bunches have threatened to run-off into screwed tendrils, they have been kept and ultimately made bunches, by clapping a weight on their end; and numerous experiments with bunches of Grapes when they had begun swelling, fastening some so that they should have none of their own weight, and allowing others to hang in their more natural position, and, in almost every case, the last turning-out the best every way. But we candidly allow that on all these matters, as well as the Strawberries, our conclusions may be wrong, even though we think that our observation and eyesight may be right.

We trust that, whatever our preconceptions, we will ever be ready to give them up when convinced of their incorrectness; and although as yet we are unconvinced, we are not the less obliged to our kind correspondent for endeavouring to give us more light on the subject, and only regret we cannot answer his queries more satisfactorily as a compliment in return. When last we visited Hatfield House, of which we have lots of reminiscences, we noticed some peculiarities in Strawberry-foreing, and chiefly, that a shelf, perhaps a yard from the back of a lean-to house, had all the fruit hanging, not to the front of the shelf, but to the back of it, the reflection of the heat and light from the back wall seeming to be more powerful in drawing them towards it than the more direct light from the glass in front. We hope our friend Mr. Burton, a most successful Strawberry-grower, will not think us too intrusive if we say that we and many others would be glad of an account of his experience, as to tying or supporting the fruit of Strawberries upright, or allowing it less or more to depend, and thus exert a greater or less strain on the flower-stems.—R. FISH.

P.S.—The above was written very hurriedly, and without giving the subject the thought it requires; but we may mention that we have omitted to state that weighting Cucumbers has often been resorted to, to cause them to swell large and come straight, and we believe the strain thus made on the fruit-stalk was the chief cause of the effect.]

### NEW GRAPES ON NEW-YEAR'S DAY.

YOUR correspondent, Mr. James Anderson, is in error when he says, in No. 86, that Mr. Thomson, of Dalkeith, is the first and only person that has new Grapes ripe on the 1st of January. I had new Grapes both of Black Hamburgs and Muscadines ripe last January, and have had ripe Grapes ever since. We had old and new Grapes all January and part of February this year. Our Barbarossas hung until February in fine, plump condition; and we should have been better satisfied if our new Grapes did not ripen until February, as I consider it is more difficult to get them to ripen in February and the first part of March than on the first day of the year.

I have a house 60 feet long by 16 feet wide now, in which the Grapes will be ripe by the 1st of January next. There are a fair

crop and some very fine foliage, numbers of the leaves measuring 18 inches and some over 19 inches across.

I have no doubt the berries will colour well, judging from their vigorous and healthy appearance. I have noticed to-day (November 21st), for the first time, that some of the berries are showing signs of colouring.—J. E. F., *Knowsley Hall*.

### A FEW WORDS ABOUT PITCHER-PLANTS AND THEIR PROPAGATION.

THESE ornamental and always-interesting plants should find a place in every collection, and with a little care they are not very difficult to manage.

The species in cultivation that I am acquainted with are *Nepenthes Rafflesiana*, from Borneo, Sumatra, and Malacca; *N. Hookeri*, from Sarawak; *N. sanguinea*, from Borneo; *N. phyllamphora*, from Malacca and Siogapore; *N. levis*, sometimes called *gracilis*, from Borneo and Java; *N. ampullacea* (which makes quite a nest of pitchers round the base of the stem), from Malacca and Sumatra, and its variety, called *pieta*; *N. villosa*, from Borneo; *Dominiana*, which is said to be a hybrid; and *N. distillatoria*, which is our oldest species, and, I believe, peculiar to Ceylon. Besides these, however, there remain many more splendid ones yet to be sent home, and any one having friends living near their localities, cannot too strongly urge upon them the collecting of *Nepenthes* seed at every opportunity, and sending it home as soon as procured; for such species as *Rajah*, the pitcher of which measures 12 inches in length, and 5 inches or 6 inches broad; *Edwardsiana*, with pitchers 18 inches long; *Boschiana*, with pitchers as long as the last; and *Lowi*, with its most peculiar-shaped pitchers, and, indeed, many others would be grand additions to our stoves, and I hope to see many of them in cultivation before long. They are found growing in swampy places at elevations of 1 foot to 8000 feet; the mountain of Kina Balou being the head-quarters, apparently, of some of the finest species. It is a class of plants to which botanists have attended little, nothing having been satisfactorily proved as to what other plants they are allied to. They are dioecious, and, consequently, even in large collections the entire stock may consist of one sex only, no difference being visible in them as far as my experience goes with the Ceylon species, so that few gardeners have had the opportunity of raising them from seed; but I may venture to say those who have done so were never engaged in anything so interesting as watching their progress, having myself had the pleasure of raising *levis* from a consignment of Java seeds, and *distillatoria* from Ceylon seeds, and some ripened at home of my own sowing. A word or two on the subject may not be out of place, and may induce others who have also been successful raisers, to give us a few hints respecting their experience.

It is often said that the seeds will not retain their vitality more than one month; but in that, from experience, I am an unbeliever, though I should always like the seeds as new as possible, whence the reason of urging friends to send them as soon as gathered.

In *N. distillatoria* the seed appears about half an inch long; but if opened the outside covering is like a loose tunic, the seed itself is in the centre, the coat being no doubt a provision to float it in the swamps till it finds a suitable resting-place.

Having obtained seeds, I take a shallow pan, filling it rather more than half full with potsherds, then fill-up with soil composed of chopped sphagnum, peat, and sand. I then sprinkle the seeds lightly upon the surface, but never use soil as a covering, but lay a piece of glass over them, or what is better, if it can be had, is a small frame that can be kept close, with a bottom heat of about 85°. In this, providing the seeds are good, they will commence to grow in about three or four weeks.

Here I may state the reason for doubting the notion of the seeds being short-lived. Some seeds of *N. distillatoria* from Ceylon vegetated in about twenty-seven days, in a moist bottom-heat of 88°; the remaining portion were placed in a temperature of about 60°, and were eight months before they began to make their appearance; indeed, I had given them up, and did not expect to see them grow at all.

The very first leaf after the cotyledon has a pitcher upon it, or rather the pitcher is the leaf, and the first dozen or so of leaves they make more resemble *Sarcocolla* than *Nepenthes*. As the plant gets stronger, the leaf, (or, as some call it, the petiole, and the pitcher the true leaf), gets broader, and the pitcher appears

sunk in the apex, soon after which, if all go on favourably with them, they take their normal form.

In striking them from cuttings, I have had various degrees of success, and have for the sake of experiment used the wood in all states; but I like one-year-old well, and that well ripened best of all. With this, and the never-failing cocoa-nut fibre refuse, I generally obtain nicely-rooted plants in about six weeks.

The soil I use for growing my plants in is similar to that used for the seed-pans, but much rougher, and I always study to give more surface than depth, as I like to see the masses of black woolly-looking roots near the surface, and upon it.

These plants flourish in a moist warm atmosphere: consequently the syringe should be used very frequently during the day, with the thermometer ranging from 70° to 85° in summer, and 65° to 70° in winter, when less syringing must be done; but the plants should never be allowed to be quite dormant. The time I usually choose for repotting is about the end of February.

I intended to say a few words upon *Cephalotus* and *Sarcenias*, under the head of Pitcher-plants, but must defer it until some future time.—JUVENIS.

### VARIATIONS EFFECTED BY CULTIVATION.

As you have been so obliging as to insert my query on the crossing of Strawberries, perhaps you will grant me the favour to insert two or three other questions, for the chance of some one having the kindness to answer them. I am writing a book on "Variation under Domestication," in which I treat chiefly on animals; but I wish to give some few facts on the changes of cultivated plants.

1st. The fruit of the wild Gooseberry is said to weigh about 5 dwts. (I am surprised that it is so heavy), and from various records I find that towards the close of the last century the fruit had doubled in weight; in 1817, a weight of 26 dwts. 17 grs. was obtained; in 1825, 31 dwts. 13 grs.; in 1841, "Wonderful" weighed 32 dwts. 16 grs.; in 1845, "London" reached the astonishing weight of 36 dwts. 16 grs., or 880 grains. I find in the "Gooseberry Register" for 1862, that this famous kind attained only the weight of 29 dwts. 8 grs., and was beaten by "Antagonist." Will any one have the kindness to inform me whether it is authentically known that the weight of 36 dwts. 16 grs., has, since the year 1845, been ever excelled?

2nd. Is any record kept of the diameter attained by the largest Pansiea? I have read of one above 2 inches in diameter, which is a surprising size compared with the flowers of the wild *Viola tricolor*, and the allied species or varieties.

3rd. How early does any variety of the Dahlia flower? Mr. Salisbury, writing in 1808, shortly after the first introduction of this plant into England, speaks of their flowering from September, or the end of September, to November. Whereas, Mr. J. Wells, in London's "Gardener's Magazine" for 1828, states that some of his dwarf kinds began flowering in June. I presume the end of June. Do any of the varieties now regularly flower as early as June? Have any varieties been observed to withstand frost better than other varieties?

If any one will give me information on these small points, I shall feel greatly obliged.—CHAS. DARWIN, *Down, Bromley, Kent.*

### VINERY UNPRODUCTIVE.

My vinery, a lean-to about 20 feet long, faces the south. The border, made fifteen years ago, 2 feet deep, bottomed with brickbats; a good mixed soil, replenished on the surface with horse-dung nearly every year. Now, this vinery has never done well. The Grapes generally become clung, and fail to get any colour, at least two-thirds of them: I am speaking of the Black Hamburgs. My man gives them plenty of air, and shuts them up every night. We do not force them by heat, but give them a little heat in March. We have had the opinion of efficient men, but their opinions vary. One says it is in the house, others say it is in the border. Will you give me your opinion in your Journal? This year the mildew spoiled those that would have ripened.—R. B. S.

[We should have been more able to decide between the different opinions given, had we known more of the state of your Vines; and if, in addition to brickbats at the bottom of the border, it is also sufficiently drained. We will, therefore, just

make two suppositions, and shall be glad if either meet your case. If the wood of the Vines is vigorous, long-jointed, foliage large, wood imperfectly hardened, and somewhat pithy in the centre when cut, then there is no doubt either that the border is not drained sufficiently, or the roots have descended even beyond your brickbats, or the soil altogether is too rich for the Vines. In such a case, the most effectual cure would be a good deep drain in front, and raising the Vines and planting them in fresh soil, consisting chiefly of fibry loam lightened with lime rubbish, and enriched with eighteen bushels of broken bones as the most lasting manure. This should be done now, and the roots as little exposed as possible, placed within 4 to 6 inches of the surface, and covered with fermenting matter to set them growing, and if the Vines break naturally, they will feel the operation but little the first season. The second remedy would be less troublesome. Secure drainage, and then remove the rich surface from the top of the border, doing it carefully so as not to hurt the roots; but getting down to the bulk of them, and then giving 3 inches or 4 inches of fresh soil, and then a layer of horse-droppings, and a little litter above will entice the fresh roots into it, and a little may be added every year.

If the wood is firm, short-jointed, and moderately strong, then something of the last remedy may also be applied, but greater care will be necessary in the management of the house; and, besides giving air plentifully during the day, air should be given early in the morning, and after the Grapes are set a little air should be left on at night, and fire used in dull weather in autumn to enable this to be done, and the heating medium, flue or pipes, brushed with lime and sulphur if never hotter than 160°. By these means and moderate cropping, you will secure colour and avoid the mildew.]

### THE ROYAL HORTICULTURAL SOCIETY.

No one can be more alive than we are to the mistakes and misdeeds of those in authority over this or any other public body, and we never have refrained, and never abate, from exposing them. The mistakes and misdeeds, however, must be specific—general and sweeping complaints never effect reform, and are unfair, because, like sneers, they cannot be refuted. On these grounds, and because we condemned the mistakes he notices as they occurred, we decline inserting the chief part of a letter which we have received, and at the same time assure the writer that he is labouring under a misapprehension, when he concludes that it is to Dr. Lindley that his causes of complaint are attributable. We believe we are correct in stating, that Dr. Lindley neither exercises, nor wishes to exercise, any paramount influence in the Society's Councils, and, therefore, any feeling the writer may have on that subject is groundless. But there is an alleged fact at the conclusion of our correspondent's letter which deserves explanation, and so we publish it without reserve.

"An eminent nurseryman near London very generously offered prizes of £3 value for Hyacinths, of which he is an ardent admirer as well as grower. The offer was accepted, and he announced it in his catalogue. To his surprise no notice whatever is taken of it in the 'Proceedings' of the Society, but he hears that the Council have changed the day of the Hyacinth Show from March to February, thereby making it a Show of forced, instead of unforced flowers, and entirely frustrating his intentions. He wrote, I am told, to the Secretary, complaining that it was not noticed in the 'Proceedings,' as other special prizes had been, and is informed they were only 'common prizes, and, therefore, there was no reason for discriminating between them and the other prizes.' Yet, when Sir C. W. Dilke offered his prizes they were announced; when the prize for dinner-table plants was offered that also was noticed; and when Master Somebody gives two gold fish to the pond, it is duly announced in large type. But no place could be found for announcing a nurseryman's prize. What wonder is it that he will never trouble the Society again with special prizes for Hyacinths?

"This is one example out of many. I have more at your service if you give place for this."—VIGILANS.

NEW CUCUMBER.—We have received from Mr. Edwards, of York, through Messrs. Hurst & Son, of Leadenhall Street, fruit of a new Cucumber called "Reynolds' Perpetual Bearer." Of

course, it is impossible for us to judge of its bearing properties without seeing the plant growing; but the fruit sent us was growing in pairs, and it is said that there are sometimes four together. The fruit itself is of the *Syon House* race, about 8 inches or 9 inches long, and with a few scattered white spines on its surface. It is tender and very nicely flavoured. Should the bearing properties be what they are represented to be, and we have no reason to doubt that they are, this will prove a very valuable Cucumber.

#### NOTES FROM MY POCKET-BOOK.

**RASPBERRIES.**—Why do so many gardeners plant Raspberries without cutting off the canes? To plant a Raspberry without cutting it down appears to me a very erroneous proceeding. Can it be expected that a Raspberry newly planted will the following season have strength to produce fine fruit and young canes sufficiently strong to insure a good crop the following year? It is seldom before the third year that the plants are in a good bearing state. If the roots alone are planted, strong canes may be expected the first summer and a full crop of fruit the second.

**SALT.**—Is it generally known that salt is injurious to pigs? Some years since, having a large quantity of Potatoes which it was feared might be lost by disease, I had them boiled, salted, and washed. Two pigs which were fed upon them died in a very mysterious manner. Every one who saw them said they were poisoned; but no one could suggest the mode. Some years afterwards I lost another pig, which exhibited the same symptoms during its illness. On inquiry I found the cook had put some brine in the swill-tub, and arrived at the conclusion that salt was a specific poison for pigs. I have been told by a friend that he has lost several from the same cause, and also a number of barn-door fowls. Though Pigeons are fond of salt and will eat it greedily, it has been long known that salt meat will kill Parrots.—J. R. PEARSON, *Chilwell*.

#### SUBURBAN ROSE CULTURE.

THERE is no gem in the whole diadem of Flora more suitable and advantageous to amateurs with limited space at their command than the Rose; for, besides its inherent beauties, a single Rose is an appropriate offering to the highest lady in the land, while the garden may be half stripped of ordinary subjects to make up a presentable bouquet. No doubt many of the readers of *THE JOURNAL OF HORTICULTURE* are enthusiastic admirers of this general favourite, many of whom would become cultivators were they not deterred by anticipated difficulties, and fear of certain failure.

There are no insuperable obstacles to Rose-growing, even in localities usually considered unfavourable, with a proper attention to preparing the soil, a selection of suitable varieties, and the observance of a few minutiae of cultural management. Perhaps the record of the successful practice of an amateur within three and a half miles of St. Paul's, may induce others to enjoy the delightful recreation, and experience the pleasure of presenting admiring friends from town with a few bunches of fragrant flowers to enliven and refresh the gloom and monotony of their city habitations. Besides, it is the least expensive of floral amusements; for, when the plants are once obtained, with a little care and protection to the more tender kinds, they will last from season to season, improving with their growth, without the trouble of propagating and keeping bedding plants, or the cost of fresh annual supply.

I have only one of those little plots usually attached to houses in the suburbs, some 40 feet by 20 feet in dimensions. The aspect is north, and it is divided from the adjoining strips by open palings, net walls; and this is no unimportant element in success. The ground is naturally light, over gravel, but I have corrected that defect by a liberal admixture of loam and brick earth, enriched by an admixture of old manure. The Rose must have a good strong soil, particularly when worked upon the briar. I have made up the beds very high, some 15 inches or 18 inches above the ordinary level, facing them with turf: this secures the maximum amount of air and sunshine, which, in the summer, is upon the garden the whole of the day—at times, perhaps, too much so. One long bed stretches down the centre, in which are grown the less hardy varieties; while a border sur-

rounds the remainder of the plot, in which are placed standards of various heights, and plants on the *Manetti*, an admirable and thrifty stock for unfavourable conditions of soil and atmosphere. Every autumn a good mulching of manure is applied to the beds to be forked-in in the spring, and during the summer a good dose of guano water is supplied to every plant once a-week. In this small space I have crammed about 150 plants on *Briar*, *Manetti*, and their own roots, and I find them all do equally well. There are about ninety sorts, new and old, that I am able to succeed with; but some are more satisfactory in their behaviour than others, giving abundance of blooms, of size and symmetry, and sending-up robust shoots of 6 feet in a single season. A list of these will form the matter of a future paper. Frequent syringing is an important feature in my practice, and the stems of standards are washed during the season with soap and water, and a scrubbing-brush to cleanse them from moss and prevent them from becoming bark-bound. On the whole I should recommend beginners to commence with plants on the *Manetti*, and not try many standards till experience with one or two gives promise of a satisfactory result. Every other year or so I take up the plants and replace them after having well stirred the soil, and added two or three spadefuls of fresh earth mixed with manure. Drainage must be provided for. The gravelly subsoil of this district (the neighbourhood of *Victoria Park*), renders it unnecessary with me; but when the soil is heavy and retentive some means must be adopted for getting rid of the superfluous moisture.—W. D. PRIOR, *Homerton*.

(To be continued.)

#### WINTER VIOLET GRASS.

CAN any of the readers of *THE JOURNAL OF HORTICULTURE* give the botanic name of the above plant, and state where it can be had? It is a delicate little plant, with violet-coloured flowers and tiny leaves, blooming in the winter, covering the surface of the pot like moss.—M. D.

[We do not know the above name. The description suggests *Ionopsidium acaule*, which, being a near relative of *Cochlearia* (*Scurvy-grass*), may have been called a "grass" likewise. It has been called "*Stemless Violet Cress*," and a portrait of it is in the "*Botanical Register*" of 1846, plate 51.]

#### PROPAGATING STRUCTURE IN A GREENHOUSE.

THE question put by "*KILWORTH*" in No. 86 is one of interest to many of your readers, I therefore make no apology for asking space for the following.

As the inquirer makes no mention of the size or form of his house I shall assume it to be a lean-to, and having the usual front shelf of say 2 feet 6 inches wide, have then a tank of zinc or galvanised iron 2½ inches deep, made 4 feet long and the width of the shelf. Box all in 6 inches deep in front, and 10 inches or a foot behind, and cover with one or two lights as may be preferred. Under the centre of this knock out a brick, and cover the aperture with perforated zinc, or put in a cast-iron ventilating-brick. Round this aperture construct a box large enough to hold a large paraffin lamp, and of a proper depth to bring the flame at the right distance from the bottom of the tank. Have a close-fitting door to it opening inwards, and a small square of glass in the centre of it to permit of the lamp being seen. Of course a tap and funnel inlet to the tank are improvements, and it should be strengthened by soldering in little pieces of zinc tube at every 6 inches previous to soldering on the top.

I have worked a case of this kind with gas, and it was all the most experienced propagator could desire for ordinary cuttings. I should have no fear in going to work with a paraffin lamp, as I know it would give more than heat enough, and attention morning and evening would keep it at work. Paraffin lamps are, however, ticklish things to deal with, and unless the party thoroughly understood their working he would be sure to come to grief. The precautions are, however, very simple if care be taken. First, be very particular as to the even cutting of the wick, and secondly, never permit the slightest incrustation on the cone or burner; in fact, to secure a good result, the wick should be screwed down, and the edges of the burner polished

each time the lamp is trimmed. Again: never extinguish your lamp by drawing down the wick; blow it out, and rub off the charred cotton. The reason for this is, that particles of charred matter are apt to get into the tube, and interfere with the regular mounting of the paraffin, thus causing unequal combustion.

I should have grave fears in permitting a paraffin lamp in any greenhouse of mine, as were it once neglected and began smoking it would play sad mischief. With the above-described plan, however, it might smoke its worst, and no evil could result, as the lamp is continually out of the house.—M. G. CUNNINGHAM

### ORNAMENTAL PLANTS.

*IXORA SALICIFOLIA* (Willow-leaved *Ixora*).—*Nat. Ord.*, Cinchonaceæ. *Linn.*, Tetrandria Monogynia. *Syn.*, Pavetta salici-

folia.—A splendid stove shrub, of erect habit, growing 2 feet to 3 feet high, probably higher. The leaves are opposite, rather closely placed along the stems, almost sessile, narrow-lanceolate or willow-like, a span long, shining green above. The flowers grow in large terminal corymbs, forming hemispherical heads, and are deep orange red or flame-coloured (in a variety with somewhat smaller blossoms, almost crimson); they are upwards of an inch in diameter, and consist of a long, slender, almost filiform tube, and a spreading limb of four lanceolate, ovate, acute lobes. From Java: Mount Seribu. Flowers in summer. Introduced by Mr. T. Lobb, collector for Messrs. Veitch, of Exeter and Chelsea.

*BERBERIS WALLICHIANA* (Wallich's Barberry).—*Nat. Ord.*, Berberaceæ. *Linn.*, Hexandria Monogynia. *Syn.*, *B. macrophylla* of gardens; *B. atrovirens*, *G. Don*.—A very ornamental, half-hardy, perhaps hardy evergreen shrub, growing 10 feet high, and furnished with dark green, dense, elliptic, sharp-pointed, serrated



*Ixora salicifolia.*

2. *Berberis Wallichiana.*

leaves, growing in clusters, the branches also bearing slender, three-parted spines. The flowers are clustered in the axils of the leaves on short stalks, and are large, and of a deep yellow colour, giving the plant a very ornamental aspect. From Java:

mountains, 9000 feet elevation. Introduced in 1845 by Mr. T. Lobb, collector for Messrs. Veitch, of Exeter and Chelsea. Flowers in summer. It has stood three winters at Exeter, without shelter.—(*Gardeners' Magazine of Botany.*)

### EARLY VERSUS LATE PLANTING POTATOES.

As the season for planting Potatoes will soon be coming on, I wish to state my experience in this season.

I commenced the planting of Kemps in the month of Decem-

ber last year, and continued planting them and Scotch Dons or Downa until the end of March, when I had all the piece planted (about two Irish acres), and which had never been under

cultivation before, being part of an unreclaimed mountain, and full of boulder stones. I had them planted in four-foot ridges, the manure being spread on the surface, the seed then dropped, and all covered from the furrows with about 6 inches of covering. The Potatoes came up well, and continued healthy all the season until fully grown, and the stalks had partly died away before the blight came, and when it did come, it took little or no effect; for at the lifting or digging-out of the Potatoes not one in fifty of them was diseased, and, in fact, the men used to say that there would be no want of Potatoes this year, as the disease had all gone; and the quality is so fine that it is with difficulty that they can be boiled.

So much for early planting. Now for April planting. I commenced planting about an acre and a half in drills on the 1st

of April, and had them all finished by the middle of the month, the ground being all trenched, ploughed, and well pulverised; the drills opened, and the manure spread in the drills; the seed dropped, and covered up with the plough; the after-cultivation being likewise well attended to, till the Potatoes came up beautiful and strong, and continued well and healthy until the disease came. They were in full growth at the time, and were soon cut down; and the consequence is, that one-half of them are diseased and rotten, and the quality not near so good as the early-planted ones.

You will see from this that unless the Potato is early planted, and brought too near maturity before the disease comes, that you cannot depend upon having a sound crop.—A. LINDSAY, *Glendalough*.—(*Irish Farmer's Gazette*.)

### CHAIN FLOWER-BORDER

AT EAST SUTTON, KENT.

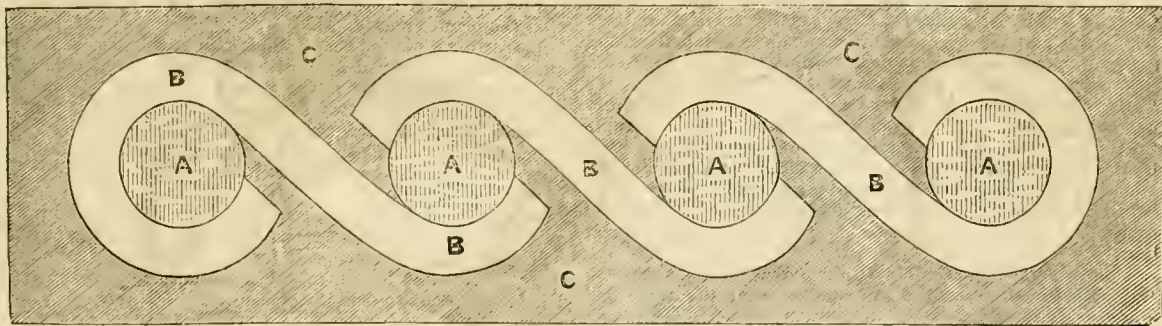
FASHIONS alter in flower-gardening as well as in dress; so would our grandfathers say, if they could but see our masses of Geraniums, Verbenas, and the other flower-garden ornaments, and compare them with the double Wallflowers of old, from which cuttings were only to be had as great favours, and when a yellow Picotee was the gem of all gems. Now these things have fallen into a second or even third place in general estimation, and colour, quantity, and conspicuousness are all the rage. Even the arrangement and disposition of these has undergone, and is undergoing, considerable change.

The small patches of one particular colour dotted over a plot of turf has in many cases been altered more than once the last dozen years, and geometric gardens more or less intricate have at various times been predominant, and again superseded. More latterly highly elaborate designs, in which coloured materials rather than colour in flowers play a conspicuous part, have been introduced with good effect; these coloured substances being in connection with certain beds intended for planting.

Of the particular merits of this style so much has been said of late, that it is needless here re-opening that question. It is enough to say that the opponents to the permanent system of polychromic embroidery, as such ornamentation is called, may with a little pains have their favourite bedding done to their heart's content, and the polychromic work too, the latter being done

in the winter, the former in the summer; and the labour attending the change is far from being heavy or difficult, as has been shown in some former Numbers of THE JOURNAL OF HORTICULTURE, accompanied by drawings of work of that kind that has been done here at Liuton, and some other places in the neighbourhood.

When the case is understood with which the change can be effected from a fading autumn flower garden to a winter one of bright, clearly-defined colours, which will last until March, or longer, the plan will become still more fashionable; more especially as the winter decoration allows of even greater diversity than the summer planting. Mr. Skinner, the intelligent gardener to Sir E. Filmer, Bart., M.P., of East Sutton, has adopted the plan of introducing plants of a suitable kind into places allotted for them in the embroidery of his large bed, of which a design of the mode in which it was planted in summer appeared in THE JOURNAL OF HORTICULTURE a few weeks ago. This bed, which is somewhat between 40 feet and 50 feet in diameter, has now received its winter-dressing, and in the opinion of many looks as well as most beds do in the prime of the season—say August or September; but as the mode of doing this has been already explained, we will leave this and point out a few particulars on the chain pattern, as planted at East Sutton the past summer, and which met with the approbation of every one who saw it.



The design above is one often met with in mouldings of timber, stucco, or iron. I am not certain of the correct name it is known by, but I have long called it "the Florentine Chain," and whether this be right or wrong it is needless to inquire. I have more than once failed in planting it satisfactorily, although in winter decoration it comes in very well; but Mr. Skinner worked it in with plants admirably.

The position it is in is remarkably well adapted for it. Occupying the face of a slope, and seen from the top of another one, the point of sight was nearly at right angles with it, or what might be called a bird's-eye view was thus obtained. This favourable position would not, however, have made an indiscriminate planting look well; neither would any mode of planting, or every class of plants, have looked so well as those employed, which were as follows:—

- A A A. Circles 3 feet diameter, Geranium Tom Thumb.
- B B B. Chain band 1 foot wide, Cerastium tomentosum.
- C C C. Outer groundwork, Lobelia speciosa.

These were all the plants used, and what more colours are wanting in any design than red, white, and blue, which were here shown to great advantage. The white belt or band of Cerastium showed itself in its true colour before the Geranium came into flower; but the effect was equally good then, the silvery whiteness of the Cerastium contrasting so well with the glossy green leaves of Tom Thumb, and also with the blue flowers of Lobelia, while the latter stepped in between the end of one band and the side of another, to prevent that junction which creates confusion, and which it is right here to point out to all who may be planting a chain figure to avoid. The plants were all of a height until the beginning of September, when the Geranium shot a-head; but even then it was excusable, as the place where it was most looked at was nearly at right angles with the face of the ground. There were several more links than shown in the diagram which is merely given to explain the planting.

The chain pattern above given is of more than one season's standing, for I remember seeing it last winter. The Cerastium,

which had been planted at the usual bedding-out time in 1861, was allowed to stand; and though it does not always look well in winter, or even in autumn, in this case it did, and occupied the space above mentioned with scarcely a gap. Coloured material formed the groundwork c c c; while the central circles, A A A, were rendered pleasing by piles of stones that were thickly coated over with a beautifully pale green moss. These stones had been picked-up from the surface under trees, where they had lain undisturbed for many years. Of course, care was taken to keep the mossy side upwards again; and common and homely as such things may seem to be, it would have been difficult to have found anything to look better. The band of white *Cerastium* surrounded this miniature rockwork, and in its turn was bounded, I believe, by brickdust of a bright red colour. I have not been told what the present winter-dressing is to be, but I expect something simple, pleasing, and agreeable, and most likely very common.

I should like some one who has been successful with striped or ribbon-borders to report upon them in THE JOURNAL OF HORTICULTURE. Each season adds a little more to our stock of knowledge in this as well as in other matters, and it is not every planter that is successful with stripes. When there are really good and effective ones that have the necessary merit of coming into use early and continuing late, the fortunate, or it would be better to say, skilful managers of such borders deserve all the credit we can bestow on them. Two years' experience has confirmed me in the opinion, that our mode of planting a narrow border of three single rows with the tallest in the centre, is better than many other ways I have tried. But as I purpose giving a few notes on this head in another article, I will only invite others to do so also. The latter part of the past season was prolific in good flower-beds, the early part was not so. I hope, however, some of our travelling friends will give us their opinion on this and other matters, as useful hints may often be gleaned in unexpected quarters, and many out-of-the-way places present objects of interest we look for in vain in others that are more fashionable.—J. ROBSON.

#### ORCHARDING ON A LARGE SCALE.

I AM about to plant 2000 to 2500 Apple and Plum trees in the neighbourhood of Reading for the sole purpose of growing fruit to send to Covent Garden Market. The trees are to be grown strictly on the same principle as recommended for growing Cherries by Mr. Rivers, in Dr. Hogg's "Gardeners' Year Book for 1862," at page 56. Being an experienced budder and grafter, I intend working my own trees. I therefore beg to ask your advice on the subject. On what kind of stock should the Cox's Orange Pippin be grown on to induce early fruitfulness and constant bearing? Do you know of a better kind of Apple for the same purpose? One report on Apples at the recent great Show stated that the above Apple was the best flavoured of the whole lot in London. Will it stand pinching-in? Is it a good bearer? What kind of stock should the Mitchelson's Plum be grown on? Would it stand pinching-in, and still be a great bearer?

I intend growing a few May Duke and Morello Cherries on the Mahaleb stock on the same principle as the Apple and Plum.—W. W., *Liverpool*.

[To induce early fruitfulness you should graft your Apples on the Doucin or English Paradise stock. Cox's Orange Pippin succeeds very well grown in that way, and it is also one well adapted either for bush or pyramid training. There cannot be two opinions about the merit of the fruit, which is of the first order. Mitchelson's Plum requires, what is called among nurserymen "the commoner," or the common Plum stock. We hardly know how it would bear pinching-in, as we have never seen it subjected to that mode of culture; but it would do well as a dwarf bush, and does not occupy much space.]

**PRESENTATION.**—The presentation of the testimonial to Mr. A. C. Wheeler, of Gloucester, for his services as local Secretary to the Managing Committee of the late Agricultural Exhibition and Fête, took place on the 3rd ult. It is universally admitted that much of the success attending the arrangements of the great Meeting held at Gloucester on the 30th of July last, and of which a report appeared in this Journal, was undoubtedly due to the energy with which the Secretary carried out the instruc-

tions of the Committee under whom he acted. At the dinner at the Spa, Mr. Holland, President of the Society, thanked Mr. Wheeler for his exertions on behalf of the Society, and subsequently presented him with a beautiful gold snuff-box as a *souvenir* of the Meeting. But at the audit of the accounts it was felt that the public also owed a debt of gratitude to the Secretary, and a subscription for the purchase of a testimonial was determined on, the Society heading the list with a contribution of twenty guineas; between fifty and sixty persons, members of the Society or private friends of Mr. Wheeler, followed the example thus set. A sum of £60 was raised, and the Committee purchased a beautiful timepiece, a silver salver, and a claret jug as the testimonial. The following inscription was engraved on the salver:—

Presented to  
ALFRED CUMMINS WHEELER, F.R.S.,  
By the Gloucestershire Agricultural Society and Friends,  
As a token of their esteem, and as an acknowledgment of the valuable services rendered by him at the Meeting of the Society held at Gloucester in 1862.

The presentation was made at a dinner at the Ram Hotel, at which between thirty and forty gentlemen were present. Ed. Holland, Esq., M.P., had consented to preside, but was prevented by illness; and the chair was ably filled by Alderman Nicks.

#### PREVENTING THE ATTACKS OF THE CELERY FLY.

IN reference to your correspondent in page 655 I beg to offer a few remarks, as I have for some time known a sure preventive, and, no doubt, a great many use the same both as a preventive and as a cure.

Soot is the remedy. I begin to dust the plants with it directly I prick them out, and continue the dusting all through the season. When the foliage is damp is the time to apply the soot, and that mostly happens in the morning.

A large portion of your readers will, no doubt, say that they have tried it, and that it does not answer; but if such should be the case, I reply that the reason it did not prove efficacious with them is, that they either began dusting, as I call it, too late, or they only partially dusted. Every leaf must be covered with the soot; and the dusting continued, as I have said, the whole of the season. If this be done success will certainly attend their labours.

I do not believe that soot or any other application is remedial after the plants are attacked.

Respecting growing Celery I think a hint might not be thrown away. I sow in a pan filled with thoroughly rotted old Melon or Cucumber-bed dung mixed with a good dash of sand. I prick-out in similar rotted dung without sand, and plant in trenches in the same rich compost; but before I put the rotted dung into the trenches I put 5 inches or 6 inches of less-decayed dung at the bottom of each trench, and then the rotted to mould on the top.

In this way I have grown good sound crops for these last five years. Liquid manure I never use, as the plan I have described will grow Celery large enough for any purpose; and however large, or however long it may be, not once in my life could I induce the cook to send it to table whole.—W. W.

#### MANAGEMENT OF GREEN FROGS IN A PLANT-CASE.

I OBSERVED from your No. 80 that "H. B." is desirous of knowing the proper treatment of green frogs; and as Mr. Veitch does not seem either to feel quite sure upon the matter, and having myself both a kind feeling towards my rather green countrymen, as well as a desire to assist, I venture to add the following.

These animals live partly in and partly out of the water in and beside swamps and ditches. In Germany you find them in nearly every house, especially with farmers, who keep them principally for their great and valuable ability of prophesying the weather. They are kept in a tall tumbler filled more than half full with water, a small step-ladder being placed in it, and covered at the top with either tin or paper with small air-holes through it. In summer they receive, perhaps, six or a dozen flies in the week; in winter they receive nothing at all—perhaps a solitary fly which may have turned up somewhere—and they

seem to live partly upon water and the green substance which in time grows on the ladder. The water should be renewed occasionally.

I do not think that they could do without water at all. In fact, a friend of mine who kept them similarly in a fernery lost one after the other until I drew his attention to it. In Germany they are kept through the whole winter in the same way in front of the windows, which, although in the people's common sitting-room, are often thickly frozen.

If wet weather is likely to set in the frogs keep below the water; if the weather be changeable they sit half in and half out; and the higher they rise out of the water the more settled the weather will be.—W. HARRIS.

### THE NEWBURY ORCHARDS.

I DO not know whether in your travels you ever visited the orchards opposite the Carso of Gowrie. If not, you should do so next season. Newbury, in Fifeshire, on the south side of the Tay, is an extraordinary place for Pears. Dr. Lyall, a well-known botanist and horticulturist there, showed me a standard Crasanne tree in a neighbouring garden, for the fruit of which the owner refused £2 two or three years since. And many other tender sorts do well there as standards. The soil is dry on trap rock, and the surface rises gradually from the river's bank, with a direct northerly or north-easterly exposure; notwithstanding which the corn crops are as early as those on more southern slopes in the district. But the great secret in favour of the Pears seems to be, that immediately south of the town there is a considerable hill—in fact, what in England would be called a high mountain, which effectually shuts out the sun for the whole winter season, or till far on in March, so that the buds are not excited to be again destroyed by late frosts.—W. G.

### NEW BOOK.

*The Miniature Fruit Garden; or, The Culture of Pyramidal and Bush Fruit Trees, with Instructions for Root-pruning, &c.* By Thomas Rivers. Eleventh Edition. London: Longmans.

THERE is no better indication of the increasing taste for the cultivation of fruit trees than the repeated issue of new editions of these little books of Mr. Rivers'. When we compare the class of horticultural works that are now brought out with those that were most popular twenty years ago, we cannot but remark the greater proportion of pomological works in the present day. To have written a book on fruit trees twenty years ago was to blacken paper and add to "waste;" and the unlucky wight who was rash enough to indulge in such a work might consider himself lucky if his publisher did not bring a heavy charge against him for his rashness. Here is "The Miniature Fruit Garden" in its eleventh edition, and with no indications of senility about it. We have so often reviewed this useful little work that little more is required of us than merely to announce its reappearance, and to draw attention to some novel features in this edition. Among the engravings there is a very excellent one of a pyramidal Morello Cherry, illustrative of the following extract:—

"The Morello Cherry on the Mahaleb stock, cultivated as a pyramid, forms one of the most prolific of trees; but as birds carry off the fruit when only half ripe, each pyramid should have a bag of tiffany placed over it, and tied round the stem of the tree at bottom. Any garden, however small, may grow enough of this useful sort by planting a few pyramids, lifting and replanting, or root-pruning them biennially, and pinching in every shoot to three leaves (as soon as it has made five) all the summer. The Kentish Cherry, also a most useful culinary sort, may be cultivated as a pyramid with great success. A French variety grown near Paris, in large quantities, and known as the "Crise Aigre Hative," which may be Englished by calling it the Early Sour Cherry, is a most useful kind for the kitchen. In going from Paris a year or two ago to Versailles by the "Rive Droite" Railway, I was much struck by seeing in the market gardens between Suresnes and Puteaux, on the left, large plots of dwarf trees, about the size of large Gooseberry bushes, and some very low trees, all covered (as they appeared to me from the railway carriage) with bright red flowers. I found, on inquiry, that these were Cherry bushes—literally masses of fruit, of the above variety, the most prodigal bearer

known. The trees are generally propagated by suckers, but succeed very well on the Mahaleb stock, and form very nice pyramids.

"I need scarcely add, that the culture of all the Duke tribe of Cherries by closely-pinned-in pyramids, biennially removed, or biennially root-pruned, is most satisfactory. It is, perhaps, more easily performed than root-pruning, and the trees soon form perfect pictures. I have seen nothing in fruit-tree culture more interesting than handsome compact pyramids of such sorts of Cherries as the May Duke, Duchesse de Palluau, Empress Eugénie, and Archduke. One feels surprise to find that as yet but few lovers of gardening know of the existence of such trees.

"It will much facilitate the operation on their roots if the trees be planted on small mounds.

"In forming plantations of pyramidal and dwarf Cherries on the Mahaleb stock, it is necessary to arrange them with a little care. The two groups, those of the habit of the Morello tribe, and those of the compact habit of the May Duke, should be planted in separate rows. Bigarreau and Heart Cherries are too short-lived, when grafted on this stock, in most descriptions of soils, to be recommended."

### THE STUDENT PARSNIP.

IN the "Proceedings" of the Royal Horticultural Society for last month, page 739, I observe, "Parship 'The Student' ennobled from the wild Parsnip by Professor Buckman." What does this mean? or rather what was the ennobling process to which the wild Parsnip was subjected? Or was it the wild Parsnip at all which was experimented upon? I look upon many, if not all the wild Parsnips, which you see blooming in early summer by the sides of fields, on railway banks, &c., in the south of England, as being the offspring of cultivated plants, and quite likely under good cultivation to produce good large roots, although the parent plant grows away gross, and may have only had small and, it may be, woody roots. Sow seeds of this "Student" immediately when ripe among grass or in waste ground, and note the appearance next May, when they will be in flower, compared with the autumn produce of the same seed sown in spring and well cultivated.—INQUIRER.

### MAKING CHARCOAL.

[In answer to "IGNORANT," and two other inquirers, we reprint the following from a former volume.]

My practice is to commence by taking a sufficient quantity of split wood that will easily ignite on the application of fire, and with a sharp instrument cut it into lengths varying from about 3 inches to 9 inches. I then place it in a dry shed until I have prepared the whole of the wood which is to be burnt into charcoal at one time, and to preserve it from being wet; for I would have it particularly understood that the drier it is kept the sooner it will take fire when the whole is piled for burning, which will save much trouble, and probably partial failure in the operation.

The quantity of dry wood to be prepared will depend upon the size of the heap when complete and ready for being set fire to. A heap that measures about 4 feet in diameter at the base, and from 4½ feet to 5 feet high in the centre, will require a quantity sufficient to form in the centre of it a circular heap about 18 inches through at the base, and 12 inches high in the centre.

Charcoal is generally made, on a large scale, of the boughs of trees that have been cut down for sale, or of the underwood and prunings of trees that take place occasionally on the estates of landed proprietors. The wood should be as firm as can be obtained, and as free from sap as possible; but if it cannot be had of this kind take the best at command, and cut it also into lengths of about 6 inches, 9 inches, 12 inches, and 18 inches; and when it is cut be particular to make the lengths into three loose heaps—i.e., those lengths that measure the least in diameter into the first heap, those of the greatest diameter into the second, and those which range between the least and the greatest diameter into the third. Also, prepare a smooth, circular piece of wood from 4½ feet to 5 feet in length, and 6 inches through. Attention to these things at this stage of the process will greatly economise the amount of labour which will afterwards have to be bestowed upon the building of the pile.

The wood being thus prepared, next proceed to select a con-

venient plot of ground upon which to burn it, and which, I would remark in passing, might be the corner of an adjacent field, the Melon-ground, the compost-yard, or, for want of these, the centre of a spare quarter in the kitchen garden.

The ground being fixed upon, level and make it firm by beating it with a beater or the back of the spade, and then, in the morning of a fine day, when the weather looks settled, wheel the wood to it, keeping the heaps, as already, separate from each other when placed round the ground where the principal heap is to be formed, and also have brought from the field or common a cartload of sound turf, and placed at a proper distance from the material already on the ground.

Into the centre of the ground, which has been made even with a mallet, strike one of the thick pieces of wood, which, I would observe, must have been pointed at one of its ends when the rest of the wood was being prepared. Allow it, when fixed in the ground, to stand about 9 inches above the surface of the soil round it; begin to form the pile by placing a few of the shortest lengths of the dry wood equally round the bottom of it, and then against these others, with one end resting on the ground, so that the end which is the uppermost will incline towards the centre of the heap. They must be placed as closely to each other as possible in an imbricated style. In this manner proceed until the heap reaches to the top of the stake. Afterwards mix with the wood a quantity of shavings which have been got from the carpenter's shop, which will cause the wood to ignite sooner than it would do if they were not used. The form of the heap, when of the dimensions above stated, should be that of a cone, on the point of which must be mounted on end the long, smooth piece of wood which was made ready for the occasion as already stated. Be particular to make it firm by putting the end of three rods into the ground, so as to form the three points of a perfect triangle, and fastening the other ends of them to the top of the wood. Then take about one-fourth of the length which forms the first heap of wood, and tile-form layer them equally all over the central pile; also, take the whole of the second and third heaps, and use them one after the other in the same way, finishing with a layer of the three-fourths which remain from being used of the first heap.

The reason for arranging the wood in layers in this form is, that that which is of the greatest diameter, and which occupies near the central layer, is no more than ready for being drawn when the outward one is perfectly burnt into charcoal, and, consequently, the pile is ready for being taken down and the charcoal housed.

The piling of the wood being completed, cover it equally all over with the turf which is close at hand ready to be used; place the grass side downwards, and on the top of it a layer of sifted soil from 1½ inch to 2 inches in depth.

Having done this take out of the centre of the pile the smooth, perpendicular piece of wood, and deposit some light combustibles, in which a quantity of congrua matches have been mixed, on the top of the dry wood in the centre, by letting it drop down the hole out of which the wood was taken. Set fire to it by casting a few live embers upon it, and when it has caught fire feed it with a small quantity of wood, and then close up the hole with a little turf, so as not to allow the fire to escape. Afterwards take a rod sufficiently long to reach to the centre of the pile, and with it perforate the sides, letting it run to near the centre. By these punctures a ventilation will be created that may be regulated so as to keep the fire equally burning throughout the whole of the pile. As the fire continues to burn it will require to be fed occasionally with suitable material. This must be done by uncovering the open space in the centre which was left for the purpose, and carefully letting down the things with which to feed it, and then covering up the orifice as before.

The fire in its progress will consume certain parts of the turf and soil which serve as an external covering to the pile, and also to keep the fire smouldering, instead of issuing in flames, which is a point in the process worthy of being noticed by those persons who wish to have good charcoal with little loss of material. Therefore, on the first indication of the fire coming through to the surface, in whatever part of the pile it may be, immediately cover the place with turf and sifted soil, which must be always at command.

The length of time it takes to burn wood into charcoal varies according to the softness or hardness of it. Oak takes the longest, and is generally thought to make the best, and on that account it is to be preferred to any other kind.

Now, if the piles during its burning be properly attended to the

loss of material will be trifling. The ashes or refuse are, I consider, amongst the best articles that enter the kitchen garden for top-dressing the beds of Turnips, Carrots, Parsnips, Dwarf Beans, &c.; and for first early Potatoes, either mixed with any other kind of manure or alone, are equal, if not superior, to any thing I have used.—B. B., near Halifax.

## THE DISTRESSED WORKINGMEN BOTANISTS OF LANCASHIRE.

I SCARCELY know how to thank you and the many kind-hearted people who have put means into my hands to alleviate the distress of some of the poor naturalists here.

I have to acknowledge the receipt of 6d. from three school-boys at Kilkenny; £1 1s. from the Rev. J. Mague, of Killaloe, Ireland, for Mosses and Ferns; from Lady Dorothy Nevill and Mr. Nevill £6; and Lady D. Nevill intends to send me £1 monthly until April; £2 15s. from Mr. James Davies and the young men under him at the Marquis of Westminster's, Font-hill, Tisbury, Wilts; £1 16s. from "A Gardener" at Burton-on Trent; £1 5s. from Julia Masluteer; 3s. from the gardener at Clare House, Maidstone, Kent; 3s. from C. Rollison, gardener at Follifoot, near Wetherby, Yorkshire. "A Mother" from Ipswich has sent for three weeks together 2s. 6d. for Roger Schofield, and 1s. for J. Whitehead. Some one at Hull has sent 10s. to R. Schofield; and a gentleman from Hagley, near Stourbridge, has promised to send me 150 seedling *Calceolarias* of very good quality to sell for the benefit of these poor people. Mr. M., of Prescott, has sent 5s. to J. Whitehead, and "V. R." 10s. to me. I am also happy to say that the poor entomologists I named last week have received from Mr. Dean, A. House, and "W." 5s. each.

I have made arrangements to satisfy any of your readers who might have any doubts of an honest distribution. Mr. H. Hall, magistrates' clerk, of Ashton-under-Lyne, has kindly taken a collection of Ferns; and Miss M., Clonmel, has sent 5s. to R. Schofield. I have put some of the botanists who are doing nothing to collecting Ferns and other things that are wanted; and I have engaged one who is a book-keeper, but out of employ at present, to write me out a number of tickets, so that I can obtain a receipt from all I give anything to.

The botanists request me to thank all who have so kindly helped them in this hour of trial, which they never dreamt they should have to undergo.—JOHN HAGUE, 36, Mount Street, Ashton-under-Lyne.

## FLORA OF THE ROMAN CLASSICS.

(Continued from page 594.)

### ACONITUM.

VIRGIL, among other instances of excellencies by which Italy was rendered superior to other countries, says there

"Neither do Aconites deceive the wretched gatherers."  
—GEORGE, II., 152.

—that is, there are there no eatable plants so like to their Aconite, that the gatherers have mistaken this for them, and consequently have been poisoned.

The plant known to the Romans as *Aconitum* is thus described by Pliny (*Nat. Hist.*, xxvii., c. 3):—

"It has leaves, not more than four, like those of the *Cyclamen* or *Cucumber*, slightly hairy, and springing direct from the root. This root, moderate in size, is like to the *Sea Cammarus*, on which account some call it *Cammaron*, others *thelyphonon* [because used for wife-poisoning]. The root is slightly curved inwards like a scorpion's tail, wherefore some have called it *Scorpion*. Others have chosen to name it *myocatonon*, because of its odour, even at a considerable distance, it kills mice. It is produced upon naked rocks, which are called *aconæ*, and thence some say it is called *Aconite*, there not being even dust for its nourishment [in Greek, *a*, without, and *konis*, dust].\* Such is the reason for its name given by some; yet others derive its title from its power to cause death as speedily as the wheat-stone [in Greek *akone*] brings an edge upon iron. Its rapid effect is immediately perceptible."

The shape of the leaves determines that the Roman *Aconite*

\* Ovid thus derives it, saying—"Which, because tenacious of life, being produced even from the hard rock, peasants call *Aconite*."—*Metamorph.*, vii., 418.

is not identical with our common Monkshood (*Aconitum napellus*), for the leaves of this are cut into many narrow segments; but we believe it to be the same plant as is now called by botanists *Ranunculus thora*. It was known to the older writers upon plants as *Thora Valdensium*, and the following are some extracts from Gerarde's description:—

"This plant took his name of the Greek word *Phthora*, signifying corruption, poison, or death, which are the certain effects of this pernicious plant: for this they vae very much in poisons, and when they meane to infect their arrow heales, the more speedily and deadly to dispatch the wilde beasts, which greatly annoy those moutaines of the Alpes: to which purpose also it is brought into the Mart-townes nere vnto those places to be sold vnto the hunters, the inice thereof beeing prepared by pressing forth, and so kept in hornes and hooves of beasts, for the most speedie poison of all the Aconites; for an arrow touched therewith, leaueh the wound vncurable (if it but onely fetch blood where it entereth in) except that round about the wound the flesh bee speedily cut away in great quantity, argueth also that Matthiolus hath vnproperly called it *Pseudoaconitum*, that is, false or bastard Aconite; for without question there is no worse or more speedie venome in the world, nor no Aconite or toxicall plant comparable hereunto. The stalke of this plant is small and rushie, very smooth, two or three handfulls high: whereupon do grow two, three, or foure leaues, seldome more, which be something hard, round, smooth, of a light greene colour tending to blewnesse, like the colour of the leaues of Woad, nicked in the edges. The root consisteth of nine or ten slender clogs, with some small fibers also, and they are fastened together with little strings vnto one head, like those of the white Asphodill."

The drawing given by Lyte in his translation of Dodoe's "Herbal" is the best we know. It shows the main root curved not unlike a scorpion. Indeed the root is more like a scorpion, for, as Jacquin describes it, the main root puts forth many sub-imbriicate fibres, the imbrication slightly resembling the scaliness of the scorpion.

It is a native of rocky places in the alpine districts of Italy. Parkinson says, "It groweth in shadowie places, on the snowie hills of Savoye, where there is scarce any crust of earth for the rootes to grow in, nere vnto Mura and in the top of Jura." All which facts agree in identifying it with the Aconite of the Roman classics.—G.

### PRESERVING FLOWERS IN SAND.

Those of our readers who attended the late Horticultural Fair in this city, did not fail to notice those two framed wreaths of natural flowers that hung upon the wall near the horticultural tools. They were the admiration of all, and many times did we hear visitors wondering by what process they were thus preserved in their natural form and colour. It is this:—

Get the finest and whitest of river or lake sand, wash it so clean that the water when flowing from it will be pure as if from the well. Heat it very hot, and while hot mix it thoroughly with stearic acid in the proportion of 1 lb. of the latter to 100 lbs. of sand. Let it cool. Take a small common sieve and nail boards under the bottom to prevent the sand from running through; place enough sand in the sieve to hold the flowers in position, not covering them; then with a sheet of paper twisted in the form of a cone or funnel, carefully let the sand pass through it, between, around, and over the flowers—cover about half an inch. Set by the stove or in some warm place where the sand will be kept at a temperature of about 70° Fahr. When they have remained sufficiently long, remove the boards carefully from the bottom and let the sand run out, leaving your flowers preserved in perfection.

The only difficulty is to know when the process is complete, different plants differing in the time required; those with thick leaves and petals needing more than light ones. Seven hours are sufficient for some, while others require twelve and even more. Experience alone can determine this. It is best always for a beginner to experiment with a single plant at a time at first. When he has succeeded with a certain variety and noted the time required he can proceed to others, and in a short time become versed in this art. It should be mentioned that the flowers for this purpose should be picked dry—say midday, after the dew is all evaporated.—(*American Gardener's Monthly*.)

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

As the weather permits, trench and manure every vacant piece of ground. *Asparagus*, if the beds are not already dressed let them be done immediately; half-decayed leaves or rotten dung laid on a few inches thick is all that is required. The alleys should by no means be dug out and thrown over the beds, as is sometimes practised to the certain injury of the roots. Any beds that are to be dug-up for forcing to be protected from frost; roots already planted in the forcing-bed will require a sufficient quantity of water to reach the bottom of the soil they are planted in. *Endive*, when the weather is mild give the plants in the frames abundance of air, to prevent them rotting. *Lettuce*, the Cabbage Lettuce planted in frames for winter use will require no water and but little air; cover them up every cold night. The young Cos Lettuce for spring use, on the contrary, should have abundance of air every fine day. Scils for all the various garden purposes should now be collected: turfy loam from a sheep pasture is undoubtedly the best for general purposes, but there are other places from which soil may be procured without cutting-up much of the pasture land. When the soil is procured it may be immediately chopped-up roughly with the spade, and laid in a ridge or in a square heap, to be turned over several times during the winter. The compost-ground to lie dry, but at the same time to be fully exposed to the weather.

#### FLOWER GARDEN.

Continue alterations in favourable weather, transplanting and pruning the trees and shrubs where necessary; stake them securely, and give a mulching to the tender sorts. Take up *Dahlia* roots, and remove them to an airy shed to dry before being stored. If young *Pinks* have been loosened by worms or frost, secure them. Plant all hardy bulbs. Protect *Chinese* and *Tea-scented Roses*, the roots by cinder ashes, and the tops by moveable baskets, so as to expose them to fine weather. Clean-out flower-seeds from the stalks, and tie them neatly into packets, correctly naming each sort. When lawns are disfigured by worm-casts, a stop may be put to these operations by watering the lawn with lime water in a clear state.

#### FRUIT GARDEN.

All heavy ground work—as draining, manuring, trenching, making new borders, &c.—should be proceeded with, always pruning and regulating the trees first, so that the ground is not trodden over afterwards. Transplant to fill-up vacancies, and continue pruning at all favourable opportunities. Keep the standard *Apple* and *Pear* trees open in the centre; take out the strong upright leaders often formed by the *Pear* trees. *Currants* and *Gooseberries* to be pruned, manured, and dug between, so as to crop the ground. Transplant *Peaches* and *Nectarines*, laying out the roots to their full length in fresh soil. Prune and nail *Pear* and *Cherry* trees on walls; do not crowd-in too much wood. Manure and fork over the *Strawberry*-beds if not done before, clearing away runners and decaying leaves.

#### GREENHOUSE AND CONSERVATORY.

Particular care is now required to keep the conservatory comparatively dry, water to be applied in the forenoon, and if any is spilled on the floor let it be mopped-up; if a drying morning cannot be chosen, apply gentle fires, with a sufficiency of air to allow the vapour to pass off. Everything in the way of decaying blossom, leaves, &c., should at once be removed. Water *Orange* and *Lemon* trees very cautiously; keep them cool. Admit air freely to *Heaths* and *New Holland* plants; water sparingly. Shift *Calceolarias* and *Cinerarias*, a few may be forwarded by a very slight increase of temperature. Shift and tie-out *Pelargoniums*; a few of the most forward may be accelerated by a little heat; give air and a little weak manure water freely to *Chrysanthemums*; water *Chinese Primroses* with caution; disbud those for late-flowering. Admit air freely to the greenhouse in favourable weather, but not in currents, and shut-up early; use water sparingly, and always tepid, giving little or none to succulents or plants in a state of rest.

#### FORCING-PIT.

Particular care should now be exercised in the application of water, atmospheric humidity, air, and heat; the latter should be generally applied a little extra by day, and very sparingly, indeed, by night, for some time to come. Gentle fumigations with tobacco should be occasionally given.

#### PITS AND FRAMES.

If the soil in the pots has become green on the surface, it

should be carefully removed with the point of a small stick. This must be done in mild weather. Scarcely any water will be required at this season; if the plants flag, a little should, however, be given in fine weather. Remove dead leaves, and give air freely on fine days. A cheap and effectual covering for pits and frames, are wood frames, the length and width of each light, thatched 2 inches thick with wheat straw. The frames to be made of well-seasoned deal, the sides, ends, and centre bar to be  $1\frac{1}{2}$  inch thick by  $2\frac{1}{2}$  inches wide, to be morticed and glued together, and small bars 1 inch square to be let in at about 1 foot apart, to support the straw. Any two handy workmen will thatch one in as short a time as it would take them to tie the ends of a garden mat. A more temporary framework may be formed of shingles, such as are used for making sheep-hurdles. Such coverings are neater, cleaner, cheaper, more easily put on and taken off, more efficient than mats, or any other covering that I am aware of, at present in use.

W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

WEATHER mostly frosty: therefore, besides wheeling, digging, trenching, and clearing the remainder of flower-beds, and glad to get them for fermenting-heaps, little has been done out of doors. These flower-beds remain, and a few leaves from the pleasure ground have come in so useful, as, a shooting party being expected, we must not let man or boy go after leaves in the park. Such matters, and the whole of this extra game-preserving, not only throw us in want of material, but, as previously intimated, give such a chance of extra numbers to the birds as threatens to be a nuisance. It is so far a satisfaction to find such a man as Mr. Robson, and other valued correspondents, seeing the matter in the same light as we do; and though, no doubt, as much charmed as we are with the sweet songsters, yet feeling, so far as their depredations are concerned, it is quite possible to have too much of a good thing. Most vegetables that require covering at night, as forward Cauliflower, and Lettuce, &c., require also uncovering during the day, as the frost has not yet been severe enough to permit of constant covering. Before ever young Cauliflower should be covered-up so, it must be pretty well curded, so that there shall be no growth during the covering.

### FRUIT GARDEN.

In the case of trees in the orchard-house, had, as stated formerly, all the surface soil removed for an inch or so, so as to get rid of the eggs of insects as far as possible, and then watered the surface with water from the rose of a watering-pot, not far from the boiling-point, to catch any that might have escaped. Moved also the surface soil from all the plants in pots, and some that were very dry gave a little water to, allowing it to soak into the soil by degrees. Then dug over the borders, or rather forked them over, so as to bury what eggs of insects we could not kill, and afterwards set the plants as thickly together as they could stand without being injured, and packed them all round and over with stubble. The trees that have several times been syringed with hot water, will be washed with soap and water the first opportunity, and a top-dressing will also be given; meanwhile, the pots being protected, they will be safe whatever frost may come. Examined the border in which the roots of the trees against the back wall grow, and finding that rather dry, watered and covered pathways and all with a few inches of stubble, to keep the frost out. As the wood is well ripened, a little frost to these trees, and to the tops of those in pots, will do them good rather than otherwise. All other fruit departments much the same as in previous weeks.

### ORNAMENTAL DEPARTMENT.

Used days, after the walks showed signs of softening, for packing Dahlias securely in dry earth; turned out Achimenes out of their flowering-pots, and placed the tubers in small pots in dry sand, where they could stand until wanted to start them in a vinery, as thus the pots in which they flowered would be at liberty for other things. Frames and pits have as yet wanted little but straw hurdles put on rather early in the afternoon, and taken off about breakfast time, giving plenty of air, chiefly at the back, for several hours, if at all bright sunshine, and closing and covering in good time in the afternoon. Lights for which we have no covers at present, have a little hay scattered over them, which we saved from the first mowing of a part of the lawn. Such soft material is far before straw for such covering. Ex-

amined bedding plants in such cold frames, to remove any plants or leaves that showed signs of damping, though there was little of that, thanks to striking cool, and keeping cool and airy. Potted Geraniums and Cinerarias; gave manure water to Chrysanthemums; watered all plants when necessary. Bulbs and shrubs in forcing-pit must have regular attention, and the former should never be placed in heat until the pots are full of roots and the flower-stems showing freely. We notice some interesting papers and remarks on the Lily of the Valley, but we consider the chief point in securing fine pots at an early season has been overlooked—and that is, selecting the roots, and nibbling the bud of each, and only choosing those that feel hard and firm between the thumb and finger. This attended to, it is scarcely possible to miss having fine, massive pots of bloom, if the commonest care is exercised. Took great care that Peach-house filled with plants rose only from  $35^{\circ}$  to  $40^{\circ}$ , with fire heat in frosty nights.—R. F.

## TO CORRESPONDENTS.

\*\* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.,"* 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

"LEX."—A letter and a parcel for you from Ashton-under-Lyne are at our office.

WHITE PEONY (*Old Subscriber, Cheshire*).—Why trouble yourself with a common white Peony worth about 9d.? Many ailments may be the cause of its not flowering, and no one can know at a distance which. You had better throw it away, and begin with a proper plant of a better white Peony—say the common white. On your very sandy soil give it very rotten dung, as much as for a plant of Celery. Let the ground be deeply dug. Mulch from April to September, and water liberally in May and June with pond water, and you will soon beat every one in the parish. But do not waste time on a worthless subject.

ROSES IN POTS (*Idem*).—The best way for you to treat all Tea and Perpetual Roses on their own roots in pots, is to grow them exactly as pot Pelargoniums. The same soil, same quantity of it, same pots, same amount of water, and the very same kind of pruning, will suit pot Roses on their own roots and pot Pelargoniums. The only difference is, that the Roses need not the soil to be changed oftener than once in five years. *Scarlet Anemones* will never do good in that very light soil. We were in the same position once—went to great expense, but all to no purpose. Anemones never flourish except in a good loam, in an open unshaded situation. Excessive moisture at the root is fatal to them.

ARACARIA NOT THRIVING (*A. B.*).—We have no doubt but the severe winter of 1860-61, which you say killed a Decodar near your Aracaria, and likewise injured it, is also the cause of the slow growth that has since followed. We have known several instances of a like kind, even in places where the frost was not so severe as with you (Cheshire). Most likely it will recover its wonted health and vigour in a year or two, but it is not a fast-growing tree under the most favourable circumstances. Generally speaking, it is as hardy as most of our native trees; but the winter alluded to, following suddenly on a wet and mild autumn, caught most things unprepared for it: hence the result.

QUICKSET HEDGE (*A. B.*).—Last week you will have seen an article by Mr. Robson on hedges of various kinds, and his observations on a Quickset one will meet your case.

STRAWBERRY PLANTING—MOVING HOLLIES (*An Irish Subscriber*).—Under the favourable conditions you name, you may now replant your whole lot of Strawberry plants whenever the weather is open. The beginning of June, and again through the whole month of August, is the best time to remove large Hollies in general, and small ones in particular, and November is about the very worst time to move Hollies. You cannot keep young Scarlet Geraniums in a collar, or in the dark anywhere.

VIOLE PENNSYLVANICA—YELLOW VIOLETS (*H. R. Bromley*).—Its flowers are blue. The *V. pyrolaefolia* you purchased is similar to that of which we published a portrait, but not as a new flower. Our correspondent is very anxious to procure some of the yellow species of Violets, and would be obliged by information as to where they can be purchased.

VARIETIES (*H. H. Box*).—No heat at all is employed by Mr. Bird in striking Calceolaria cuttings. The little "white sweet-scented Clematis" mentioned by Mr. Earley, is Clematis flammula. They all should be planted in April. We have heard nothing fresh about Spargania pilifera. It is certainly not to be depended upon generally.

CHIEF BOOK ON BRITISH MOSSES (*A Novice*).—Miss Pines has published a small volume on the subject. It is entitled "Rambles in Search of Mosses." You will have seen what we said to other correspondents recently about *Lapageria rosea*.

**BOOKS (Inquirer).**—You can have the book at our office if you send postage stamps. The second edition of "In-door Gardening," price 1s. 6d., contains the same information as the first.

**DOUBLE LOBELIA (Idem).**—The name Rasoli has never been in print as that of a Lobelia or any other plant. Rasoli is the name of one of the best Horseshoe Geraniums. A double blue Lobelia—such as your seedling, has not been mentioned before. But you should not have allowed the plants to go on so long flowering. It will not come true from seeds, and the chances are that you will lose it altogether. We said last September, the only secret in keeping old plants of the blue Lobelias over the winter, is to cut down so many of them then. We have a hundred of them so managed, and there are twenty good cuttings on each of them now, and the plants are thus so tamed that none of them will go off.

**INTERPRETATION OF NAMES OF FERNS (A Subscriber).**—The "Cottage Gardener's Dictionary" gives the interpretation of their names.

**SELECTION OF APPLES (A Subscriber).**—*Dessert*.—Irish Peach, Gravenstein, Cox's Orange Pippin, Golden Reinette, Margd, Nonpareil, Sturmer Pippin, *Kitchen*.—Yorkshire Greening, Blenheim Pippin, Altristone, Reinette Blanche d'Espagne, Royal Russet, Hanwell Souring.

**AMARYLLIS AULICA (H. M. K.).**—Your beautiful Amaryllis is a true Hippastrum, and is very far removed from aulica. It is a cross-breed, aulica was its great-grandfather, Johnsoni was its grandfather, and psittacium its grandmother, and the immediate parents were some garden seedlings. The ground colour is from aulica, the white star inside is from Johnsoni, and the green shade inside and out is from psittacium. The number of flowers, four in the umbel, is inherited from Johnsoni; aulica and psittacium never produce but two flowers on the scape if they are true wild species.

**EARLY VINERY (P. L. C.).**—From the statements you have given of the Vines, and of the condition of the border outside, we are quite certain you will do no good by doctoring either the Vines or the border, and the Vines will languish more and more from every succeeding crop. The most economical way of guarding against a dead failure some day or other, is to begin again at the beginning, and get a new set of Vines established before the old ones are done with altogether, so as not to lose a year's crop. The best way would be, if you could manage it, to make a four-foot-wide border inside the vinery to begin with, and to widen it about a yard in the autumn each season till you get to the back wall; to plant the young Vines inside, and to train them up between the old ones till you had them fit to bear; then to unspruce the lower half of the old Vines, and fruit the young ones along the bottom half of the roof. And after that grab out the old Vines, turn out the old border to the bottom, put a foot deep of rubble at the bottom of it, in order to raise it up higher; then make a new border outside, also by degrees, beginning with 4 feet; but you should open spaces as large as the front wall will allow of, so as to join the inside and the outside borders, and as much on the same level as you can manage it. Plant the new Vines as shallow as possible, and put 2 inches deep of cocoa-nut refuse over the roots for mulching, and that will cause the roots to ramify all over the surface.

**CYANOPHYLLUM MAGNIFICUM CULTURE (M. C.).**—It is a native of Madagascar, and requires stove culture, and temperatures varying from 75° to 80°. Soil three-fourths turfy peat and one-fourth loam, mixed with bits of charcoal and potsherds broken small, to keep the compost open.

**ASPECT OF GREENHOUSE (E. P.).**—Your aspect, nearly S.W., will answer very well.

**FLOWER GARDEN PLANS (Rose).**—There is no volume devoted to this, in our "Flower-Gardening for the Many," there are several plans and how to plant them. You can have it from our office free by post for five penny postage stamps. To have THE JOURNAL OF HORTICULTURE free by post weekly for a whole year, you must pay 17s. 4d. in advance, or 8s. 8d. for six months.

**DRESSING VINE-BORDERS (Lunatics).**—You would see what has been lately stated in "Doings of the Last Week," as to the coverings of borders. If your Vines are vigorous, the roots may need no dressing at all, but a little fresh horse-droppings or half-dried cowdung will do no harm, and a covering of 9 inches or a foot of litter above it. Stable, straw, or leaves will be better for keeping cold out, than a large mound of fermenting material on the 1st of March, for sending heat in. If you had put on this covering in October, you would have needed no fermenting-heap to set the Vines going on the 1st of March. Now, a little hot dung placed next the soil in March, and the covering as proposed above it, will, at least, do no harm; but do not overdo it.

**PRUNING ROSES (Oryantelicha).**—It depends upon the state of the Roses whether the spring is the best time to prune them. If they are in ordinary good health spring is the best time, but there is hardly a private collection of them out of twenty without some kinds being more or less below the average health, and others ought to be stronger and more free in growth than they have been for the last year or two. All such ought to be pruned in November, and as much as is possible of the old wood cut out entirely, and all the young wood left entire and to be pruned back in March. No two roses, nor two kinds of Roses, can be pruned just alike. The best soil for Cauliflower is the best for Roses. The best soil for Apples and Pears is also the best for Roses, and the very best soil for the Grape Vine is also the best for Roses, both for pots and for borders. The following will suit you better than all the rest:—Baronne Prevost, Madame Yvot, Jules Margottin, Generals Washington and Jacqueminot, Senateur Yaisse, Mademoiselle Crapet, Comtesse Chabriat, Duchess of Sutherland, Géant des Batailles, and Louis Peyronny.

**HEATING FROM A BOILER AT THE BACK OF A PARLOR FIRE (A. J. W.).**—We see no difficulty in the matter, provided there is best enough in your boiler, and your tank is on a proper level. If the boiler is close to the tank would be all the better to be 2 feet or 3 feet above the top of the boiler. Whether close or open, it is no can-a-must it be below the boiler. A small boiler would not manage such an amount of water as 300 or 400 gallons; but if you want that quantity or more in summer, all you have to do is to make your tank deep enough, but in winter to confine the depth of water to 3 inches or 4 inches. That will be heated more quickly, and the heat will equally rise whatever be the sides or covering of your tank.

**CUMBER LEAVES BLOTCHED (A Constant Subscriber).**—We think the holes are partly due to the fumes of the turpentine, and the sun shining on the leaves before the fumes escape, or they have become dry by giving air early.

**GREENHOUSE FERNS.**—We inadvertently stated at page 673, in answer to "Ruscus," that Asplenium lucidum, belliferum, and lanceolatum will not succeed in a common greenhouse. The two first are moderately hardy New Zealand species, and will thrive well in a temperature of about 35° if no cold winds get to them; and the last is a Britisher.

**PENDULOUS PLANTS FOR BASKETS IN GREENHOUSE (H. K. P.).**—Almost all twining and creeping plants will answer if sufficiently supplied with moisture, such as the greenhouse Passifloras, and the stronger growing of the Kennedias, and Gompholobiums. Allowed to depend, all training would be saved. Amongst strong-growing semi-herbaceous evergreen shrubby plants, we would instance the Maurandias, Lobpospermums, Rhodochiton volubile, Cobaea scandens, Dolichos lignosus, Jasminum gracile. Among free-growing herbaceous and succulent in their stems—Tropaeolum Lobbianum elegans, Triomphe de l'lyris, and the beautiful tricolorum and pentaphyllum. Of small herbaceous evergreen trailers, we would instance—Lobelia gracilis and begoniifolia (blue), and Hibbertia grossularifolia (yellow), Saxifraga sarmentosa, and Tradescantia procumbens, leaves green, white, and purple. Of hardwood small plants, Kennedy prostrata would answer well. Where the assistance of a hotbed could be procured for cuttings and seeds in spring, the beautiful Torna nantica, and the various varieties of Thumbergia would look charming in summer if well syringed. Of succulents use Cereus flagelliformis and Mallesoni.—R. F.

**VARIOUS (Highlander).**—In your circumstances it would be best to plant the strong Vines against the back wall. The nearer they reach the rafter the better. If you had planted earlier you might have had fruit next season. To get it now the ball must not be broken much, but that will be against the plants afterwards. We would rather spread the roots nicely out and think little of a return the first year. Those in pots had better be kept in pots and top-dressed. The giving them fire heat or not is purely a matter of convenience and the desired time to get the fruit. The Vine will break quite as well if left to its natural time of breaking. If your Peach tree is too vigorous, root-prune or raise carefully and replant in poor soil. Your watering with such fresh rank manure water, would, of course, increase luxuriance at the expense of maturation. We should use no liquid that flows from a decomposing-heap, of which fresh heated grass forms a portion, unless it were greatly diluted for any plants in pots, and would prefer droppings from animals instead. We do not wonder at the appearance of the pots. If the liquid had been strong, we should have expected the plants to have been killed. The Peach tree may be treated after you like. It would have better been done in October. The dark green is no doubt owing to the nitrogen in the gas water. The tree was different from a plant in a pot. A little might do it good.

**GRAFTING (Country Curate).**—For 3s. 4d. you can have from our office, free by post, Johnson's "Science and Practice of Gardening," which contains drawings and directions for every kind of grafting and budding.

**PROPAGATING GYMNOGRAMMA PERUVIANA ARGYROPHYLLA (Delia).**—If there is no chance of getting suckers, keep the plant in a warm dry place, but with moisture at the roots, and then collect the fronds with the ripest sori and sow on rough peat, and cover with glass in a moist shaded place. It is a good plan to take the fronds with the ripest seed, and just shake them, and then pin them over the rough nodules of peat. It is better to keep the material moist from beneath, instead of watering on the surface.

**DESTROYING CRICKETS (Nottinghamensis).**—We have not been much troubled with crickets, as they soon leave a place where it is not warm and dry. We have tried with success thin bits of bread, with a little fat or butter rubbed on, and then dusted with arsenic; the bread then doubled and placed in the driest warmest place, and care taken that neither cats nor any other domestic animal could get near it.

**LAPAGERIA ROSEA CULTURE (Idem).**—Notes on the Lapageria were given last week. If the plant is not healthy, examine the drainage, and, perhaps, give a little fresh sandy peat or leath mould, and place it in a temperature of from 50° to 60°. It would be as well, however, not to encourage much growth until the end of January at soonest; then you may decide whether to grow in a pot or planted-out, in either of which modes it will do well.

**STRAWBERRIES IN POTS—VINE NEWLY-PLANTED (Oxonian).**—The Strawberries will do well without plunging in the frame if you keep the frost out. If that is not done by covering, better plunge the pots upright, and lay a few leaves or litter over the surface, below the leaves of the Strawberries. About the end of February, take-off the faded leaves of the plants, fresh top-dress, and move them into your house, increasing the heat in the first week to 50°, and gradually on to 55° and 60°. A little litter and a mat will do good to the roots of the fresh-planted Vine. Remove it altogether in the month of May, that the sun may warm the ground; and then, in your light soil, mulch in August with fresh horse-droppings. Send any contribution, however small, to Mr. Hague, 36, Mount Street, Ashton-under-Lyne.

**SCALE ON APRICOTS (Old Baring).**—Point out the stems and branches with a cream paint made of soft soap, flowers of sulphur, and water. It is impossible for us to say, whether guano would benefit old fruit trees, of which we have no information as to whether they are vigorous or decrepid, fruitful or unproductive.

**VINES (Gertrude).**—Supposing you plant on both sides, you will need about twenty-eight Vines. As you have already eight Vines, we would plant the others in equal numbers of white and black, as two White Tokay, two Royal Muscadias, two Buckland Sweetwater, two Trebbiano, one Dutch Sweetwater, one Raisin de Calabre, four Lady Downe's (black), four West's St. Peter's, one Black Prince, one Black Champion. From eight to ten bunches on a rafter will be fair—that is, from sixteen to twenty-four across the house. Peaches and Figs would be best in pots on the floor of the house; get the fruit set before the Vines make much growth, and take the trees out in the autumn to ripen the wood. See what was said lately on under crops with a roof covered.

**PLANTING VINES (Amateur).**—We should use some friable loam, with a tenth part of lime rubbish, and about as much of horse-droppings, and a bushel of broken bones. Plant the Vines out now, spreading out the roots regularly, covering them with 6 inches of the soil, water the roots before covering, place some litter on, that it to keep wet from the soil, and let the Vines come away in March.

**CYANOPHYLLUM MAGNIFICUM (Sigley).**—This is the proper spelling.

**SOIL FOR COTTON PLANTS (E. B. R.).**—Three-fourths light loam, mixed with one-fourth leaf mould or bottom of an old woodstack, and well drained, will suit them.

**FLUE-HEATED VINERY (B. Persevere).**—As great results have been obtained from a flue as from any other mode of heating; your determination to make the most of your circumstances is the way to get on. You may syringe the Vines until the buds show bloom; but the best plan is to have evaporating-pans set on the flue, it matters not what if they hold water. If your flue requires to be hot, put no sulphur on it within some yards of the furnace. To be safe, the flue should not be above 160° where you put the sulphur on. Half a pound of sulphur mixed with water to a pint, or with milk, will, if thin, go over a large space of flue. We prefer repeating the operation to doing it much at a time—say at an interval of ten days. Any time is the best to begin to force the Vines—say March, to have the fruit in the end of July; earlier, if you want them earlier. Coax the Vines to break by giving heat gradually, beginning at 45°, and rising from half to three-quarters of a degree a-day until you come to 60° and 65°. Mind the flue is not too hot for the sulphur.

**HOT-WATER PIPES (An Old Subscriber).**—You will require two four-inch pipes all round the 12 feet by 9 feet span-roofed house, except at the doorway. If you wanted a high temperature early, one pipe more might be necessary. If a bed were made on one side, a pipe might go through it. Plants will force rather better when plunged in a mild hotbed than when on a stage; but it does not make any very great difference, only the bed is more regular than the atmosphere. There have been no end of directions as to the modes of heating lately. It would matter little whether your boiler was placed at one end, opposite the doorway, or at the side of the doorway. We would have the two pipes nearly on the level, though one flow and one return.

**NAMES OF FRUITS (A. B.).**—1, Summer Strawberry; 3, Brookes; 4, Black Worcester; 5, Passe Colmar; 6, Dumelow's Seedling; 7, Winter Greening; 8, Forge; 9, Nonesech; 13, Dumelow's Seedling; 14, Margil; others not recognised. (W. H.).—1, Beurré de Rance; 2, Zephirin Grégoire; 3, Passe Colmar; 4, Conseiller de la Cour; 5, Beurré d'Arcberg; 6, like Glout Moreau.

**NAMES OF PLANTS (Arthur Cole).**—Yes. It is *Polystichum aculeatum*, var. *lonchitidoides*. (W. R. Hayward).—1, Galeopsis ladanum; 2 and 7, *Gentiana amarella*; 3, *Sonchus arvensis*; 5, *Hypericum hirsutum*; 4, *Rubia perigrina*; 6, *Atriplex portulacoides*; 8, *Chenopodium polyspermum*; 10, *Geranium columbinum*; 11, *Suaeda maritima*; 15, *Atriplex arenaria*; 16, 17, *Calamintha acinos*, not distinguishable in the specimen sent; 9, 12, 13, 14, too incomplete. We again say that, anxious as we are to aid our readers, yet we cannot undertake to name so many specimens for any one correspondent in one week. Here were seventeen bad specimens to examine! Three or four specimens are a fair number to send. (A. L.).—*Valloia purpurea*. (J. J. S.).—*Yucca* is a seedling of some form of *Lastrea dilatata*. (W. M.).—1, *Adiantum cucucatum*; 2, *A. bispidium*; 3, *A. asmitile*; 4, *A. capillus-Veneris*. (S. F. H.).—Two small fronds of *Lastrea spinulosa*; large frond of *L. dilatata obtusa*. The underneath frond a very elegant variety of *Polystichum angulare*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE

### POULTRY SHOWS.

DECEMBER 9th, 10th, 11th, and 12th. CRYSTAL PALACE. (Poultry, Pigeons, and Rabbits.) Entries close November 8th. Sec., W. Houghton.  
DECEMBER 16th and 17th. LOAN TREDEGAN'S, Newport, Monmouthshire. Sec., Mr. J. G. Palling, Newport.  
DECEMBER 20th. HECKHONDWYKE. Sec., Mr. J. Thornton. Entries close December 20th.  
DECEMBER 29th, 30th, and 31st. MANCHESTER.  
JANUARY 1st, 2nd, and 3rd. GLASGOW. (Pigeons and Canaries.) Secs., Mr. T. Buchanan. Entries close December 22nd.  
JANUARY 6th, 7th, and 8th. KENDAL. Secs., George C. Whitwell, and T. Wilson.  
JANUARY 13th and 14th. GLOUCESTER ORNITHOLOGICAL. Sec., Mr. G. Cummins, 89, Southgate Street.  
JANUARY 21st and 22nd. LIVERPOOL. Sec., J. T. Lawrence, 3, Cook Street. Entries close January 5th.

### BIRMINGHAM POULTRY SHOW.

THIS important Exhibition commenced yesterday, and will continue till Thursday next. We subjoin a list of the prizes, and shall give a full report next week. The number of entries of poultry was 1365, and that of Pigeons, 232.

**DORKING (Silver Grey).**—First, D. V. Allen, Inchtute, N.B. Second, T. Staller, Manchester. Third and Fourth, withheld. *Chickens*.—First, and Second, G. Cargay, Sandon Farm, Staffordshire. Third, Right Hon. Lord Hill, Shrewsbury. Fourth, T. Staller. *Hens*.—First, G. Cargay. Second, C. H. Wakefield, Malvern Wells. *Pullets*.—First, G. Cargay. Second, J. Drewry, Burton-on-Trent.

**DORKING (Coloured, except Silver Grey).**—First and Cup, W. Copple, Eccleston, Prescott. Second, T. Burgess, Burleydam, Whitechurch, Shropshire. Third, Right Hon. Viscountess Holmesdale, Linton Park, Staplehurst, Kent. Fourth, Capt. W. Hornby, Knowlesy Cottage, Prescott. *Chickens*.—First, J. Drewry, Newton Mount, Burton-on-Trent. Second, C. H. Wakefield, Malvern Wells. Third, W. T. Everard, Bardon Hill House, near Ashby-de-la-Zouch. Fourth, Right Hon. Viscountess Holmesdale, Linton Park, Staplehurst, Kent. *Hens*.—First, C. H. Wakefield. Second, Right Hon. Viscountess Holmesdale. *Pullets*.—Right Hon. Viscountess Holmesdale. Second, D. V. Allen, Inchtute, N.B.

**DORKING (White).**—First, Mrs. H. Fookes, Whitechurch, Blandford, Dorsetshire. Second, Mrs. Beardmore, Uplands, near Farnham Hampshire. *Chickens*.—First, H. Lingwood, Needham Market, Suffolk. Second, J. Robinson, Vale House, Garstang.

**SPANISH**—First, R. Teebay, Preston. Second, J. Martin, Claines. Third, J. K. Fowler, Aylesbury. Fourth, H. Lane, Bristol. *Chickens*.—First, H. Lauc. Second, R. Teebay. Third, J. R. Rodbard, Wrington, Bristol.

Fourth, H. Yardley, Birmingham. *Hens*.—First, J. Martio. Second, R. Teebay. *Pullets*.—First, S. H. Hyde, Ashton-under-Lyne. Second, J. R. Rodbard.

**COCHIN-CHINA (Cionamon and Buff).**—First and Mr. Wade's Cup, H. Bates, Edgbaston, Birmingham. Second and Amateur's Cup, H. Tomlinson, Balsall Heath Road, Birmingham. Third, G. Fell, Warrington. *Chickens*.—First and Amateur's Cup, J. W. Kelway, Merston, Isle of Wight. Second and Amateur's Cup, G. Fell. Third, E. Musgrove, Aughton, Ormskirk. *Hens*.—First, S. Statham, Forest Row, Sussex. Second, E. Smith, Middleton, Manchester. *Pullets*.—First, C. Felton, Erdington, Birmingham. Second, Rev. G. Gilbert, Claxton, Norwich.

**COCHIN-CHINA (Brown and Partridge-feathered).**—First, P. Cartwright, Oswestry. Second, H. Chavasse, King's Heath, Birmingham. Third, Mrs. Herbert, Powick. *Chickens*.—First and Cup, T. Stretch, Ormskirk. Second, R. White, Broomhall Park, Sheffield. Third, E. Musgrove, Aughton, near Ormskirk. *Hens*.—First, R. White. Second, E. Smith, Middleton (Grouse). *Pullets*.—First, P. Cartwright. Second, J. Heape, Sparkbrook.

**COCHIN-CHINA (White).**—First, C. Felton, Erdington, near Birmingham. Second, R. Chase, Birmingham. *Chickens*.—First and Second, Master K. W. Chase, Birmingham.

**BRAMA POOTRA.**—First and Second, R. Teebay, Fulwood, near Preston. *Chickens*.—First, J. K. Fowler, Aylesbury. Second, D. V. Allen, Inchtute, N.B.

**MALAT.**—First, N. Sykes, Mile End, London. Second, W. Manfield, jun., Dorchester. *Chickens*.—First and Second, N. Sykes.

**HAMBURGH (Golden-pencilled).**—First, Major Ward, Calne, Wiltshire. Second, J. Munn, Newchurch, near Manchester. Third, A. Nuttall, Newchurch, near Manchester. *Chickens*.—First, Mrs. W. Kershaw, Manchester. Second, H. Snowden, Great Horton, near Bradford, Yorkshire. Third, J. Howard, Redford.

**HAMBURGH (Silver-pencilled).**—First, D. Harding, Middlewich, Cheshire. Second, J. Martin, Claines, Worcester. Third, Rev. H. G. Baily, Swindon, Wiltshire. *Chickens*.—First, S. Shaw, Stanland, Halifax. Second, T. W. Walsh, Worcester. Third, J. Martin, Claines, Worcester.

**HAMBURGH (Pencilled).**—*Hens*.—First, J. Munn, Shawlough, Newchurch, near Manchester (Golden). Second, J. Martin, Claines, Worcester (Silver). *Pullets*.—First, J. Munn (Golden). Second, T. W. Walsh, Worcester (Silver).

**HAMBURGH (Golden-spangled).**—First, J. Dixon, North Park, Bradford, Yorkshire. Second, J. Robinson, Vale House, Garstang. Third, W. R. Lane, Bristol Road, Birmingham. *Chickens*.—First, S. H. Hyde, Taunton Hall, Ashton-under-Lyne. Second, J. G. Sugden, Eastwood House, near Kettlewell, Yorkshire. Third, W. R. Lane, Birmingham.

**HAMBURGH (Silver-spangled).**—First, J. Fielding, Newchurch, near Manchester. Second, J. Dixon, Bradford, Yorkshire. Third, W. Cannon, Bradford, Yorkshire. *Chickens*.—First, H. Beal, Wexham, Slough. Second, and Third, W. Cannon.

**HAMBURGH (Spangled).**—*Hens*.—H. W. B. Berwick, Helmsley, York (Golden). Second, W. Lawson, East Chevin, Otley (Golden). *Pullets*.—First, I. Davies, Bull Street, Harborne, near Birmingham (Golden). Second, A. Nuttall, Newchurch, near Manchester.

**POLAND (Black with white crests).**—First, T. P. Edwards, Lyndhurst, Hampshire. Second, G. Ray, Minstead, Lyndhurst, Hampshire. Third, H. Beldon, Bradford, Yorkshire. *Chickens*.—First and second, T. P. Edwards. Third, G. Ray.

**POLAND (Golden).**—First and Third, J. Dixon, Bradford, Yorkshire. Second, H. Beldon, Bradford, Yorkshire. *Chickens*.—First, J. Dixon. Second, C. Adkins, The Lightwoods, near Birmingham. Third, H. Beldon.

**POLANDS (Silver).**—First and Third, J. Dixon, Bradford, Yorkshire. Second, H. Beldon, Bradford, Yorkshire. *Chickens*.—First, G. C. Adkins, The Lightwoods, near Birmingham. Second, W. Newsome, Bingley, near Leeds. Third, J. Dixon.

**ANY OTHER DISTINCT VARIETY.**—First, J. Dixon, Bradford, Yorkshire (Black Hamburgh). Second, Right Hon. Countess of Aylesford, Odechurch, near Leamington (Cuckoo Dorking). Third, C. Baker, King's Road, Chelsea, London (Crève Cœur).

**GAME (Black-breasted Reds).**—First, J. Fletcher, Stoneclough, near Manchester. Second, R. Woods, Worksop, Nottinghamshire. Third, W. Robson, Worksop, Nottinghamshire. Fourth, J. Hindson, Liverpool. *Chickens*.—First, G. Cargay, Stone, Staffordshire. Second, Hon. W. W. Vernon, Eccleshall, Staffordshire. Third, W. Robson. Fourth, J. Fletcher.

**GAME (Brown and other Reds, except Black-breasted).**—First and Cup, J. Fletcher, Stoneclough. Second, R. Swift, Southwell. Third, T. Robinson, Poplar Grove, Ulverstone. Fourth, C. Curtis, Lutterworth. *Chickens*.—First, E. Archer, Malverno. Second, G. E. Meredith, Wellington, Shropshire. N. Grimshaw, Pendle Forest, Burnley. E. Ayrkroyd, Bradford. (An extraordinarily good class. Best class of Game in the Exhibition.)

**GAME (Black-breasted and other Reds).**—*Hens*.—First, R. Alkin, Hartshill, Atherstone. Second, W. Boyes, Beverley. *Pullets*.—First, R. Swift, Southwell. Second, Messrs. Parkinson & Lawrenson, Preston.

**GAME (Duckwings and other Greys and Blues).**—First, Col. Blackburne, Leamington. Second, H. Worrall, West Derby. Third, W. Dawson, Selly Oak, Birmingham. Fourth, G. Hellewell, Walkley, Sheffield. *Chickens*.—First, R. Woods, Worksop. Second, H. Snowden, Great Horton, Bradford. Third, Hon. W. W. Vernon, Eccleshall. Fourth, T. Carless, Hoveringham.

**GAME (Blacks and Brassy-winged, except Greys).**—First, J. Fletcher, Stoneclough, near Manchester. Second, W. Dawson, Selly Oak, near Birmingham. Third, G. Hellewell, Walkley, near Sheffield. *Chickens*.—First and Third, W. Dawson. Second, J. Fletcher.

**GAME (White and Piles).**—First, J. Fletcher, Stoneclough, Manchester. Second and Third, J. Cannon, Farnsfield, Southwell, Nottinghamshire. *Chickens*.—First, withheld. Second, B. W. Bretherton, Rainhill, near Prescot, Lancashire. Third, J. Camm.

**GAME (except Black-breasted and other Reds).**—*Hens*.—First, T. Goodwin, Everton, Liverpool (Duckwing). Second, J. Percival, Harborne, near Birmingham (Duckwing). *Pullets*.—First, J. Wood, Wigam. Second, T. Goodwin.

### CLASSES FOR SINGLE COCKS.

**DORKING (Silver Grey).**—First, T. Staller, Stand Hall, Manchester. Second, D. Steel, Windermete. Third, T. W. Hill, Woodlands, Heywood, near Manchester.

**DORKING (except Silver Grey).**—First, Right Hon. Viscountess Holmesdale, Linton Park. Second, Mrs. Arkwright, Derby. Third, E. H. Garrard, Brouday, Worcestershire.

SPANISH.—First, J. R. Rodbard, Wrington. Second, H. Lane, Bristol. Third, Burch & Boulter, Sheffield.

COCHIN-CHINA (Cinnamon and Buff).—J. W. Kelleway, Isle of Wight. Second, R. White, Sheffield. Third, H. Tomlinson, Birmingham.

COCHIN-CHINA (except Cinnamon and Buff).—First, E. Tudman, Whitechurch, Shropshire (Partridge or Grouse). Second, J. Shortness, Newcastle on Tyne (Partridge). Third, P. Cartwright, Oswestry (Partridge).

BRAMA POOTRA.—First, R. Teebay, Fulwood, near Preston. Second, Mrs. Seamons, Aylesbury.

HAMBURGH (Golden-pencilled).—Mrs. W. Kershaw, Heywood, near Manchester. Second, J. Munn, Manchester.

HAMBURGH (Silver-pencilled).—First, J. Dixon, Bradford. Second, Miss S. Cotes, Ricton.

HAMBURGH (Golden-spangled).—First, S. H. Hyde. Second, W. Kershaw, Manchester.

HAMBURGH (Silver-spangled).—First, J. Dixon, Bradford. Second, J. Fielding, Manchester.

POLAND.—First, G. C. Adkins, Birmingham. Second, J. Dixon, North Park, Bradford.

GAME (White and Pile, Duckwings, and other Varieties, except Reds).—First, T. Curless, Hovingham, near Nottingham. Second, Hon. W. W. Vernon, Ecclestone, R. Swift, Southwell. Fourth, J. Hindson, Everton.

GAME (Black-breasted Reds).—First, J. Stubbs, Stafford. Second, J. Fletcher, Stoneclough. Third, Hon. W. W. Vernon. Fourth, N. Grimshaw, B. Brintley.

GAME (Brown and other Reds, except Black-breasted).—First, E. Archer, Malvern. Second, T. Staller, Manchester. Third, G. Cargoy, Sandon Farm. Fourth, W. Robson, Workop.

BANTAMS (Gold-laced).—First and Third, T. H. D. Bayly, Biggleswade. Second, M. Leno, jun., Dunstable.

BANTAMS (Silver-laced).—First and Third, T. H. D. Bayly, Biggleswade. Second, M. Leno, jun., Dunstable.

BANTAMS (White, Clean-legged).—First and Second, T. H. D. Bayly, Biggleswade. Third, J. Rumsey, Shadwell and South Hackney.

BANTAMS (Black, Clean-legged).—First, J. Munn, Newchurch. Second, C. W. Brierley, Onkenrod Terrace, Rochdale. Third, G. Maples, jun., Wavertree.

BANTAMS (Any other Variety).—First, F. Musten, St. Alban's (Japanese White). Second, C. Felton, Erdington, Birmingham (Booted). Third, G. Duff, Southwell.

GAME BANTAMS (Black-breasted and other Reds).—First and Second, T. H. D. Bayly, Biggleswade. Third, E. Musgrove, Aughton, Ormskirk.

GAME BANTAMS (Any other variety).—First, J. Camm, Southwell. Second, R. Hawkley, jun., Southwell, Nottinghamshire. Third, Hon. E. N. Hill, Cranhill, Shrewsbury (Duckwing).

BANTAM COCKS (Game).—First, T. H. D. Bayly, Biggleswade. Second, R. Swift, Southwell, Nottinghamshire. Third, E. Musgrove, Aughton, near Ormskirk (Duckwing).

DUCKS (White Aylesbury).—First, Mrs. Seamons, Aylesbury. Second, J. K. Fowler, Aylesbury. Third, J. Smith, Breder Hills, Grantham.

DUCKS (Rouen).—First J. K. Fowler, Aylesbury. Second, T. Robinson, Ulverstone. Third, H. Worrall, West Derby, near Liverpool.

DUCKS (Black East Indian).—First, Miss Clifton. Second, J. Beasley, Northampton.

DUCKS (Any other variety).—First, J. Dixon, Bradford. Second, T. H. D. Bayly, Biggleswade.

ORNAMENTAL WATER FOWL.—First, T. H. Bayly, Biggleswade (Sebastopol Geese). Second, J. Morris, Wolverhampton.

GESE (White).—First, Mrs. Seamons, Aylesbury. Second, W. Mansfield, jun., Dorchester (Improved Dorset). Third, Right Hon. Lord Kinnaird, Inchture, N.B. *Goslings*.—First, W. Mansfield, jun. Second, Right Hon. Lord Kinnaird.

GESE (Grey and Mottled).—First, J. K. Fowler, Aylesbury. Second, D. V. Allen, Inchmartine, Inchture, N.B. Third, W. Lort, King's Norton, Birmingham. *Goslings*.—First, J. K. Fowler. Second, Mrs. Seamons, Aylesbury.

TURKEYS.—First, Mrs. A. Guy, Eaton, Grantham (Cambridgeshire.) Second, D. V. Allen, Inchmartine. Third, Mrs. C. Brawn, Withington. *Poulters*.—First, Rev. T. L. Fellowes, Acle, Norfolk (Cambridgeshire.) Second, J. Smith, Grantham (Cambridgeshire.) Third, Mrs. Wolfenstan, Tamworth (Cambridgeshire.)

PIGEONS.

POWERS.—First and Second, P. Eden, Salford, Manchester. Third, M. Rake, Brandon Hill, Bristol.

CARRIERS (Black Cock).—First, E. L. Corker, Croydon. Second, Messrs. W. Siddons & Sons, Birmingham.

CARRIER COCKS (Any colour except Black).—First, P. Eden. Second, Messrs. W. Siddons & Sons (Dun).

CARRIER HENS.—First and Second, E. L. Corker, Croydon. (Good class.)

CARRIER HEN (Any other colour).—First, M. Rake, Bristol. Second, P. Eden, Salford.

TUMBLERS (Almond).—First, M. Rake, Bristol. Second, P. Eden, Salford. Third, G. F. Nicholls, Cheltenham.

BALDS.—First, F. Esquilant, Oxford Street, London. Second, D. Thwaites, Cheshire. Third, T. Ridpath, Rusholme.

BEARDS.—First, W. H. C. Oates, Newark. Second, M. Rake, Bristol. Third, F. Else, Bayswater, London. (Good class.)

TUMBLERS (Of any other Variety).—First, Peter Eden, Manchester. Second, F. Else, London (Black Mottled). Third, F. Esquilant, London (Yellow).

JACOBIENS.—First, S. Shaw, Halifax. Second, H. Morris, Forest Hill, Kent. Third, F. Esquilant, Oxford Street, London. (Good class.)

FANTAILS.—First, G. C. Adkins, Birmingham. Second, D. Thwaites, Rock Ferry, Cheshire. Third, J. W. Edge, Birmingham. (A very excellent class.)

TRUMPETERS.—First, S. Shaw, Halifax. Second, W. H. C. Oates, Newark (White). Third, W. Cannan, Bradford. (An excellent class.)

OWLS.—First and Second, M. Rake, Bristol. Third, F. Else, Bayswater, London.

NOSES.—H. Morris, Forrest Hill. Second, C. Felton, Erdington. Third, F. Else, Bayswater, London. (Good class.)

TURTLES.—First, A. L. Sylvester, Birmingham. Second, J. Watts, Birmingham. Third, J. W. Edge, Birmingham.

BAUNS.—First, P. Eden, Cross Lane, Salford, Manchester. Second, S. Shaw, Stainland, Halifax. Third, A. L. Sylvester, Birmingham.

RUNTS.—First and Second, T. D. Green, Saffron Walden (Spanish). Third, F. Key, Beverley.

DRAGONS.—First, F. Esquilant, Oxford Street, London. Second, T. Ridpath, Rusholme, Manchester. Third, J. C. J. Samuels.

ANY OTHER NEW OR DISTINCT VARIETY.—First, A. L. Sylvester, Birmingham. Second, S. Shaw, Stainland, Halifax. Third, E. A. Hargrove, Huddsworth, Birmingham.

RESULTS FROM OVERFEEDING POULTRY.

WE have had so many queries of late about diseases arising from overfeeding and mismanagement, that we think we may answer some querists, and anticipate others by putting together in one short paper the pith of many answers. Thus, "E. G." complains that some fowls that have been fattening for some weeks, and that were intended for Christmas, are losing weight, although they are very fat. "TYRO" says his fowls do not fatten, although they have lots of food always by them. "BOSTON" says after they have been a day or two in confinement they have no appetite—in fact, like the villagers with Jupiter, "Every one complained."

As it is hard and somewhat tedious to task folks to task one after the other on the same subject, we will get rid of all by telling them what they should do; they will then see their faults of omission and commission. Fowls are hatched to be made fools of. If they did but know how many are destined to supply the table at Christmas—instead of laying on fat and nursing themselves with the idea the extra food was unselfishly given in obedience to the advice of the "Poultry Chronicle," they would be disturbed with mortal anxiety, would pine, and keep obstinately thin, and thereby save their lives.

It must always be borne in mind that fattening means only what it implies. It is (in table phrase) adding fat to lean. It is useless to put up a skeleton, however healthy, and to fancy that good meat will be put on by feeding in confinement. As we wish to write familiarly, we will say the lean must be made while the bird is running at liberty. Another error against which we must warn our readers is the idea that any amount of feeding will make a hard fowl tender. Hardness is the result of age, and the distinction between "old" and "not very old" is, after a certain age, nonsense so far as eating is concerned. A fowl is an old one at ten months as certainly as at the end of ten years.

Premising, then, the birds put up to fatten shall be young—say sixteen, or eighteen, or even twenty weeks old, and fleshy, three weeks' confinement ought to make them very good. We do not advise cramming under ordinary circumstances. It is good where fowls are intended for market, but it is hardly necessary for home consumption. If a coop be made for twelve or eighteen fowls and four are put into it, they will not fatten, there will be too much room. The birds must have room to stand up, and to shift their position, but not to move about. They should be fed three times per day; their food should be ground oats, or oatmeal mixed with milk, of such consistence that when laid on a board in front of the coop it will not run off. The food should be fresh-mixed each time, and no more should be given than will be eaten clean at each meal. If the day's consumption is placed at once before the bird it eats to repletion to the destruction of appetite; the food turns sour, and then it takes a distaste and does badly. The fattening fowls must be fed every morning at daybreak; they must be covered up warm at night, and protected from cold by day. They should fatten in three weeks. If they have stale food, if they are fed irregularly, if they are kept in draughts and places where they are not protected from cold, if they are allowed to see other fowls running about, they will not fatten.

There is no process by which fowls can be kept healthy after they are fattened; it is, therefore, necessary to calculate the time and numbers. Thus, if a dozen will be wanted between Christmas and Now-year's day, they should be put up about the 3rd or 4th of December. This will allow three weeks for fattening; and of the twelve, these that have made most progress must be killed first. If the attempt be made to keep them after they are thoroughly fattened, failure will be the result. "E. G." is perfectly right; they will be fatter and they will be lighter. Persevered in, this process leads to death. All the functions of the body become impeded, and the birds die of compound jaundice. To one of these causes "BOSTON" may trace the fact they have no appetite.

## THE PIGEON SOCIETIES OF LONDON.

### I.—THE PHILOPERISTERON SOCIETY.

It has occurred to us that an account of the various Pigeon societies existing in London might afford interesting information to many of our country readers. As these societies have very distinct objects and aims, it would be undesirable to include the account of all in a single article: we shall, therefore, deal with them singly or in groups, and commence our series by one of the most celebrated—namely, the Philoperisteron Society. For the benefit of those of our readers to whom Greek is Greek, we may state that the term "Philoperisteron" signifies that the members are lovers of Doves or Pigeons.

The Society, which was founded in 1847, holds its meeting on the evenings of the second Tuesday during the months of October, November, December, and February at the Freemason's Tavern, and has an annual grand Show in the Great Hall during the month of January. The members are elected by ballot, and pay an entrance-fee of one guinea and an annual subscription of an equal amount. The annual Show, to which visitors are admitted only by tickets signed by the members, always receives due notice in our columns. It is attended by amateurs from all parts of England, and is in every way worthy of the distinguished patronage it receives. On no other occasion is so valuable a collection of birds ever got together, every variety being in general represented by specimens of far higher value than make their appearance at any of the competitive shows. The members, who number many of the *élite* of the fanciers throughout the kingdom, include amateurs of almost every breed. Thus, the President for the present year, Mr. Harrison Weir, is unrivalled in the excellence of his Fantails and Toys generally. The Short-faced Turnblers, including Almonds and Motiles, are worthily represented by the specimens exhibited by Messrs. Lung, Percivall, and Esquilant. In Carrier-fanciers the Society is particularly strong. We need do no more than mention the names of Messrs. Hayne and Date, of London; Messrs. Chalker and Square, of Plymouth; Everett, of Brighton; Oliver, of Bristol; and Eden, of Manchester. In Powder-fanciers the Society is eminent, but has recently sustained a great loss in the lamented death of the late President, Mr. Bult. At present the collections of Messrs. Eden, Smith, and Hayne include many birds of the highest excellence. Mr. Wicking, one of the oldest members, formerly had an unrivalled stock of Toys and Short-faced Baldheads; at present his stock included a valuable collection of German birds, such as Priests and Swallows. Barbs, which, from the difficulty of breeding first-rate specimens, may be regarded as amongst the most valuable of the Toys, are represented by Messrs. Eden, Stevens, and Tegetmeier.

Among the office-bearers of the Society are included the names of Messrs. Carrell and Archer, two old and well-known fanciers. The Honorary Secretary is Mr. Tegetmeier, who appears to be devoting his attention to experiments on the homing faculty of the Belgian Smerles. His birds, which have been obtained from several of the best flights in Liège, Antwerp, Verviers, &c., include many that have flown immense distances.

At the annual Show the members of the Society incur a great amount of trouble and considerable expense in fitting-up the large Hall of the Freemasons with ornamental pens. Their birds are forwarded from all parts of the kingdom, and they invite their friends to inspect what is unquestionably the finest collection of Pigeons to be seen in the kingdom. We should recommend all interested in this delightful fancy to obtain invitations to witness this annual gathering.

## THE SWALLOWS AND FLYCATCHERS.

OF Swallows we have four species common to England. The largest are the Black Swallows, or Swifts, sometimes provincially known as Screechers; they build in holes in walls or under the eaves of houses, churches, &c.

The common or chimney Swallow, sometimes called the Barn Swallow, may be known by its long forked tail. It builds its nest in the form of a cup of mud lined with hay or feathers, and placed in a chimney, under a bridge, or in a barn, from which reason it derives its name.

The Martin, known also as White Martin, House Martin, or Window Swallow, builds a dome-shaped nest of mud, and places it under the eaves or in the windows of houses and similar places, though sometimes on the face of overhanging cliffs or rocks.

The fourth species is the Sand Martin or Bank Swallow. These have the peculiarity of boring or excavating a hole in a sand-bank, where they form their nest; these holes are often a yard deep, bored in the face of some sand-pit or bank, from which circumstance they obtain their distinctive appellations.

All these Swallows are migratory birds, coming to this country in spring, breeding here, and departing again in autumn for a warmer climate, where they pass the winter.

Their food consists of insects, which they catch on the wing. In fine weather they may be noticed flying high in the clear sky, the fine weather attracting the insects to sport in the air; while in damp and rainy weather they mostly fly low, hunting along the walls, over the fields, or about the margins of streams for such chance prey as may there show itself.

As the Swallow tribe feed entirely on the wing, it is evident that they do not eat any grub or larvæ, but only the perfect insects; and as most of these spend their honeymoon or take their love trips in the air, it is then they fall a prey to the Swallows by day, even as the nocturnal insects are devoured by the Fern Owl and Bats at night.

Thus the Swallows do good service in diminishing the number of gnats, mosquitoes, flies, and small beetles, which in the larvæ state have revelled on many green things. From this it is evident that these birds are useful, and as they do not eat any vegetable substance, neither fruit nor corn, no ill can be laid to their account on that score; yet their usefulness and innocence are not sufficient to protect them from all people, as some very tidy persons destroy them on account of the dirt they make, while others will sometimes use them as a mark for their guns.

Of Flycatchers we have two species: the Pied, a somewhat local bird and rather scarce, and the Spotted Flycatcher, which is much more common, and frequently called Wall-bird or Post-bird, from its habit of resting on such places, from which it darts into the air to secure its passing prey.

These Flycatchers are also migratory, being summer visitors only. The common one builds its nest on stumps of trees or holes in walls, fences, &c., and is noted for the curious places it sometimes selects to raise its young in. They frequent gardens, orchards, and other such places, and help to thin their resorts of many flying things, blue-bottle flies being eagerly sought and devoured by them.

Although small birds are so much exclaimed against by some, often without discrimination, yet I trust that these Swallows and Flycatchers may be allowed to pass unmolested. The only accusation of a destructive propensity that I have ever heard of as being brought against the Swallows, was that they killed bees. I believe that it is unfounded; if, indeed, a young bird should catch a bee or wasp, I think the sting would be a caution to him in future, as, feeding on the wing, he could not, like the Tomtits, first peck it to pieces on the nearest bough and extract the sting before swallowing it.

The proverb says, "Experience is a dear master," and I have no doubt a young Swallow would find it so if he were induced to try a bee.—B. P. BRENT.

STARLINGS.—Mr. Brent is not quite correct about the Starlings (p. 661). They eat any amount of Cherries. I do not think they touch anything else.—H. R., Bromley.

## APIARIAN MISCELLANY.

To the other attractions which gradually but surely drew me to pay a visit to the International Exhibition, I must add the anticipation of a great treat in the large amount of objects connected with apian science, which, I fondly imagined, must be collected under the vast roof covering the productions of almost every country on the face of the globe. Accordingly, in company with a friend, a much-esteemed correspondent of this Journal, I went note-book in hand, intending to devote my first day almost exclusively to the apian department. But my anticipations of pleasure and profit were soon greatly doomed to disappointment; for, with one or two exceptions, there appeared to be so little worthy of inspection, that I relinquished the task of a more thorough investigation to my friend, and consequently made but few notes at the time. Having perused the various communications which have appeared within the last six weeks on this and collateral subjects with considerable interest, I am induced to give the result of my own observations and opinion respecting

the various matters of discussion arising therefrom. I propose therefore to avail myself of the notes of your other respected correspondents, and remark on the opinions advanced by them. It is a matter of regret that these papers appeared so late in the season. If some beneficent individual had given us the benefit of his experience almost as soon as the other guide-books appeared, many would have been saved considerable disappointment, and more would have had reason to thank him and THE JOURNAL OF HORTICULTURE for affording them a means of quickly getting through what there was to be seen.

We first come to the consideration of the case of R. Fenn of Woodstock, better known to us as your respected correspondent, "UPWARDS AND ONWARDS." On the whole this case gave me considerable pleasure. As we have since been favoured with some papers from the pen of this exhibitor, I purpose glancing through them and adverting to any subject which may seem to invite remark.

The hives are of a very useful class, of an admirable size for profitable working, and they appear well made. There is one little matter I should like to see altered; which is, instead of one central hole of communication I should prefer two or three placed nearer the side of the hive, so that one large-sized cup or glass which would just cover the three apertures or three smaller glasses might be used. Hives with central communications, no doubt, will give as good supers of honey as any other; but I have for some time past entertained the idea that the queen is by their use more inclined to ascend into the super than by the holes nearer the side. Since adopting the latter I have obtained some beautiful supers. Though by no means successful in every case in excluding the queen and brood from them, I still think the plan has other advantages; the chief of which are a less-obstructed communication, and the removal of the necessity for the crowding of the bees up over the chief breeding-combs in the hive for the purpose of passing into the super. But this, like many other plans, is with me only on its trial, and I should not like to speak too confidently of its undoubted superiority.

Mr. Fenn, or perhaps I should say "UPWARDS AND ONWARDS," will probably contend that the plan he advocates for the exclusion of the drones and queens will be found to obviate the objections which may be urged against central communications. Certainly by this plan may the drones be excluded, and possibly the queens; but with the exceedingly small means of communication which he affords, it would seem impossible for the bees to work rapidly, or to take the fullest advantage of a prolific honey harvest. So very limited a space afforded for the passage of the bees would not coincide with my views at all. It may be adapted for the very small supers which "UPWARDS AND ONWARDS" seems to have set his affections on, but would not do for such supers as I have been in the habit of using and obtaining, holding from 15 lbs. up to 53 lbs.; the latter quantity collected without a square inch of comb that had been used as a receptacle for brood. Small supers are very pretty, and may more frequently be obtained perfectly free from brood than large ones, but in my humble opinion are a sad hindrance to the full productive powers of the bees. I very seldom put on a super which will hold less than 15 lbs. or 25 lbs., and should the season be favourable to honey-gathering, the capacity of these is quickly increased by slipping between them and the stocks boxes of the same diameter, of greater or less depths, being mere ckes without tops or adaptors.

I do not know whether "UPWARDS AND ONWARDS" claims the invention of the system of exclusion of drones as his own. He may certainly have unaided hit upon the idea, but he cannot claim priority of invention. In 1849 and 1850 I corresponded on this very subject with W. J. Pettit of Dover, who then advertised for sale a hive on this principle. The letters received from him were destroyed only a few months ago, as I did not think them likely to be of further use. He exhibited a hive fitted with the drone-excluding communication, the plan of which I should much prefer to that shown in page 602 of the Journal—namely on the ground of its being composed of a greater number of slits, forming in the aggregate a much larger aperture. This would seem to be an improvement on the ordinary modes of affording access to the supers, and I have often reproached myself for not having given it a trial. Having tried most new ideas that have, from time to time been promulgated, it seems strange that this has not been included in the category. But another season will, I trust, see it somewhat extensively adopted in my apiary.

With regard to the disputed matter of cross-sticks, although

detesting them myself in ordinary straw or other hives, I am quite disposed to coincide with "UPWARDS AND ONWARDS" in advocating their use in hives of such large internal capacity as those he adopts. As it is intended that the combs shall be a permanent fixture until, from age or otherwise, these hives are broken-up, the objection to their use on the score of difficulty of removing combs comes to nothing. The obstruction which it is alleged is caused to the breeding of the queen, which may be true as respects very small hives, cannot be of any importance in such hives as our friend uses. That they may often be the cause of saving an unfortunate downfall of the combs would be sufficient argument in favour of their presence. I am, however, inclined to believe that the reason for the bees having fastened-down their combs to the board did not arise from their fear for the stability of their works; but that, owing to the large diameter of the straw hive, the boards had become pressed-down by the weight, thus approximating the lower edges of the combs to the bottom board, to which, of course, the bees would quickly secure them.

I do not like the feeder this exhibitor uses and recommends. No one who has become acquainted with the plan of feeding by bottle but must, I fancy, be convinced of its very great superiority to that shown in page 603, or to those advocated by almost any other authority.

Of the use of the milk-pan for a cover as a substitute for the straw hackle, I am rather inclined to think favourably, so long as the stock-hive remains unsupered; but the protection must be very imperfect when raised-up another story, and wholly inadequate to keeping off either burning sun or driving rain. I have used with advantage in such cases a ring made of old floor-cloth passed rather loosely round the lower live. Two of my straw hives have been thus protected for more than four years. But I much prefer well-ventilated wooden cases which, however, "UPWARDS AND ONWARDS" will contend do not come within the means or the requirements of the million. The cases most approved of are, so made that one only with a loose roof can be used for a single hive or box; or they may be piled-up to any necessary height, to meet the wants of one, two, three, or more supers, the same roof fitting any one case.

But what shall we say to the abomination, in the shape of a stone imitation of a human head, stuck-up on the top of the pan to prevent its being overturned? How any one with the smallest amount of taste can complacently put-up with such an incongruity I cannot conceive. Better have the roughest old stone, or the most dilapidated of bricks than this monstrosity. But there is no need of either. A very fine piece of copper wire passed over the pan and under the floor-board would effectually prevent the possibility of any accident from the effects of the most violent of gales. The small bell-glasses in this case were filled with beautifully white honeycombs. The various preparations of and from honey and wax were also nicely exhibited, and worthy of a high meed of praise.

I have dwelt thus long on the contents of this case, and the subjects for discussion, which have arisen from the remarks which have already appeared relative thereto, both from the pen of the exhibitor and others, because there was much well worthy of notice and of praise, and very strong proof shown that the well-known contributor to your pages is a thoroughly practical man, whose opinion and judgment on apian matters are worthy of very high consideration.—S. BEVAN FOX, *Exeter*.

(To be continued.)

#### DZIERZON ON THE BEE-YEAR 1862.

NOT one of the least benefits conferred by THE JOURNAL OF HORTICULTURE on its various apian readers is the admission to its pages of the well-weighed opinions and enlarged experiences of such distinguished and practical bee-keepers as Dzierzon, of Carlsmarkt, and Kleine, of Lüthorst. To Mr. Woodbury belongs the credit of having a translation inserted of several articles written for the "German Bee Journal" by these eminent apianists, and it is to be hoped that his good offices in this respect may from time to time be continued. The continental naturalists have always been foremost in exploring the hidden mysteries of bee-life, and it is pleasing to find that the German apianists of the present day do not lack that patient industry and persevering endeavours after truth which distinguished their predecessors.

Everything from the pen of Dzierzon especially, the celebrated

propounder of the wonderful doctrine of parthenogenesis in the honey-bee, must necessarily be fraught with interest; and, though, after a long battle against what is called the antiquated notions and confirmed prejudices of bee-keepers, he has lived to see these partially mollified if not altogether subdued, and to witness his long-cherished hypothesis in course of being elevated in the hands of the scientific physiologist to the rank of a regular theory; yet we find that additional study and a more varied and extensive experience have compelled him to sacrifice his theory to his convictions, and to leave the defence of this strange doctrine of parthenogenesis in other hands, such as Carl Theodor Ernest von Siebold, Professor of Zoology and Comparative Anatomy in the University of Munich, and others who may choose to take it up. In such circumstances, it would appear, he has retired, bewildered and confounded, seemingly, amidst the conflicting deductions of his own experiments, to take shelter under the antiquated and untenable theory of a bygone age—the exploded hypothesis adopted by Swammerdam of the vivifying action of an *aura seminalis*.

No apiarian, however, will think less of Dzierzon for doubting the correctness of his own theory in the face of facts, which, as they appeared to him, he could not conscientiously ignore. It is an evidence rather that he is not a man who can be led away by a preconceived opinion, whether right or wrong, but that his mind is open to the reception of the truth, come from what source it may.

No one who is intimately acquainted with the history and habits of the bee, and who fully understands the effects of those various influences which ever and anon are brought to bear on its welfare and prosperity, will fail to recognise in the writings of Dzierzon the opinions of a man who knows his subject well. And yet there is one remark he makes in the article entitled the "Bee-year 1862," which if left unexplained might lie open to question and doubt, as not harmonising with the findings of experience in such circumstances. It is this:—"Another remarkable observation which I make at this time is, that all stocks from which the old queen has been removed in the course of the summer, either with or without a swarm, are more populous, and work stronger than those which have not been disturbed;" and again, "Those, therefore, are mistaken who believe that stocks in order to remain strong must be left undisturbed."

Now, these remarks, though put in too general a way, and without regard apparently to circumstances, contain, nevertheless, a thorough knowledge of the bee community, and of what is most conducive to their increase and prosperity. Every experienced apiarian will have observed that in our climate, and with our pasturage, there is a limit beyond which we fail to increase the number of bees in any one hive, however much we may enlarge their accommodation.

In a good season, and with a prolific queen, I admit that a hive, if swarming could in such a case be prevented by an adequate enlargement of the domicile, would increase prodigiously in population and in stores; but there is a limit here also, nor can we always calculate on obtaining such results. In an ordinary season, and especially in a bad season, we find the aspect of affairs totally different, and the results also different. Indeed, I have almost invariably found, as a general rule, that my hives increase in strength up to a certain point, when, if by the intervention of bad weather swarming is prevented, then from that moment, increase the accommodation as I may, those thwarted hives become, if I may so express myself, demoralised, and their former activity and energy materially slackened and damped. The reason I assign for this is that swarming is strictly a natural act, and when bees are thwarted in their swarming propensities, a certain check is given to their ardour and industry which has a prejudicial effect upon the whole community. That swarming is a natural act I hold in opposition to a great many naturalists and apiarian writers of the present day, who, in my opinion, expend a great deal of unnecessary logic in endeavouring to account for what are termed the "causes" of such a "wonderful phenomenon." When, therefore, bees are prevented from swarming, when they are foiled in this their natural propensity, they are foiled in one of the principal objects of their existence, to the accomplishment of which the whole labours of the entire community in spring and early summer undoubtedly tend.

Properly managed and timely made, nearly the same beneficial results may be accomplished by artificial means. By both processes, the natural and artificial, a fresh vigour and a new impetus are imparted to the bees, which, because in accordance

with Nature's laws, will act most favourably on their welfare, instigating both bees and queens to increased activity and energy in their respective functions.

In my apiary during this most disastrous summer, my strongest hives ultimately became the weakest. Those which did not swarm, and which, consequently, had a crowded population and abundant brood, gave way first. The bees perished abroad in hundreds from pure inanition, and the broods were, consequently, neglected and cast-out.

It would not be right, however, to construct a general theory out of materials furnished in so exceptional a year; but, nevertheless, my experience quadrates with that of Dzierzon as to results.

In regard, however, to the removal of the old queen in every case from a hive which has not swarmed, if such be the meaning of Dzierzon's observations, I could never approve of it; and I most cordially join in Mr. Woodbury's caveat in this matter, to all bee-keepers, against such deposition of the queens regnant without some very cogent reasons. Indeed, I never do remove a queen alone from a hive in summer, unless I find, as sometimes happens, a radical defect in her productive powers. At the same time, believing as I do that a queen has the ability to regulate the business of oviposition according to the exigencies of the occasion, and the circumstances and conditions in which she may be placed, I am decidedly of opinion, that in order to impart full life and vigour into the apiary, and to insure the greatest amount of numbers—in short, to have prolific queens and vigorous colonies, natural swarming must be tolerated, or such other substitutes adopted as shall most nearly resemble the provisions which the wisdom of Nature points out for the multiplication of the species.—J. LOWE, *Edinburgh*.

OUR LETTER BOX.

EGGS WITH THIN SHELLS (*Ornithologist*).—All fowls must be supplied with the material for the shells of the eggs. Nature does not provide it, and your birds lack chalk or lime. Throw down a good large basketful of bricklayer's rubbish near to their roosting-place, or any other much-frequented part of their run. You will soon have hard shells.

SILVER PHEASANTS (*C. B.*).—Your Silver Pheasants will hardly be worth more in the spring than they are now. They are of no value till they are in colour, when they are nearly two years old. At that age they are worth about a guinea each. We cannot say what they are worth now; but think about twelve shillings each.

POULTRY WITH DISEASED LIVERS (*Mrs. Russell*).—As you say your fowls are very fat, we are disposed to think they have fat livers. They are much enlarged, and very pale. The change of colour is caused by the absorption of the bile into the liver, and this is caused by excessive fat. Indian corn and Potatoes will both induce this disorder. When over-fat, or confined too long for the purpose of fattening, poultry decreases in weight, while it gains in fat. The result is the fat liver so much esteemed by gourmands, and the principal ingredient in the celebrated "Pâté de foies gras aux truffes de Perigord." Diminish the quantity of food, give your fowls ground oats mixed with water three times per day, and give your Geese and Ducks plain oats; if they are in confinement, add gravel.

FOWLS WITH DISEASED DIGESTIVE ORGANS (*C. Spencer*).—Unless we know the food given and the treatment generally, we can offer no certain suggestion. Excessive feeding with insufficient exercise, violent transitions of temperature, and many other causes, may be the origin.

SPANISH PIGEONS (*An Amateur*).—Your Pigeons are evidently Runts. Any weight over 4 lbs. per pair is a very good weight for this variety, and will generally win at a show. Two odd-coloured birds in the Pantail or any other class would stand no chance of winning. Prizes are given for pairs, not for odd birds.

MILKING (*W. H. S.*).—A well-fed Cow may be milked until within a month of her calving. She should then have a drench of 12 ozs. of Epsom salts and 2 drachms of powdered ginger in a quart of warm water, and have less green food until she becomes dry. You unreasonably find fault with us for stating the yield of butter and milk from a superior Guernsey Cow. Why should an inferior Cow be kept, since the cost is the same? We have only stated facts; it is not the fault of the manager, but of the animal, if the latter has a full allowance of good food.

LONDON MARKETS.—DECEMBER 1.

POULTRY.

There is more than an ample supply at market, and the trade is nominal. We do not expect any improvement till the approach of Christmas.

Largs Fowls .....	2 6 to 3 0	Ducks .....	2 0 to 2 3
Smallers do .....	2 0 " 2 6	Partridges .....	2 0 " 2 6
Chickens .....	1 6 " 1 8	Hares .....	2 0 " 1 5
Geese .....	6 0 " 7 0	Rabbits .....	1 4 " 1 5
Grouse .....	2 0 " 2 3	Wild do .....	0 8 " 0 9
Pheasants .....	2 6 " 3 0	Pigeons .....	0 8 " 0 9

WEEKLY CALENDAR.

DECEMBER 9-15, 1862.			WEATHER NEAR LONDON IN 1861.				Sun Rises.		Moon Rises and Sets.		Moon's Age.		Clock after Sun.		Day of Year.	
Day of Mnth.	Day of Week.		Barometer.	Thermoon.	Wind.	Rain in Inches.	m.	h.	m.	h.	m.	h.	m.	s.		
9	Tu	Erica Patersoni.	29.882-29.788	59-36	S.	—	56	af 7	49	af 5	59	6	18	7	26	343
10	W	Erica coccinea.	29.783-29.737	57-32	S.	.01	57	7	49	3	6	8	19	6	59	344
11	Tu	Erica conspur. ens.	30.040-29.988	56-37	S.W.	.06	58	7	49	3	13	9	20	6	32	345
12	F	Diosma eroides.	29.876-29.659	54-44	S.W.	.01	59	7	49	3	22	10	21	6	4	346
13	S	Bataxia myrtifolia.	29.469-29.384	51-34	S.W.	.06	VIII		49	3	32	11	22	5	35	347
14	Sun	3 Sun. in Advent. Pr. Consort	30.029-29.885	53-39	S.W.	—	1	8	49	3			4	5	7	348
15	M	Fuchsia serratifolia.	30.147-30.119	53-40	S.W.	.07	2	8	49	3	44	0	24	4	38	349

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 45.3° and 33.7° respectively. The greatest heat, 61°, occurred on the 13th, in 1842; and the lowest cold, 11° on the 13th, in 1846. During the period 152 days were fine, and on 93 rain fell.

NEPETA CÆSIA—EDGING PLANTS—PLANTS FOR SOUTH AND NORTH WALLS.



SOME plants are so and so, and others are so much like them, that people begin to say they are neither the one thing nor the other; but the first plant on my list to-day has proved itself, by a long course of service, to be the best plant in England for a poor man, and a prince could not procure a better for

certain effects, or for certain situations in his grounds. The name of it, as I booked it last September in the botanical arrangement in Kew Gardens, is *Nepeta cæsia*—that is, in good old English, Grey Catmint.

How many flower-gardeners should you suppose are in this, or in the next island, who would not join with those who would say that a Catmint was neither the one thing nor the other? But I say it is the one thing for a poor man, and the other thing for a prince. It is also the best thing for a company in the arrangements of their plants in a public garden. There is now no question at all amongst a very large number of men and masters, that this same Grey Catmint is the very best plant, and the most telling plant in use in Europe, for certain situations and for particular purposes. Every good gardener in the three kingdoms knows the plant as well as your humble servant, and yet I question if there is one of them out of a thousand who could tell the plant I mean at this very point. Do you know the plant? No. Well, that is more my fault than that of any of you; but when you come to recollect it, I often wished to be able to tell you the name, what it is you have known for many years, and you have, all of you gardeners, cried up the plant more than ever I did. Mr. John Caie, when he was gardener to the late Dowager Duchess of Bedford, at Kensington, was the first person who brought out this Grey Catmint, about five or six and twenty years since; and Mr. Eyles is the last gardener who made the best hit with it at the Crystal Palace, for it is the very plant which everybody has admired ever since Mr. Eyles planted it round the large clump or bed of tree Pæonies there.

Although I still claim to be a gardener, and always shall be proud to be so called, yet now I am only an amateur; and being but a poor one, I consider this Catmint would be the best plant in Europe for me to put round a bed of Rhododendrons, or a bed of Kalmias, or Ghent Azaleas; also to put round a bed of Nepal Berberis, or a mixed bed of the large evergreen Berberis, or one of Pæonies; or if I could not afford to have such beds, and had to do with a bed or two of fine-flowering common shrubs, as kinds of Spiræas, I am quite sure

there is no other plant which would do for the edgings to any, or to all of these, and similar beds so well, so appropriately, and so cheaply, and which could be kept on for a generation with so little trouble and cost.

I am equally certain of one other thing about it, and that is, that there is not one gardener out of ten thousand who knows *Nepeta cæsia*, and has seen it at the Crystal Palace, who will not agree with me in all that I have said about it, except it be the turn round those noble Berberises. Most gardeners are now aware of how much better these great Evergreen Berberises do under the shade of trees, and they plant out masses of them in the plantations, along the sides of walks and drives; and in such places with so much shade, *Nepeta cæsia* would be apt to get drawn-up and look weedy. But the poor man, whose ease is now on the eard, has no plantations, green drives, and shady walks, to be fringed with beds of Evergreen Berberises; he must be content to take the north side of his house, or of his garden walls, or fences, and there these Berberises will do just as well, and there the *Nepeta cæsia* will also do round them as well as if it were in the full sun, as it is where round the tree Pæonies at the Crystal Palace.

When we come to talk of a plant like this for a prince, no royal personage can have a better edging for a princely bed of noble things than the Grey Catmint which Mr. Caie first brought into notice round London. Even up in the wilds of Argyleshire, in the Highlands, where Mr. Caie now dwells, there is no better plant to set round a bed of pure-bred Rhododendrons than his own plant—this very *Nepeta cæsia*. I have seen whole flower-beds of it with him at Kensington, and by his neat way of keeping it in high trim it did very well, but none of us had ever seen the plant in its proper place until Mr. Eyles, and after him Mr. Gordon, took it in hand at the Crystal Palace, and made it an edging plant 18 inches wide, and nearly of that height. When left too long without being replanted it becomes higher than that, but is not so good-looking, and it ought to be lifted and reset every second or third year. It increases as fast as Box-edging, and every time it is lifted it could be so divided that one yard of it would plant three or four more yards of better plants. It also comes from cuttings as freely as a *Salvia*, and no frost seems to hurt it. It was never figured in this country, but it is believed by some botanists to be the *Salvia cæsia* of Willdenow's Enumeration of the plants in the Berlin garden. I examined the plant some years since, and my impression also is, that it must be a diandrous plant, and if so in reality, it cannot be a *Nepeta*; but, like Mr. Scott, I am now satisfied with the outward appearances of plants, and it is certainly down in our national collection at Kew as *Nepeta cæsia*. Our *Cineraria maritima* is *Senecio cineraria* of that collection.

There are some remarkable hardy wall plants which I noted at the same time on the walls round the botanic collection at Kew, which are seldom mentioned in the current talk about garden plants. One of the most conspicuous and out-of-the-way plants among them is a

running and very strong Bramble, called *Rubus biflorus*. This *Rubus* ought to be in every wilderness and Swiss garden, also in every large rock garden, and near ruins, and on rustic works. Every part of the surface of this Bramble, except the upper side of the blade of the leaf, is as white and shining as floss silk, with a milky-white down, which comes off by the touch like the "bloom" on a Plum or Grape. Indeed, it is the most conspicuous plant I know out of doors. If you had a pole or the stump of an old tree covered with Irish Ivy, and were to plant *Rubus biflorus* against it, and tie the wide-spread branches here and there to the fore shoots of the Ivy, I cannot conceive anything that could be made so telling, and at such long distances from the eye. Without knowing it, half the world might think the Bramble was whitewashed that morning, on purpose to make the strong contrast with the deep green of the Ivy. But it would face any kind of evergreens, and would be seen half a mile off, and no one could tell what it was, and you must all have it next spring if other things should go to the wall.

A directly opposite kind of plant is the next on my list, and I wondered why it was I never recommended such a plant, if only on account of the shine in the leaves for a gardener when shaving to use instead of a looking-glass. I once saw a bride adjusting her cap by the reflection in a bucket of water for want of a looking-glass; but if *Cerasus ilicifolia*, the plant in question, had been trained against a north wall before the bride she could have arranged her dress without stooping. The beauty of the real shine and glossiness of the leaves, the closeness of growth, and the turn it would give to the north-east corner of the house, or where the two walls meet near the summer-house, and the polished contrast a bush plant of it would give on the north side of a summer-house, or rock, or rootery would be irresistible. Go and see it to convince yourself.

The old fast-growing climber or trailer called *Bridgesia spicata* by Sir W. Hooker, after Mr. Thomas Bridges, who went out after plants to South America from the Botanic Garden at Bury St. Edmunds, is on that wall at Kew under the name of *Ercilla spicata*, the genus having probably been pre-occupied by a former botanist. That running plant is not used nearly so much as it should be for the driest and hottest south walls in the south and midland counties of England, or to reach the tops of the highest Eucalyptuses or Gum trees in Australia; but in the flowers there is no beauty.

Then there was the oldest and the rarest seen of our very graceful lawn-standard shrubs, a great favourite in my young days; grafted standard-rose height on the Laburnum it would droop down as a "fountain" rose, and sweep the grass with its hoary and silvery leaves and shoots; it is the Salt tree, or *Halimodendron argenteum*, and was trained against the wall like a Peach. If this reminiscence of my childhood had been fresh from China or Japan in the recent introductions, it would be cheap at 3s. 6d. a-piece as soon as rooted, but you could get a standard plant of it now for so many pence; and although they give it a wall at Kew, the lawn is warm enough for it in Ross-shire, and there is not a better lawn plant of the same habit and look between here and the bridge of Alness in the said county.

*Viburnum suspensum* was the next which took my fancy very much on account of its very thick deep green leaves. Here is a happy-looking standard plant if you please. Talk about pot and tub standards of Laurustinus, which is one section of *Viburnum*, and then look at *suspensum* in your mind's eye, how much more rich-looking it must be when both kinds are out of bloom, although tinus has the advantage over *suspensum* in the profusion of bloom. But for a noble mantle for the north side of a house or wall I know not a rival to *Viburnum suspensum*. Let us hear, however, how it has fared in Edinburgh and Glasgow, for it is of recent introduction, and we must be careful about how we recommend half-crowns, half-standards, and half-hardy plants, to be set out on the off side of the borders.

*Forrestia pubescens* was another peculiar wall plant, nearly as large as a Peach tree, with seemingly hardy wire-like branches, and soft leaves of the size and shape of those of the broad-leaved Myrtle; but the plant is a kind of bastard *Ceanothus*, and it certainly deserves purchasing when one is on the look-out for covering walls with suitable plants which are not very common.

*Ilex rotunda* is one of the very best of the very thick, dark, glossy-leaved Hollies; it is a Japan plant, and stands conspicuously against a south wall, where it does not require much room.

On the north side of the wall was *Coriaria sarmentosa*, a fine-foliaged and very curious plant, well worth inquiring after

as distinct, on its own merits, and to make a variety where one likes to show off in this style.

Then there was the old *Bupleurum fruticosum*, which one seldom sees now-a-days. It is 10 feet high, and as much along the wall. They do not train in the yearly shoots, but let them stare out all over the plant, these bloom at the extremities, and were then, last September, in full bloom after the manner of some *Euphorbia*; great, open, upright bunches of pale yellow flowers. I suppose these summer growths are closely pruned in before winter; for the young wood of this plant is very liable to be frost-bitten, but as the bloom comes on the year's growths this can easily be avoided, besides being the true way to obtain a mass of very curious bloom all over the plant.

There was a fine-leaved species of the prickly Toothache tree, which I had not seen before, *Xanthoxylon alatum*. It is on a south wall, and well deserves the indulgence on account of its fine pinnated leaves, for which alone these foliaged shrubs are so much admired by those who prefer collections of distinctly-marked species to the common run of everyday plants, which few gardens are without.

But there is one thing above all others which I should see to myself. If I had a garden under two acres in extent, either in the country or next to a large town, I would not have more than one pair of any kind of tree or shrub as long as I could find good things to fill up my grounds. The repetition of common shrubs which one sees at every turn of the road I would never allow beyond Hollies, Yew, and Laurels—the latter I would never use but for screens in small gardens. You could not walk 10 yards in my garden without seeing and learning more about the finer shrubs and low trees, evergreen and deciduous, than you now can do in a day's march, yet I should never seem to be crowded, nor have an inch to spare. D. BEATON.

#### COMMON PLANTS ADAPTED FOR ORNAMENTAL PURPOSES.

THE letter of Mr. Hague at page 592, recommends the foliage of Red Beet as worthy the attention of the flower-gardener, and adduces his experience in its use in an advantageous manner. Of this fact I have not the slightest doubt whatever; indeed, I have long thought that Red Beet, and some other vegetables and common things, possessed an interest and beauty not usually accorded them. In the present age of inquiry it is not unlikely that their claims to attention may be duly regarded; and names hitherto held in contempt may sound worthy of a place in more fashionable quarters than the kitchen, or perhaps the rubbish-heap. It is not so very many years since the bulk of our native Ferns were known only to the few deeply learned botanists who thought it worth their while to search for and investigate them merely as examples of scientific research, and the number of British species was thought not to exceed forty or so. Hooker's "British Flora," a work on native plants, held in high repute upwards of thirty years ago, enumerates only forty-one species; and that work was an especial favourite with young gardeners at that time, and regarded by them as an authority not to be controverted. Now the case is widely altered. The addition to the general flora during that time, though comprising some important specimens, bears no proportion to the additions made to the list of Ferns; and these additions have not been all made by learned but somewhat pedantic botanists, but by the florist and ardent flower-gardener, whose assiduity in searching-out new beauties for their especial departments has been the means of breaking-down the traditional prejudice that arrogated to itself that true beauty was only of exotic growth. During that period rocks that were previously regarded inaccessible have been scaled, and obliged to give up their long-established treasures. Mosses have been waded through for a like purpose, and waste and cultivated grounds have alike been investigated with a view to discover anything new in the Fern way; while a new and altered mode of cultivation in the artificial condition the specimens find themselves placed in, when transported to the stores of the affluent cultivator, has in many instances so altered their original form that new names have been awarded them—often, I fear, without any claim to the distinction.

The rage for new species, and the care and industry to secure them, have unquestionably led to many being discovered; and the list of native species of 1862 presents a strong contrast with that of 1825, while the public taste in like manner has under-

gone a proportionate change. At that time the name "Fern" served only to call up a feeling little short of contempt. Now, it is regarded as one of the highest forms of beauty, entering extensively into all the embellishments which place the present luxurious age so much in advance of the past. The young lady of 1825, who would turn with a sort of half disgust at the mention of the word "Fern," finds her prototype of 1862 proud to wear it in her hair. To attribute this change of popular feeling to any one particular class alone would be certainly wrong; and though much of the merit of placing the Fern in its present elevated position in the scale of real rather than ideal beauty belongs to the rich and enthusiastic class of plant-collectors and cultivators as well as the botanist, yet there is one class whose claim in calling-up the Fern from its former obscurity has never been sufficiently recognised by the gardening world, and that is the Poet. No Scotchman who has read the heart-stirring effusions of Burns or the Ettrick Shepherd, but must have noticed how much of their force was imparted by the natural energy thrown into them through contact with the native vegetation, "the ferny brake" especially; while the classic Byron finds an equally useful auxiliary in his alpine scenery depicted in "Childe Harold." That the imagery thrown into their works by the glowing pictures they gave of this particular branch of the vegetable kingdom should have been so long in directing the public taste has many parallels. They were men before their time; but it is now only fair to accord them some share of the credit of placing so beautiful a section of the vegetable world in its proper position, by the thrilling appeals they so often made to it so long before it was recognised. Let us see if other beauties do not also exist under names too common almost for utterance in fashionable company, and which, if they could only obtain the stamp of being fashionable, would make their way.

Beginning with plants whose claim to distinction for ornamental purposes no one has recognised, we may notice the common Globe Artichoke, not only for the singularly-formed head it presents, but for its foliage, which, when viewed at a distance, has quite a tropical aspect. The silvery whiteness of the under side of the leaf, now and then disclosing itself on a windy day, adds not a little to the soft grey tint of the upper side; and the size and form of the whole give it a noble appearance when viewed at a distance, for which it is particularly adapted. Let us suppose a group of these plants fronting some shrubbery at the distance of 200 yards or so, and it will be difficult to suggest anything more becoming. At such distances small forms of vegetation are lost to the eye; so that, unless the foliage presents something unusual in shape, size, or colour, the appearance differs but little from surrounding objects. But this plant possesses in a remarkable degree all these qualifications, and on that account is worthy of more extensive patronage.

Following in a different line, but scarcely less interesting in the graceful and fairy-like form it presents itself in, is the common Fennel, whose slender but singularly beautiful stem is branched and sub-branched into an infinite diversity of graceful shoots, each sufficiently firm to maintain its proper position, yet in no respect rigid and unnatural. As a compeer to it we have the Asparagus, whose slender summer shoots often enough assist in giving an easy gracefulness to a stand of cut flowers. I do not mean those bundles of packed flowers called hand-bouquets, but the nice agreeable stands which so often ornament a lady's boudoir, or, it may be, a dinner table. In days of yore a bouquet, either for the hand or bowl, was thought incomplete if it did not possess a sprig of one of these graceful-looking plants. The one that commended itself most to our notice was the old-fashioned but by no means unsightly Southernwood, which deserves better at our hands than it often receives. Some other plants in the same way as these may doubtless occur to some of our readers, but the above give a type.

Diverging into a smaller class of vegetation, I am not acquainted with anything that presents a more beautiful and long-sustained verdure than *Saxifraga hypnoides* or *S. tridactylites*—the latter a close mass of little tufts or heads of the most brilliant green, and each leaf that composes this thick-set head being in itself a gem of beauty. I have often wondered why this plant was not more extensively cultivated to cover vacant spaces amongst damp rocks or similar places. For at least nine months of the year it is a charming object; the only period it may be called in *déshabille* is the period of flowering

and after-growth. The family of *Saxifraga* also offers several examples of ornamental plants differing widely from the vivid green moss-looking one noted above. *Saxifraga marginata* is an interesting-looking plant, remarkable for the geometrical-looking form it presents; and differing but little from the last is *S. longifolia*, a neat compact-growing plant, at all times pretty whether in flower or not. This family is, however, far from exhausted by their members being called on, for there are others scarcely less pretty. But I will pass on to another group.

The family of Grasses has for a long time been deservedly esteemed for the graceful beauty of some of its members; bunches of them very often adorn the mantelpiece of the greatest patrons of good taste. The Quaking Grass, *Briza media*, is and has always been the favourite of childhood; and the same may be said of some of the Hair and Feather Grasses; and the Cotton Grass of our marshes has often been a source of inquiry. Indeed, a selection of Grasses might be made, the spikes of which might safely be introduced into the choicest mixture of flowers. Some of them might even be cultivated; while bunches of the others, gathered where grown naturally, might take their place in the front ranks of the aristocracy of the flower garden. Some of the Reeds, Sedges, &c., are also far from being uninteresting; in fact, inhabiting as they do the sides of ponds and ditches, their waving foliage presents a form in vegetation we are not well supplied with; while the variegated forms some of them are offered in, as Gardeners' Garters, the *Arundo donax* variegata, and others, are already amongst the fashionables, and need no comment here, but a *Dactylis glomerata* variegata is far from being so well known as it deserves.

In a miscellaneous class of plants with pinnated leaves, the Tansy is interesting and pretty. Scarcely less so is the foliage of the common Yarrow (*Achillea millefolium*), a close examination of which will discover beauties not previously thought to be possessed by weeds having a bad name. Differing from either of these, yet possessing a striking Fern-like form and habit of growth, is the common Carrot, the handsomely cut foliage of which entitles it to more respect than it often receives, as may easily be shown by any one taking a leaf and holding it against a sheet of white paper, not pressed against it. The shadow cast on the paper is not inferior to that of any of the Ferns over which the charm of poetry has thrown so much interest, but of which the Carrot has received no share. There are many other plants possessing foliage of an interesting kind in this way amongst the weeds of every plantation, but enough has been said to awaken an interest in them.

Taking another class of plants of divers forms, yet still interesting, we have the Sweet Marjoram, with its top-knots of buds, forming a feature in vegetation we have few examples of. Differing widely from that is Parsley; and in another direction we have several kinds of Thyme, one of a pale grey—a close compact creeper; while in the list of low-spreading plants are the various Sedums or Stonecrops, not the least important being the Houseleek. *Sedum stellatum* is also pretty and interesting. This list might be widely extended. Passing on to other things, and looking over the hedge, the Horsetail (*Equisetum*), presents a form differing from anything else we have had; while in the far corner of the kitchen garden the wide-spreading leaves of the Rhubarb exhibit a form also unapproachable by anything in the exotic line; and if we make an erratic excursion to some cottage garden we will find the common Pink occupy a much more important position in the ranks of Flora than we assign to it. There is also a plant of compact form, full of leaves, larger and more closely inserted to a common crown or collar, spreading evenly on all sides, forming a sort of hemispherical outline of from 1 foot to 1½ foot in diameter all the winter through, and these leaves each more agreeably blotched or spotted than the *Farfugium grande* or the yet more exotic *Begonia*. This plant, hitherto long neglected, forms a nice object all the winter, and may with confidence be recommended as an ornamental one. It is the variegated form of the *Pulmonaria officinalis*, and it is one of the hardiest plants I know. A fine specimen may be seen near the heathery in the botanical-arrangement part of Kew Gardens.

In the class of dark-leaved plants the Red Beet does not stand alone. An *Ajuga* of dwarf habit is far from an indifferent object. I have it as *A. orientalis*. It is of low growth, and a neat companion to *Arabis alpina* variegata, which is, by-the-by, one of the most useful edging plants we have; and being of compact habit, it takes up well and remains in autumn to supply beds that have been denuded of their summer ornaments.

It is not the proper place here to enter into the merits of things already acknowledged. There is, however, a plant of admitted beauty which has not yet become fashionable, although I draw attention to it two or three years ago. It is the old-fashioned Lavender Cotton (*Santolina canescens*), a plant more beautiful than any of the *Gnaphaliums* that I am acquainted with. That this plant should be rescued from oblivion is certainly advisable. The *Calla aethiopia* is also a plant of graceful and singular growth, deserving more attention than it receives; while the humble-growing *Neja gracilis* possesses a foliage at once singular and prepossessing.

In giving the above hasty list it is likely many highly ornamental plants may have been omitted. My object is to call attention to common things so as to admit the beauties they possess; and now, as foliage as well as flower is an acknowledged ingredient in the flower garden and ground features, some of the plants above named may come in for a share of attention. No one denies the beauty of the Pampas Grass; and trees of elongated foliage, as the *Ailanthus* and *Sumach*, have their admirers; the common forms of everyday life will eventually come in for theirs also; and it is easy by study and attention to the commonest rules of flower-garden law to discover how feasible it would be to have a striped or ribbon-border of ordinary vegetables that would look very well. Take, for instance, an edging of Parsley; then a row of a dwarf-topped good-coloured Red Beet; next, a row of Altrincham or Orange Carrot; afterwards a row of the Variegated Kale (pink, white, and purple), and back this with a line of Asparagus, and here we have a ribbon-border composed of things all useful as well as ornamental. These plants as well as others may be varied in many ways, but I leave the mode of doing so to other hands, contenting myself with having drawn attention to the matter, but may nevertheless report further on the same subject on another occasion.—J. ROXBOROUGH.

#### POINTS OF MERIT IN GRAPES.

To meet the wishes of many cultivators of Grapes, it perhaps would be better to divide the Hamburgs into two classes, Red and Black. My experience in Grape-growing compels me to say, that colour and flavour are inseparably united, and I hold the opinion that Black Hamburg Vines producing red-berried bunches are not healthy.

Has Mr. Thomson, or any of your other correspondents, noticed the fact, that red-berried bunches of Hamburgs will not hang so long as black ones?

Perhaps some of your correspondents can explain the reason why some Hamburgs produce red, and others black bunches. There are many people who would, doubtless, prefer large green Muscats to amber-coloured ones half the size; also, large red-berried Hamburgs to beautifully hammered black ones; but give me the amber in the one, and the black in the other.

I fancy not one of the craft would take it as a compliment to be asked by a party examining his Grapes, whether they were Black or Red Hamburgs.—T. J.

#### VITALITY OF APPLE AND PEAR TREES.

THERE are, perhaps, no fruit trees that survive a long voyage so well as the above. In 1861 I had a case of fruit trees packed for a present to a friend, living near Adelaide, South Australia. Owing to the presence of business I could not send it off so early as I wished to do (January is the latest month trees should be shipped for that colony), so that the case was not shipped till the beginning of February, and the vessel did not sail till nearly the end of that month.

I now give an extract from a letter received from my friend, dated Adelaide, January, 1862:—

"The trees arrived at the port the beginning of July, and as soon as I had intelligence of the arrival of the ship I posted off for my trees: to my great disappointment the package could not be found, and so I returned treeless and much mortified. Just at the end of the month a message came that my case of trees had been found at the bottom of the cargo. As nearly six months had elapsed since you wrote me they had been placed in the case, I sent for it with rather gloomy forebodings, thinking it impossible I should find one tree alive. When it reached me I unpacked the trees with a heavy heart; but to my surprise and delight I found all the Apple and Pear trees alive, and

quite plump and healthy. August is our early spring, and I had them all planted by the first week. Out of seventy-four trees fifty Apple and Pear trees have grown nicely. The Plums and Cherries all failed, dying down to the stocks. Some Vines have also done well."

Early in March of this year I sent a case of trees to the same friend, the ship did not sail from London till a month after the time advertised, and she laid in the port of Adelaide three weeks before she discharged all her cargo, so that he did not get the case till the 17th of August. He has recently written—

"I opened the case and found all the Apple and Pear trees in full life, and the Vines the same without an exception. The Cherries and Plums were dead."

These trees were packed in a close strong case, their roots in charred earth in a moist but not wet state, and their tops in dry moss firmly pressed down. This is the most simple and efficient method of packing; and, if deciduous trees are thus packed and shipped in December, or early in January, there is but little chance of failure. I give you this for the benefit of emigrants who may wish to take trees with them.—THOMAS RIVERS.

#### FRUIT-JUDGING.

A CORRESPONDENT of the *Gardener's Chronicle*, complaining of the decisions of the Judges at the late Show at South Kensington, "ventures to say that not one of them had tasted" the beautiful "Scarlet Admirable" Apple, to which the first prize was awarded. Whether this were so or not, I will venture to say that for any one set of judges to taste one-tenth part of the collection submitted to them in the time allotted for their judgment, it would have been quite an impossibility. With respect to the Ribston Pippins and Cox's Orange Pippins, I should presume that neither of these excellent varieties could be called ripe at that time, unless they had been gathered prematurely. For these well-known sorts I think some kind of extra test ought to be adopted, similar to carrying extra weight as applied to racehorses, or that they should be shown in a separate class; otherwise many beautiful and excellent Apples, but rather inferior to them in flavour, will cease to appear at our exhibitions, and the above two, although notoriously subject to canker, would constantly divide the stake between them, a consummation by no means to be desired. On the contrary, I conceive that the greatest variety of sorts ought to be encouraged in order to render such exhibitions interesting as well as valuable.—F. J. G.

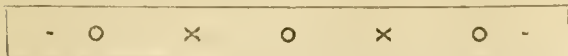
#### PLANTS FOR DINNER TABLES.

INFORMATION being desired on this subject, and as the man of limited means is expected to follow close in the wake of those whose means are like those of Cressus, I am induced to give my meagre experience—not that I have any particular relish for decorating dinner tables, but because I feel bound to keep pace with the requirements of the times.

If such decoration be desired by employers, we, of course, must cheerfully comply: for to gratify an employer is a duty, and tends materially to render the pathway of life smooth and easy; but employers do not always make due allowance for disparity of garden power. Let us suppose that Lady Bountiful invites Mrs. Cockles to dinner, and that in the centre of the table is a forced specimen of *Dielytra spectabilis*, and at one end a plant of *Lastrea glabella*, whilst at the other is a *Lastrea acuminata*. A conversation ensues. Mrs. Cockles finds on inquiry that the first is hardy, and the last two greenhouse plants. There are a greenhouse and two vineries at home. Why should she not have her dinner plants like my lady? There's the rub. Mrs. Cockles' gardener has no forcing-house to afford *Dielytras* on New-year's day; his plants of *Lastreas* are not in condition, and his stock of plants being small, where is the substitute? "We never have anything like other people!" is the disagreeable unjust comment. Gardeners generally make the most of their charge, but it is impossible for a gardener with limited means to equal his compeer with extensive means, and no end of substitutes in case of subjects failing.

As I happen to be one having the control of limited garden power, and not exempt from duties of this kind, I give the results of my practice. I give only what I have tried, leaving out my own individual notions as to adaptability in respect to plants untried.

Suppose I have a large party to gratify—a long table, of course, and three candelabra or lamps, one light in the centre, and the others near each end. Thus :—



If the lights be lamps standing on the table two plants are ample, at X, but if the lights are candelabras four are an advantage, at O, as well as at X; the two larger in the middle, and smaller ones at the ends.

In no case ought plants to be placed under the lights, for the graceful forms of nature do not harmonise with the workmanship and design of a candelabrum, neither is it wise to distract the eye by gazing on two important objects at one time: neither is seen to advantage, and one impairs the beauties of the other.

Now I place two large plants at X, so high in stem that visitors can see their friends on the other side of the table when seated; for after the admiration of the plants ceases, conversation with friends on the other side of the table commences. Plants of that description are few, when of the proper size in suitable pots—not more than 12-inch. However, here are a few examples. Four plants on the table :—

1. Pteris scaberula	Cibadium Schiedei	Cyathea dealbata	Davallia Novae-Zealandiae
2. Blechnum gracile	Dracena australis	Blechnum covadense	Lastrea acuminata
3. Adiantum emarginatum	Nephrolepis davallioides	Pteris argyræa	Adiantum setulosum
4. Adiantum macrophyllum	Cyathea medullaria	Nephrolepis platyotis	Adiantum concinnum
5. Nephrodium molle corymbiferum	Adiantum cultratum	Adiantum trapeziforme	Scelopendrium vulgare multifidum
6. Platyloma flexuosa	Pteris umbrosa	Phlebodium areolatum	Platyloma rotundifolia
7. Cheilanthes lendigera	Croton pictum	Croton variegatum	Nothochlæna Eekloiana
8. Cyperus alternifolius variegatus	Dracena terminalis	Croton angustifolium	Maranta rosea-lineata
9. Cyrtopodium insigne	Epiphyllum truncatum	Rhipsalis	Impatiens Jerdoniae
10. Solanum capsicastrum	Citrus japonica	Ardisia crenulata	Skimmia japonica
11. Cineraria Crimison Perfection	Dielytra spectabilis	Weigela rosea	Azalea umbrata
12. Lastrea glabella	Cupressus funebris	Cupressus Cashmeriana	Polystichum angulare proliferum

The end plants are low proportionately to the centres, thereby permitting of a view directly across the table.

When two lights are employed, only one or three plants can advantageously be placed. In threes :—

1. Nothochlæna nivea	Cycas revoluta	Nothochlæna flavens
2. Cereus speciosissimus	Platys flabelliformis	Epiphyllum truncatum Russellianum
3. Asplenium bifidum	Asplenium Belangeri	Asplenium viviparum
4. Scelopendrium vulgare ramosum	Tillandsia splendens	Scelopendrium subcornutum
5. Asplenium cicutarium	A. premorsum	A. reclinatum
6. Aspidium trifoliatum	Croton discolor	Asplenium hemionitis
7. Nephrolepis pectinata	Aphelandra Lenpoldi	Platyloma falcata
8. Pleopeltis phymatodes	Pteris Kingiana	Drynaria diversifolia
9. Adiantum assimile	Begonia splendida	Adiantum capillus-Veneris Moritzianum
10. Nothochlæna trichomanoides	Gymnogramma chrysophylla	Polystichum mucronatum
11. Blechnum jamaicense	Gleichenia flabellata	Blechnum occidentale
12. Selaginella Lyalli	Lomaria magellanica	Selaginella Wildenovi
13. Selaginella atrovirens	Alsophilla radens	Selaginella africana
14. Selaginella umbrosa	Asplenium caudatum	Selaginella stolonifera
15. Lycopodium clavatum	Microlepis polyodioides	Lycopodium alpinum
16. Ananassa variegata	Dracena draco	Pandanus javanicus foliis variegatis
17. Poinsettia pulcherrima	Monochætum ensiferum	Poinsettia pulcherrima
18. Solanum pseudo-capsicum variegatum	Cordyline dracaenoides	Calliandra purpurea
19. Buonapartea juncea	Nepenthes lavis	Poinsettia glauca
20. Peach Royal George	Vine Sweetwater	Nectarifera Elrage

SINGLE PLANTS.

Greater part of the forenamed answer well as singles; but there being several left out that are suited for the purpose, I add :—

Prunus sinensis flore pleno	Polystichum aculeatum cristatum
Roses, forced	angulare proliferum Wollastoni
Primulas, not despicable	Scelopendrium vulgare latifolium
Convallaria majalis variegata, gold striped	vulgare latifolium multifidum
Acacias, standards, 1 foot to 1½ foot	vulgare cornutum
Peach, double-blossomed, standard	vulgare muricatum-fimbriatum
Dog's-tooth Violets	vulgare ramo-cristatum
Lachenalia tricolor	Asplenium cicutinum
Kirk's Plum, handsome	Halleri
Peaches, in nine inch pots	Osmunda regalis
Vines, Black, heavy appearance	clunanomea
White, not good	spectabilis
Coe's Golden Drop Plum, beautiful	Woodwardia radicans
Maranta zebra	Adiantum tornosum
Athyrium Filix-femina apiciforme	Leptogramma rupestris
erymbiferum	Cheilanthes hirta
enispum	micomera
depauperatum	Goniophlebium appendiculatum
multifidum	glaucum (Polypodium glaucum)
(The last five are deciduous: consequently require gentle forcing.)	loriceum
Adiantum pedatum	subpetiolatum
Struthiopteris germanica } if gently	Hypolepis m. lefolia
pennsylvanica } forced	Lastrea angescens
(these four centre plants second in none other. Old plants have stems from 9 inches to 15 inches in height, and are then most beautiful.)	(In old plants the fronds produced on stems, often a foot or more in height.)
Adiantum formosum	Nothochlæna distans
Asplenium formosum	lavis
laccatum	Ellisiana
Blechnum lanceola	vestita
Campylopus nitidum	Platyterium aleicorne
Davallia aculeata	stemmaria
bullata, deciduous	(Often lop-sided; therefore, not admissible when in that condition.)
dissecta	Polypodium effusum
tenuifolia	Pteris aspericulis
Maranta regalis	tricolor
Warszewiczii	Aralia reticulata
Sonerila margaritacea	Begonia Rex
Asplenium marinum	President Van den Hecke
Blechnum spicant cristatum	Reichenheimi
Lastrea Filix-mas cristata	(Most of the variegated varieties are too white looking.)
depauperata	Begonia miniata
Schofieldi	hydrocotylifolia
Polystichum lonchitis	minicata
aculeatum	Bilbergia acutis zebra
	viridifolia

All the plants mentioned are in season from September to March, except some of the hardy sorts: therefore these require forcing; and the hardy Ferns, if employed for decoration, must have greenhouse temperature to have them in good condition. Some of the greenhouse Ferns also require additional heat to have fine glossy fronds, for most Ferns make their growth in spring: consequently the fronds are frequently dingy in autumn and winter, which can only be removed by new growths; and unless they are in good condition the farther from dinner tables we keep them the better, for no plants at an exhibition are so severely criticised as those on dinner tables.

Some of the Tulips are pretty, yet no plants in flower equal those with fine green foliage; and, as Mr. Robson rightly observes, where a goodly collection of Ferns is grown, there is no end of subjects ready at all times for table decoration.

Small plants of Conifere are suitable, as—

Aracaria excelsa	Cupressus torulosa
Biota mildensis	Libocedrus chilensis
Chamaecyparis thurifera	Thuja aurea
Cupressus Bregeoni	filiformis
Lawsoni	nepalensis

When one light only is employed two plants only can advantageously be staged, which must be of similar habits, even in size, and so placed as to harmonise. For instance :—

Adiantum cuneatum	Ugly.	Blechnum jamaicense
Goniophlebium loriceum	Good.	Blechnum jamaicense
Adiantum cuneatum	Beautiful.	Blechnum jamaicense

Thus it will be seen that it is advisable to grow some plants in quantity so as to be able to have pairs; for, although most plants are beautiful when individually examined, unless our plants harmonise with each other they will not correspond with the mathematical arrangement of the dinner table—all articles at an equal distance, alike in shape, and ends to correspond with ends, and sides with sides. So with plants: they must not be lop-sided—one tall, the other dwarf; one graceful, the other grotesque; one elegant, the other drooping; but each must be as near like its opposite as possible.

Groups are sometimes staged when two lights are employed, the plants in fives :—

Primula .....	-	-	.....	Isolepis gracilis
			.....	Orange (1 ft. stem in fruit)
Isolepis gracilis .....	-	-	.....	Primula

In sevens :—

Calliæarpa purpurea ...	-	-	-	.....	Colena Verschaffelti
Adiantum cucurbitatum ...	-	-	-	.....	Adiantum cucurbitatum
Colerus Blumei .....	-	-	-	.....	Solanum capsicastrum
				.....	Croton angustifolium

VASES OF FLOWERS are also used; but unless tasty arrangement be followed, and plenty of forcing-houses at command, they are totally beyond the reach of most gardeners, for Lilies of the Valley, Roses, Azaleas, Heaths, Cinerarias, Geraniums, Violets, Deutzias, Dielytras, Kalmias, Thorns, and bulbs are required in quantity for such a purpose; and who can find room for all those, besides the usual quota of greenhouse and stove plants that flower in winter? Not many, certainly; but a few may be grown in the most circumscribed limits, and a change from plants to vases and dishes of flowers is good—there is the novelty of them.

In summer the garden teems with subjects for filling vases to any extent, and the lanes and hedges are decked with flowers, the fields with Grasses, and dells with Ferns and Mosses, enough to satisfy the most tasteful arranger.

Our hothouses abound with Caladiums, variegated and fine-foliated plants for summer decoration, with numerous flowering plants.

The beautiful *Ruscælia juncea* is seldom seen; and for dinner-table, vase, or house decoration it stands unrivalled; for its scarlet or coral-coloured blooms, produced along its graceful drooping branches, often a yard in length, are a rather out-of-the-way sight.

Many plants that look poor by candlelight are handsome by daylight. As an example:—

<i>Cissna discolor</i>	<i>Humea elegans</i>	<i>Cissna discolor</i>
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Ornamental Grasses, though much neglected, are very useful; but as to their utility when dried, although they may please some, and look well in vases with Everlastings and in straw bonnets, they are fitter for the herbarium than to place alongside of Nature in her living freshness.—GEORGE ABBEY.

### ARE GLOBE ARTICHOKE HARDY?

THIS is a question raised by Mr. Beaton, at page 668 of your Journal, and my experience leads me to answer in the negative, providing that they are only from one to two years old, and, as with Sea-kale, they should never be allowed to remain in a garden after that age, if grown for profit. If older, I, for one, cannot say whether they are hardy or not. I will give my experience in France, twelve miles or so west of Versailles.

When I took charge of this place in the autumn of 1860, I found in the kitchen garden a quarter of an acre break of Artichokes, which, I was told, were planted in May of the same year, bearing very profusely fine heads—on an average two to four on each plant. They kept the kitchen supplied up to the end of November, when the frost set in, and in due course the leaves and stems were cut and cleared. I thought covering quite unnecessary, and accordingly they were left uncovered for the winter, which I know was intensely cold in England, although a Hatton-Garden registering thermometer never fell below 10° Fahr., making 23° of frost; but in the following spring five roots only threw up a few suckers, which were, with the whole, condemned to the rubbish-heap.

Now, if we had had the good fortune as Mr. Beaton had in the winter of 1840, of having the ground “deeply covered with snow,” not one in a hundred would have been killed, snow being as good a non-conductor of frost as litter or leaves. In fact, I would prefer snow to either as a covering, it clears itself, and is never unsightly; but as we cannot always depend on having snow on the ground when we have severe frost, prevention is better than cure, and I have always covered with litter and leaves since the lesson I learnt in the winter 1860-61.—HENRY KNIGHT, *Château de Pontchartrain*.

IN No. 87, of THE JOURNAL OF HORTICULTURE, Mr. Beaton in his remarks on the protection of the Globe Artichoke states that he is “not quite sure if the Artichoke does or does not require protection.” He also mentions one or two instances of

Artichokes not having been injured by frost, although they had not received any protection for several successive years. I will now give an instance which I think will prove that the Artichoke does most decidedly require protection from very severe frost.

Having left a bed of about thirty plants unprotected through the winter of 1860-61, the whole of them, with but one exception, were completely killed, the surviving plant only threw up one poor sickly sucker which did no good; thereby proving that although the Artichoke may withstand an ordinary winter without protection—and I know that it will do so, as the same plants I have just stated to have been killed in 1860-61, stood the two previous winters uninjured without any protection at all—it will not always withstand unacathed nor unkilld the test of a very severe winter. At least, not in this part, South Staffordshire.

To all those, therefore, who grow and have the management of Globe Artichokes, and wish to keep them unhurt through the winter, I say Protect them, as the time occupied by a man or boy in putting a little litter over the roots and round the stems in the autumn, is no longer than would be in digging-up the dead stools in the spring, and which I expect would often have to be done after a very severe winter, if the plants were left unprotected.—J. H. M., *Stourton Castle Gardens*.

### EMPLOYING WOOD IN CONSTRUCTING A FERNERY.

IN No. 84, page 612, appears this sentence—“Stumps and pieces of wood are the very worst materials for a fernery inside a house or out, and should be used only when the better materials are deficient;” the better materials being stones, clinkers, or brickbats. I doubt not that the writer had reasons for making the assertion, but I am at a loss to define the particular grounds on which it rests, unless it be that decaying wood breeds fungus. Certainly it does; but that it is in any way injurious to Ferns I have my own reasons for doubting. I have made several small ferneries, and in every case the material used has been principally old roots and rough blocks of wood; in the first place, because they were the materials most easily obtained, and best qualified to make a rustic appearance; and in the next place, I have always understood that woody fibre in a state of decay is a material on which Ferns like to root and feed; and, as far as I have observed, I have seen nothing to induce me to alter my opinion.

A few years ago I wanted to make a good-sized clump of the Male Fern (*Lastrea Filix-mas*) on a hillock, or small mound, with the small-leaved Ivy creeping round it to the ground level, and not having sufficient earth to raise it high enough a foot of brushwood was laid on the ground, and a foot of soil placed on that. Half a dozen Ferns and some pieces of Ivy were planted; the Ferns have now grown together, and form a solid mass 5 feet or 6 feet in diameter, with the Ivy trailing about it most luxuriantly. Close by this a fernery was made chiefly of roots and blocks of wood bedded-in with the soil. About this were planted *Lastrea Filix-mas*, *Athyrium Filix-femina*, *Lastrea dilatata* and *cristata*, *Scelopendrium vulgare*, *Osmunda regalis*, *Polystichum aculeatum*, *Struthiopteris germanica*, *Blechnum boreale*, and other Ferns, nearly all of which have grown to a very large size; in fact, so much so that plants have had to be taken out at various times by way of thinning. Some of the Lady Ferns make beautiful masses of fronds 5 feet across; the *Blechnums* make fertile fronds 15 inches in length, and barren fronds in proportion; *Oncoclea sensibilla* grows 3 feet high, and comes up in a fresh place every season. Altogether the Ferns do exceedingly well, and the wood is all grown over with moss, which is an improvement, as it looks green when the dead fronds of the Ferns are removed.

I certainly cannot see why wood is objectionable; and when Ferns do so well where it is used it would justify one in believing that the contrary is in reality the case—the more so when it is known that many sorts of Ferns are inhabitants of woods and forests, and must certainly be often surrounded with decaying wood. As a confirmation of my opinion in this respect I saw a fernery built some years ago in which not a scrap of wood was used; the whole was built up of burrs, or bricks burnt together in the kilns, flints, and pieces of stones and rocks of geological interest. Of course the main body of the fernery was made up of soil, and this of a good loamy kind, such as I should choose myself. The Ferns were planted in due time, and looked promising enough, but many of them died, and very few of them

grow satisfactorily. I do not profess to be able to give an accurate account of the cause of failure; the time of planting and the situation appeared to be favourable. Probably they might have done better had peat or leafmould been mixed with the soil; but this I did not do with the fernery referred to. Probably, as the burrs were cemented together, sufficient allowance was not made for drainage; but whatever the cause was, the Ferns did not grow nearly so well as those I have planted among stumps and pieces of wood.

With regard to an in-door fernery, I should object to the use of wood altogether, as it is far more apt to attract woodlice than stones and burrs, and is also more likely to breed fungus than out of doors; it is also apt to smell musty; and while cocconut fibre is so highly recommended, although I never used it myself, wood fibre will not be required, and perhaps would be injurious.—F. CHITTY, *Stamford Hill*.

### ROYAL HORTICULTURAL SOCIETY'S KENSINGTON GARDEN.

**FRENCH FOUNTAINS AND BRONZES.**—Only £800 have been subscribed for the purchase of these objects; and as nearly £2000 more would be required for the purchase of even the smaller and cheaper fountains, it now seems pretty clear that the idea of retaining either of them must be abandoned. So soon as this is put beyond doubt, the subscribers will be invited to say whether they wish their subscriptions returned, or if they may be applied to the purchase of some of the bronzes.

**DECORATIONS OF THE GARDEN.**—The dismantling of the Great Exhibition will carry with it a considerable number of the decorations in the garden, even after making allowance for those which may be purchased. The painful Milo will be taken down; most, if not all of the bronze-painted iron will disappear, and some of the bronze antiques will go. The Fine Arts Committee, in their recommendations to the Council, discourage the purchase of iron objects. Their oxidation is a strong objection to them, which has not yet been conquered, although very good palliatives have been suggested. So far as vases are concerned, marble or terra cotta is as cheap and more beautiful. Another recommendation of the Fine Arts Committee is in making purchases to give a preference to works of modern art over those of the antique. Every one is familiar with the latter. They meet us at every turn, and can be had at any time. With modern works it is not so. Even the best have not been so multiplied. There is more chance, therefore, of their offering something new and entertaining to the eye of the visitor, and there is no lack of beautiful modern subjects.

The dispersion of the art treasures in the Exhibition building, however, is not wholly without compensation. Some trickling streams are flooding their way from it into the garden—some of the articles there exhibited are now offered to the Society either on loan or as a gift. Mr. Westmacott, nephew of Professor Westmacott, has lent his lovely marble statue of the Peri at the Gates of Paradise, and it has been placed in the conservatory. Mr. Sharpe's model of "Non Angli sed Angeli" has been placed in a niche in the Council-room, where is also placed a marble statue of David with the head of Goliath, by Professor Westmacott. In another niche is placed a model of Ariel released from the cloven Pine, also by Professor Westmacott, which he has presented to the Society. Near it stands a terra cotta statue of Flora, which has been presented by Mr. Blanchard, who manufactured it in that material. Now that it is seen that statues can be successfully manufactured in terra cotta, as has been shown by this and other objects recently executed, it is recommended by the Fine Arts Committee that some of the models which have been or may be presented to the Society should be executed in that material. Mr. Durham has presented the model of his statue of Euclid. The bronze statue of Juno, presented by His Royal Highness the Prince Consort, which has been detained from its place in the Garden by being exhibited in the Exhibition building, has now been placed where the Diana à la Biche stood, alongside the Memorial, symmetrical with His Royal Highness's other gift, the Ceres, standing on the other side of the Memorial. Herr Geiss has lent for exhibition a beautifully executed group of a shepherd attacked by a lion and defended by his dog. The Marquis of Campana has sent for exhibition a number of articles executed in artificial marble. The Marquis is a political refugee from Rome to Naples, where he has utilised his taste and talents by establishing a manufactory

of objects in a kind of artificial marble or scagliola, which has been invented by himself, and which has much of the appearance of real marble.

Nothing strikes one more, in looking at the objects which were formerly in the Exhibition and are at present in the Garden, than the greater advantage to which they are now seen. They were lost in the Exhibition building. In the Garden they stand out clear and distinct, and each can be seen and estimated as a whole. It proves the justice of our lamented Prince's views, and shows, by their success, the necessity which existed for such a show-ground. The gentlemen who have exhibited their bronzes and vases in the Garden have found their own account in it, having been successful in their sales. A list of the prices of all the articles lent is kept at the Secretary's Office.

Mr. Durham's statue of H.R.H. the Prince Consort has been submitted to and approved of by the Queen, who has expressed herself satisfied with it in all respects. It now goes to be cast without delay.

It is satisfactory to know that Her Majesty continues to take the liveliest interest in the affairs of the Garden, of which periodical reports are regularly sent to her.

Considerable improvements have been and are in the course of being made on the horticultural part of the Garden. Bosquets of Rhododendrons and other evergreens now flank the corners of the terraces, and large single bushes and clumps are being introduced here and there with good effect. The beds are planted out with Tulips, Crocuses, and spring flowers, which in due time will make everything gay.—(*Proceedings of the Royal Horticultural Society.*)

### CONSTRUCTING SMALL PITS.

The subject of small pits is one of general interest with a large body of amateur gardeners who practise in a small way; and although the questions submitted by "A SUBSCRIBER," "H," and others have been so ably dealt with by Mr. Fish, a few further remarks may not be out of place. I have seen small brick pits, built both by amateurs who had never had any practice before in such matters, and also by those who had other appliances and wished to have a small pit in addition, in which they could propagate bedding plants in the winter and spring without the trouble of making and keeping-up the heat of dung-beds. The pits were, in almost every case, heated by means of flues; these being, in several instances, constructed of earthenware pipes.

A short time ago, a friend of mine asked my opinion with regard to the propriety of building some such appliance. He has a neat little garden, and last spring he bought a great many bedding plants; since which time, until October, his garden was a picture of gaiety and neatness in its way. On the approach of winter, he began to consider whether it was really necessary for him to let all those plants die in the beds, and so put him to a similar expense the following spring. There was a great number of Calceolarias and Geraniums, which he was desirous of saving, if it could be done by building a brick pit a little larger than a two-light frame; but he did not care to have it heated, as he would not be able to attend to the fire, nor did he wish to be at the expense of fuel. I told him that, provided he built such a pit, and potted-up the Calceolarias in October, he would find no difficulty in wintering them, but that the Geraniums were not so easily kept in a cold pit, and if he could not attend to the fire he would find it no easy matter to keep his plants without it; that suitable covering must be provided; that the walls must be thick enough to resist at least 20° of frost; that the plants must be uncovered and have air every day, or on every occasion when the weather would permit, and this all through a long winter, when one night's neglect might expose the whole to destruction. In fact, I have known instances in which the plants have been carefully tended till about March, and then one night's neglect has exposed them to a frost that killed them outright, and thus spoiled the work of the winter. I also told him, that if he could manage to take up the Geraniums and plant them thickly in boxes, and find room for them in the dwelling-house, he would find it a more certain method of keeping them, as they could be kept drier; that unless he could manage to attend to his pit, he would find it more an encumbrance than a gain, although it might be very useful in the summer time; and that, if he wished to avoid the annual expense of bedding plants, he might make his garden look quite

as gay and interesting by using hardy plants, of which there are sufficient, if we would only look for them, to answer all the purposes of massing and ribbon-planting.

A friend of mine built a small pit a few years ago of the following dimensions—12 feet long, 6 feet wide, and 4 feet high at the back. At one end he dug out a stokehole, and placed the fireplace a foot below the ground level; from this a flue of glazed pipes, about 7 inches or 8 inches aperture, passed along the centre of the floor to the opposite end, where it was conducted into an iron chimney placed outside. About 16 inches from the glass a stage was made, and this was filled with Scarlet Geraniums. So far all looked promising; but, during the winter, the plants gradually dwindled away till not one was left alive. To account for this was easy enough—coke was burnt; and although the pipes were sound and the joints perfect, being of Portland cement, still a poisonous fume rose from them every time there happened to be a fire, so that no plants could stand against it. I said that coke was burnt; but, from my own experience, I believe that any kind of fuel, with, perhaps, the exception of charcol, would have had the same effect. The following year, the glazed pipes were taken out and common earthen ones put in their places, and with a like result. After that a brick flue was put in, and the same thing happened again—the plants were destroyed, perhaps as much from overheating as from unhealthy fumes, or from the latter being accompanied by the former. The flue was next covered with clinkers and cinder ashes, and the result was, that the plants were almost steamed to death, the ashes being very damp when put on the flue. Having got over this difficulty, it was found that there was another great defect—it was impossible to get heat enough to keep out a sharp frost, so that part of the flue had to be uncovered, and then, once or twice, it was found that the plants suffered when the heat happened to rise above a certain point. It, therefore, became necessary to ascertain what kind of fuel was best suited to the concern. After a considerable time it was found that small coal, mixed with breeze or unsifted ashes, was best, for this would burn slowly without fear of giving that intense heat that coke will do. In this pit he can now manage to winter Scarlet Geraniums with tolerable success, having gained the knowledge of how to do so after many losses and much extra expense—enough, in fact, to have built in the first place a small greenhouse, in which he could have kept his plants in safety from the very first; and as to propagating, he cannot even now accomplish it. Either from the fact of the cuttings having to be placed so close to the flue, or because he does not know how to manage it, or from some other cause, his attempts to propagate plants in the winter and spring have proved abortive; and certainly I have never known it done successfully in a small pit heated with pipe flues. Besides, I have only found it partially successful in a pit having a brick flue, and arranged in the manner described—that is, the spaces on each side of the flue filled up to its level with stones and clinkers, and boards placed 3 inches above that, the boards being covered with 10 inches of earth, and pipes conveying the heat from the interior amongst the clinkers to the surface. This partial success appeared to me to be more in consequence of an unsuitable vapour or humidity, than from anything wrong in temperature.

Any one who has been used to strike cuttings in hotbeds, where every cutting may be depended upon, feels disappointed when half the cuttings in a pot fail; but the ammoniaical steam of a hotbed is not to be obtained in a pit heated by fire, and although the latter may do as a makeshift, no one would lose by using the former, notwithstanding there is a deal of laborious work attached to it. Although I have not been very successful in propagating in a flued pit, I have often forced Asparagus and Sea-kale in it; and forced into bloom Tulips, Hyacinths, Lilies of the Valley, and other spring favourites. This much I have done; but I would never recommend any one else to build a small pit to be heated by a flue, especially inexperienced hands, who will, at the best, find them very troublesome, and most likely have to bear numerous losses before they get into the proper way of managing them. Of half a dozen instances in which brick pits, averaging from 9 feet to 18 feet long, and 5 feet to 6 feet wide, have been built, not one of the owners, to my knowledge, but has regretted having furnished them with flues. A greater fire is of necessity used than is proportionate to the space to be heated; consequently, there is a great waste of fuel. The plants must be too close to the flue to do well; and, altogether, such small places are very unsatisfactory, and fail to meet the requirements of those who have them.

Cold pits, whether built of brick, turf, or wood, are most useful appliances, either in the flower, the fruit, or the kitchen garden. There are many plants which are nearly or quite hardy, that the protection of a cold pit will make exceedingly valuable. In the flower garden, Carnations, Auriculas, and other plants may be grown to perfection in a cold pit; and in the kitchen garden, salads and vegetables may be wintered or brought forward in the spring—facts well known to the experienced gardener, who takes advantage of them; but when an inexperienced gardener or amateur builds a pit, his only idea seems to be that it must perform the duties of stove and greenhouse; that he must winter his stock of bedding plants there, and endeavour to perform impossibilities, which, of course, turn to failures and disappointments. It is the same with others when building a greenhouse. Inexperienced amateurs I have known lay-in a stock of plants the most difficult to cultivate, and often lose them the first winter, because they cannot or do not know how to manage the firing. I would suggest that, in such cases, it would be better to save fire and heating apparatus by making orchard-houses instead of greenhouses, and cultivating fruits instead of flowering plants. The former are as easy to grow, look as well, and give greater satisfaction when the fruit is ripe and ready for the table.—F. C.

### CLEANING SMOKE FLUES.

THIS is by no means a desirable work, and is often accompanied with great inconvenience and suffering to both animal and vegetable life. The following mode entirely obviates all those disagreeables, and is the most efficient and expeditious way possible.

First, let the flue be provided with capping-stones at certain distances; have iron chains laid along the bottom of the flue in length to terminate at those special distances; then take an inch-thick board, and make it 2 inches less than the size of the flue; and fringe it round with strips of old leather, or, what is better, whalebone, to make it fully the size of the flue. Then attach a small broad wheel of wood on each side of this brush to keep it in a perpendicular position; fasten a ring in the centre upon each side of the brush, to which affix a chain in the flue to one side, and a strong rope to the other, draw it to and fro in the flue to each opening, and the operation is finished by taking out the soot with a short wooden scoop. Two or three of the garden labourers could by this means clean several hundred yards of flue in a very short time, and would dispense with the additional expense and trouble of getting bricklayers or sweeps.—P. M., *Combe Abbey Gardens*.

### SUBURBAN ROSE CULTURE.

(Continued from page 697.)

THE next point to be considered after the preparation of the soil is a judicious selection of varieties, according to the locality where they are intended to be grown. Want of proper attention to this has been, perhaps, the most fertile cause of discouragement to amateurs, resulting in their abandonment of the cultivation of the flower, and in unmerited blame to the nurserymen for sending out inferior plants. It must not be forgotten that although Rose catalogues contain florid descriptions of hundreds of named kinds, many of them are suited only for the most favourable soils and climates; many are only of use to those who grow a large number for exhibition purposes. Some are not worthy to remain in the lists at all, and only a limited few possess that hardihood of constitution and vigour of growth which fit them to contend with the adverse conditions of a townsman's rosery. Fortunately, however, among that number are the most beautiful types in the lists, whether as denizens of the garden or champions of the exhibition stand.

The following twelve, and my own experience is corroborated by competent authorities, are unsurpassed in all the good properties that distinguish the flower; and though it may be unnecessary to connoisseurs, yet for the information of the inexperienced, for whom these papers are chiefly intended, I shall venture to append a full description of them.

To begin with the CRIMSON SCARLETS. H.P. Général Jacqueminot, brilliant in colour, vigorous, though perhaps somewhat slender in growth; on its own roots in rich, free, Rose soil blooms almost as continuously as a China. The flowers are large and well formed, though perhaps scarcely full enough;

indeed, it has, when fully expanded, the defect of showing the eye. When three parts open, however, this is not perceived, and in that state it has few superiors.

**H.P. Sénateur Vaisse** (1860), similar in colour to the *Général*, but has much fuller and finer flowers. It is also stronger in growth, but scarcely blooms so frequently; both varieties open well.

**BRIGHT CARMINE.**—**H.P. Jules Margottin**, robust and vigorous, a most brilliant colour, a large and finely-formed flower, full to the centre; has a deep profile, and in its line has no superior.

**H.P. Victor Verdier** (1860), is somewhat similar to the last-named in its qualities, but the flower is not so perfect. It is, however, rather more continuous in bloom, "*Jules*" waiting to rest between his magnificent displays.

**DEEP ROSE, ROSE, AND PINK.**—**H.P. Madame de Cambacères**, *Anna Alexieff*, *Madame Domage*, *Madame Knorr*, *Comtesse Cecile Chabillant*; all these are full and finely shaped, rich in colour, robust in habit, and profuse in bloom. The last-named is the lightest in tint, and is, perhaps, unequalled for the exquisite regularity of its petals.

**TINTED WHITES.**—**B. Souvenir de la Malmaison**, the finest, taken all in all, of the light-coloured Roses, is a lovely flower; centre a delicate flesh, shading off to white. Though somewhat flat in profile, the flower is large and full, and I have seen the outline as perfect a circle as if struck by a drawing compass. The buds are particularly beautiful, the growth is vigorous, and it blooms freely in the autumn.

*Tea*, *Gloire de Dijon* in form and habit is much like the above, more vigorous, perhaps, in growth, and very hardy. The colour is a rich yellowish-buff, with shaded orange or salmon centre; one of the finest Roses known, whether for the country or for town.

**B. Queen**, a peculiar pinky fawn-coloured Rose, a profuse bloomer through the season, slender in growth, of a middle size, and well shaped.

**N. Aimée Vibert.** I give this one in to the dozen for a **PURE WHITE**. The flowers are small and pretty, and the growth renders it suitable for training upon a wall having a S.S.W. or S.E. aspect, on a dry rich soil.

The above are the varieties which rank the highest. I shall next proceed to review the secondary order—secondary, however, only as to towns; far from the haunts of smoke they are entitled to a place among the best.

**H.P. Alexandrine Bachmeteff**, red; *Alphonse Karr*, rose; *Anna de Diesbach*, satin rose, opens with certainty; *Baronne Prevost*, rose; *Belle de Bourg-la-Reine*, rose; *Caroline de Salsal*, flesh; *Duchess of Sutherland*, pink; *Duchess of Norfolk*, crimson; *Eugène Appert*, dark velvety crimson, and scarlet; *François Arago*, crimson maroon; *Général Pélissier*, pale rose; *Léon des Combats*, dark crimson; *Lord Palmerston*, carmine; *Lord Raglan*, dark crimson scarlet; *Louise Odier*, rose; *Madame Charles Crapelet*, carmine; *Madame Laffay*, crimson; *Madame Vidot*, pale pink, most symmetrical; *Mdlle. Louise Carique*, carmine, fine pillar Rose; *Marie Portemer*, purple crimson, moderate habit, but free autumn bloomer; *Mrs. Standish*, rose; *Pius IX.*, purplish-crimson; *Prince Léon*, vivid crimson, moderate grower, but most beautiful form; *Souvenir de la Reine de l'Angleterre*, rose; *Souvenir de Leveson Gower*, deep red; *William Jesse*, light crimson.

The best Bourbons for town culture are as follows:—*Apolline*, very vigorous; *Aurore du Guide*, crimson; *George Cayier*, rose; *George Peabody*, purple crimson, dwarf, but very free bloomer; *Prince Albert*, scarlet crimson; *Pierre de St. Cyr*, pale rose; *Sir Joseph Paxton*, rose, suitable for a wall. Experiment, I think, would much extend the lists in this class.

*China*, *Mrs. Bosanquet*, pale flesh. *Noisettes*, *Jean d'Arc*, white; *Jaune Desprez*, sulphur, centre pink, very tender; *Lamarque*, lemon; *La Biche*, blush white; *Ophirie*, salmon copper; *Narcisse*, sometimes entered as a *Tea*, pale yellow, good.

The *Tea* to be depended upon are few; perhaps only *Devoniensis*, tinted white, shot rose; and *Safranot*, apricot in bud, but, when expanded, fawn; too loose. The following may be added as probable successa:—*Homère*, pale rose colour; *Bougère*, rose colour; *Madame Willermoz*, white, centre salmon.

An opinion on very new varieties must always be hazarded with some reserve, and adopted with some degree of risk. I shall, therefore, only name the following, which promise to answer well:—1861, *H.P.*, *Duc de Cazes*, deep crimson purple; *General Washington*, brilliant red; *Jean Bart*, crimson purple; *Princesse Mathilde*, crimson maroon; *B.*, *Catherine Guillot*,

brilliant rose, better than *Louise Odier*; *Modèle de Perfection*, paler rose; 1862, *H.P.*, *Madame Butin*, cherry; *Charles Lefevre*, red, purple centre; *Maurice Bernhardt*, vermilion; *François Lacharme*, carmine; *Marechal Vaillant*, red, shaded; *Souvenir de Comte de Carour*, deep crimson. *Beauty of Waltham* and *John Iopper*, the new English Roses, are well spoken of, but I do not know them from my own cultivation.

Without doubt other names might be added to this list, but surely here are enough for any reasonable collection: nevertheless, I would recommend every amateur to experiment a little for himself, both in a few novelties and other kinds of good repute. A little uncertainty adds interest to every pursuit, and greatly enhances the pleasure of ultimate success.—**W. D. PRIOR**, *Homerton*.

(To be continued.)

## KEEPING APPLES AND PEARS.

SOME time ago I made a few remarks in a popular work on keeping Apples and Pears. I mentioned my having them until late in spring in a Sea-kale-pot on grass, behind a north fence, exposed to the wintery weather; likewise, that I sent some of both kinds to the Pomological Society, and that the Judges pronounced them to be of excellent flavour. I tried the same plan with equal success during the severe weather of 1860. But in this case the fruit was better protected by the snow which fell through the net tied over the top of the pot to keep out the mice and birds. The fruit was, however, severely frozen. I should remark, that I did not touch the stored fruit while in that state, otherwise it would have been injured, as grass is in rime frost by the tread of the foot just before sunshine.

It may be seen that what I have said agrees with the fact of sound Apples being found late in spring amongst grass, or under a bush, long after the same kinds may have decayed, however snugly stored, in a fruit-room.

Connected with this subject, I may mention that on the 20th of November I had some fine specimens of Pears—*Gansel's Bergamot*, *Brown or Golden Bauré*, *Louise Bonne of Jersey*, and a few other kinds of rather early autumn Pears. They were gathered at the usual time, put into a Sea-kale-pot, placed upon ice, and covered-up with leaves. I found them cold and damp, but after being a few days in a warminery their flavour was equal to that of the crop gathered at the same time. The ice referred to was from the remainder of a stack above ground made in 1860, and covered with about 3 feet of leaves. The house or shed stands to the south, thatched with straw, the door was open, especially during summer, to keep the place cool and dry.

This, however, is foreign to my subject, and only a few have such means of preserving fruit. But all may lengthen their supply of their best, though bad-keeping, kinds of Pears, by merely letting some of the crop hang longer on the trees. This may be known to those who are acquainted with the bad-keeping qualities of *Williams' Bon Chrétien Pear*. At present, November 24th, I have sound *Marie Louise*, *Winter Nelis*, and some late kinds, such as *Béurre Gris d'Hiver*, and *Jean de Witte Pears*, which were on the trees after the leaves were off and exposed to three nights frost, one of which was about 6° below the freezing-point. I need hardly observe, that the least ripe should be left for this purpose, and that I am speaking of Pears grown on walls.—**J. WIGHTON**.

## BRINGING VINE ROOTS TO THE SURFACE OF THE BORDER.

BY MR. D. THOMSON, ARCHERFIELD GARDENS.

IN the successful cultivation of the Grape it, I believe, generally considered an important point to have the roots near the surface of the border, more particularly where the subsoil is unfavourable, and where in the original construction of the border the matter of drainage has not been attended to with the utmost care. It certainly matters less, if—on an open gravelly subsoil, or where by artificial means superabundant moisture is rendered impossible—the feeders of the Vine are 6 inches or 16 inches from the surface of the soil. But in cases where such conditions as to dryness do not exist, it is of great moment that a mass of active roots should be got to the surface of the border, and encouraged to multiply themselves there. No doubt the

most thorough, and ultimately satisfactory, way of dealing with such cases of deep roots and wet subsoils, would be to lift the Vines, and entirely reconstruct the borders on the most improved principles as to drainage and composition. But in this way there might be a risk of the loss of a year's crop, more particularly as Vines which have their roots in deep damp material are less likely to have thoroughly well ripened wood, and are in all cases deficient in those tufted rootlets that make such operations comparatively safe and easy—a risk which in gardens where there is only one viney the proprietor may not choose to incur.

In cases where the roots are thus deep, the next best way that I am aware of, and that I have proved successful, is in the first place, to dig a trench in front and round the ends of the border considerably below the level of the principal roots and original border. This trench, which should be 2 feet wide, should be filled up with what is generally termed a "rumbling" drain of brickbats or small stones, and an outlet by a drain should be secured to carry off the water that may find its way to this open body of stones. In the next place, remove the whole of the inert soil from the surface of the border down to the roots of the Vines. Then cover the roots with a six-inch covering of equal proportions of lime débris, thoroughly rotted manure, and turfy loam in a rough state, all well mixed together. Just as the Vines are to be started, a bed of leaves of sufficient depth to generate heat sufficient to warm at least the 6 inches of open material should be placed immediately over the roots.

The stone drain in front cuts off all surrounding moisture, and in itself that would be an improvement to a wet Vine-border with deep roots. It will be discovered that the open rich material with its temperature raised above the lower strata of the border is sufficient inducement to bring up a lot of roots of a very different order to what is generally found in the bottom of such borders. If the leaves are allowed to remain on the border all the growing season, the roots will be up through the top-dressing and into the leaves themselves. When the leaves are removed, leave that portion of them next the border and into which the roots will penetrate, and simply cover them over with a thin layer of light dry soil, as already recommended. Next season let the same process of adding 6 inches of dressing and the fermenting material be repeated, and in the course of a season or two it will be found that the surface of the border has the lion's share of active well-ripened roots, and of course the state of the Vines will be much improved. Last season I placed a bed of leaves on a Vine-border in November, and allowed them to remain twelve months, and the lower half of these partially decayed leaves was found literally interwoven with a mass of the most beautiful healthy roots, and this too in the case of a border very recently and carefully made and drained, and the roots of which had a dry healthy medium for 3 feet deep to the bottom of the drainage. I could point to many other instances of bringing Vine roots to the surface of borders by similar means, and would strongly recommend those who have wet borders and deep roots to try the means I have been pointing out, as the next best thing to renewing the whole concern.—(*Scottish Gardener.*)

## THE MANAGEMENT AND BUDDING OF GRAPE VINES.

BY MR. FLEMING, STEWARD TO THE DUKE OF SUTHERLAND, TRENTHAM.

THE Mill Hill Grape was brought into notice a few years since, having been grown at a gentleman's seat near Derby, from whence, through the liberality of the proprietor, it soon found its way into several gardens in the neighbourhood, and from the size and beauty of the berries, it became in a short time generally sought after. Mr. Barron, of Elvaston Gardens, favoured us with a few eyes of it, from which were raised sufficient plants to furnish a house in 1846. The Vines, which were planted on a well-made border, 18 inches deep, resting on a concrete bottom, having a rapid fall and plenty of rough material to drain off the superabundant moisture, grew rapidly and ripened their wood well from the beginning; and five splendid crops have since been cut from them. The excellence of this Grape is now beyond all doubt; not, however, as an early forcing one, as it does not ripen so early by a fortnight as the old Black Hamburgh; but on account of its fine size and colour, and from its hanging so long after it is ripe. A Black Grape, possessing the qualities of size, colour, and long keeping, being so much

required for winter use along with the Muscat of Alexandria, and Charlesworth Tokay (than which there are no better White Grapes), I feel pleasure in stating what I know of the Mill Hill. With some the wood does not ripen well, but this must be occasioned by deep moist borders; as our Vines, which are pruned upon the close spur system, have ripened every inch of wood which they have been allowed to make since the second year. The bunches of this Grape are not large, but they are well shouldered and handsome. The berries, which are round and indented, are as large as the Black Damascus. The leaves are of a more regular form than the common Hamburgh, being nearly circular, less deeply serrated, and the upper surface smoother and of a shining dark green.

The "Pope" Grape is another kind of Black Hamburgh, which is well worthy of culture from its being the earliest and sweetest of the numerous varieties of this really useful and most generally grown Vine. It is the only kind of Hamburgh grown by Mr. Robertson at Swinerton, near Stone in Staffordshire; and we have seldom seen finer crops than he obtains. The bunches are large and handsome, and black as jet; and the berries, although not so large as what is called "Wilmot's Victoria," are better flavoured. The "Pope" Grape is the best forcing one we have tried, being a free grower, an abundant bearer, and becoming well-flavoured even when ripened in February or March. It is the best of its class to plant in small houses for producing early crops.

Next in importance to having Grapes early is having them to keep late; and, after trying several experiments, we have found the Charlesworth Tokay to keep longer without shrinking than any we have grown. Its flavour is very similar to the Muscat of Alexandria, and from its being of a more robust habit and setting freely, it is a more desirable Vine. The Muscat of Alexandria, grafted upon the White Tokay, keeps its fruit longer in a plump state than when on its own roots, which we believe, is owing to the latter being a strong rooting Vine, which grows very late in the season. We have the White Tokay here as a stock for the Muscat, with leaves still upon it (January 8th); while the leaves of the Muscat grafted upon it have ripened perfectly and fallen more than a fortnight. The fruit upon the grafted Vines are of a beautiful amber colour, and quite fresh; while those on Muscats of the same age on their own roots are shrivelling.

Grafting, budding, or inarching Vines of the late-keeping kinds is much to be commended; for although the size of the berries is smaller, the flavour is improved; and judging from our experience of the last few years, the fruit keeps three weeks or a month later.

The best time for budding Vines is when the sap is flowing freely into the buds in spring, and when the leaves are commencing to unfold. If done earlier they will bleed, and thus weaken the stock; whereas Vines do not bleed if wounded after the leaf begins to unfold, unless a shoot or branch be cut off. A strong stem of a Vine may be budded all over with one or several kinds; and if the operation is performed skilfully, and at the critical moment when the Vine is just coming into leaf an inferior variety may by this means be made to bear the best kinds of Grape in one year after budding, thus offering the readiest means of making the best of what has often to be considered a bad



stock, and the cause of much disappointment, as in the case of Vines purchased under a wrong name. The sketch will show clearly the way in which I have budded many Vines, all of which have done well. As soon as the bud is nicely fitted into its place, it is tied tightly and neatly with bass, clayed over as in grafting, and a little moss tied upon the clay to keep it moist. Care must be taken to keep the bud exposed, so that it may be able to grow without interruption from the surrounding material; and the moss should be moistened several times a day. As the buds begin to grow, the shoots of the Vine or stock must be gradually diminished in number until they are all removed, or they may be stopped-in constantly through the season, to give all the vigour of the stock to the buds. About midsummer the matting round the buds should be gradually slackened, and in a week or two afterwards the union between the bud and stock is perfect; afterwards it may be wholly removed. We have had a crop from

the main Vine the same year that the buds were inserted, and thus no time was lost.

Inarching is a most successful method for changing the kind of Grape without doing away with a healthy Vine, which may, perhaps, be more suitable for the soil in which it is growing than the kind it is desirable to have in its place. When this plan is to be adopted, a healthy young Vine of the kind desired should be procured in a pot, and placed in the same house with the old or existing Vine before either begins to grow, in order that they may advance together, and be as nearly as possible in the same state when the operation is performed; the best time for which is when the young shoots have grown about 4 feet in length. The Vine in the pot should then be brought so near to the shoot to which it is to be attached, and placed in such a position that they can be readily united. The young bark and a thin slice of the wood, 4 inches in length, should then be carefully removed from each, about 3 feet from their points; the two parts thus cut should then be fitted exactly together and tied neatly, taking care not to injure the soft young wood. Moss the part over, and the business is done for the present. In about three weeks the ligature will require loosening; but care must be taken not to disturb the shoots, as very little will separate them. Every encouragement should be given to the inarched Vine, by removing gross shoots from the stock during the summer; and, at the end of the season, the Vine in the pot may be carefully cut below the junction. If all goes on well, fruit may be expected the following year.

In cold damp places, where the more choice Grapes do not succeed well, I would recommend planting the strongest Vines, such as the Nice or White Tokay, and budding or inarching the Muscat or other choice kinds upon them. The success which has attended the experiments we have tried here is most satisfactory.—(*Gardener's Magazine of Botany.*)

ORNAMENTAL PLANTS.

*TROPÆOLUM SMITHII* (Smith's Indian Cress). *Nat. ord.*, Tropæolacæ. *Linn.*, Octandria Monogynia. *Syn.*, *T. peregrinum*, *Linnaeus*.—A very pretty climbing annual, with the habit of *T. aduncum*, to which it forms an admirable contrast. It has twining succulent stems, bearing smooth, dark green, five-lobed peltate leaves. The flowers grow singly from the axils of



the leaves, attached by long, slender, twisted petioles; the calyx is dull red; the cuneate fringed petals, orange veined with red. From Columbia: mountains of 9000 feet elevation; introduced

in 1847 by Mr. W. Lobb, collector for Messrs. Veitch & Son, of Exeter and Chelsea. Flowers in summer.

*METROSIDEROS TOMENTOSUS* (Downy-leaved *Metrosideros*). *Nat. ord.*, Myrtacæ. *Linn.*, Icosandria Monogynia.—A showy, large-growing, evergreen greenhouse shrub, with copious, compact, but spreading ramifications. The leaves are opposite, leathery, elliptical obtuse, ovato-lanceolate, or lanceolate-acute, dark green and smooth above, whitish and downy beneath. The



flowers, the conspicuous part of which consists of the bright red filaments of the stamens, grow in corymbs at the end of the branches. From New Zealand: the rocky seacoast and shores of the Bay of Islands; introduced by Mr. Allan Cunningham, before 1839. Flowers in summer.—(*Gard. Mag of Botany.*)

CROSS-BREEDING STRAWBERRIES.

In page 672, Mr. Charles Darwin asks whether any one has crossed Scarlet, Pines, and Chilis with the Wood or Alpine. It may, perhaps, interest him to know that the other day I saw at the nursery of Mr. Standish, at Bagshot, several boxes of seedlings, many of them, from their foliage, evidently hybrids. They were the product of a new Alpine variety—Reine d'Orleans of some, Blanche d'Orleans of others—which blooms and bears fruit until October. Mr. Standish, who is well known as a successful hybridiser, has been desirous of obtaining its free-bearing and late-fruited properties, combined with size; he has, therefore, hybridised it with La Constante, British Queen, and Myatt's Eliza, and the plants which I saw evidenced that the operator had been successful. The further question of their bearing, &c., time must decide; but I thought that this information even might be acceptable.—D., Deal.

MANURES: LIQUID AND SOLID.

WHATEVER difference of opinion there may be as to the quality of soil that produces the best flavoured fruit, there is only one opinion about vegetables of most kinds doing best on a rich good soil; and in order to maintain this state of luxuriance, manurial substances of various kinds are added from time to time, to make up for the loss occasioned by the removal of an exhausting crop after it has arrived at maturity. Fortunately, however, the managers of a kitchen garden generally have sufficient knowledge of the value of manures to save all that comes in their way, and all vegetable substances that can be dug into

the ground with the prospect of decaying there during the next three or four months, are buried under the surface at each digging, together with manure of some other kind. Annual weeds and herbage of all kinds are thus disposed of, and the ground which had previously been cropped with some of the Cabbageworts is put under a course of preparation for some tuberous or bulbous crop differing essentially from the preceding one. Now, as this rotation of crops is in most instances pretty well understood and followed-out by most cultivators, it is needless saying much on that matter here, but a few words on the manures which vegetables and other things receive may not be out of place at a time when provision can be made, as at the present moment, for the wants of next year. Beginning, therefore, with the most common of all manures, and unquestionably one of the best, if not the very best, it will be well to ascertain if the way in which we use it is the best for all the purposes it is intended for.

From time immemorial farmyard manure has always been the most important of all manures, and, in accordance with its quality, it has been estimated as the best and most nutritious, supplying most plants with the food they want to carry them onward to maturity. Its popularity has in no degree abated since artificial and highly concentrated manures have been more common; and though each fresh addition to the list of artificial compounds offered to us in the shape of fertilisers threatens to drive farmyard manure "out of the field," instead of "into it," the dungcart still keeps on its useful plodding course; and until greater results have been accomplished without it than with it, we need not fear for the result. With all the well-directed skill of the chemist, and the puffing announcement of the quack vendor of something wonderful in its way, good cowyard dung is still the standard by which other things are tested, and there is no doubt but it will long continue to be so.

Now, valuable as the contents of the dungcart doubtless are, the cowyard affords other fertilising materials as well. Solid manure is scarcely more useful than liquid, and the latter has so many claims to attention, that a few words on its utility have of late appeared so necessary, that I have been induced to make it the subject of an article for THE JOURNAL OF HORTICULTURE; certainly not with the view of confining the observations to the drainings of the cowyard, but to treat of the subject of liquid manure in the manner that includes all kinds given in the liquid form. Commencing first with those from the farmyard, let us see in what way their action on tillage ground is effected, and in the first place it is right to consider the character of that ground, its requirements, and other features.

It requires very little argument to prove that the addition of a proper quantity of solid manure to a given plot of ground improves that ground, and renders it likely, if not certain, to produce a better crop of whatever it be planted with than it would have done without it. Whether that manure were given some three or four months before sowing or planting time, or just on the eve of performing these operations, the dung will produce its effect. This statement needs no confirmation, and the very few exceptional cases are so few as to be not worth mentioning here. But, supposing that instead of this dung being added to the vacant ground, a quantity equivalent to it of liquid manure which, for the sake of illustration, we suppose to be the drainings of the dungyard, were given instead. Some would say the result would be the same; others might contend that, as plants always draw their food in a liquid form, the return would be better; but from this class I beg respectfully to differ, and this on grounds which require but little explanation.

If we look to the way in which Nature performs her work of replenishing the earth, we see a liquid evenly and regularly diffused over all her works; but it is a liquid differing widely from the one poured out of the watercart. The one is clean, pure, and undefiled by contact with any substance, and when given to mother earth percolates freely through, unless some component in the soil impedes it, but in every case it leaves no stain behind. If it passes through, it leaves additional fertility by the air and moisture it carries with it; but no sourness which the other does. Hence, we see the impropriety of giving liquid manure to naked ground, for however useful such a fertiliser may be to the growing crop, it certainly has the reverse tendency when given to the naked ground; and this sourness is much increased when the liquid is thick and strong, as the inexperienced might call it. Clear and diluted, the liquid manure may, perhaps, do good, but its uses are more apparent, and certainly more important when it is given to some growing crop at a

period when such crop requires an additional stimulant to urge it on—say a row of Celery in September, a bed of Onions in June, a piece of Cabbage in April, or Peas at all times when in flower or making pods. At these periods the stomachs of the vegetables just mentioned are prepared to digest, and even devour with becoming relish the food that at another time would surfeit them. Many other crops in like manner may be also benefited by the food here spoken of being always given them when, to use a common expression, they are hungry.

Useful as liquid manure is in another case, that of potted plants, it must here be given with caution, for it is quite possible to surfeit if not completely poison the grossest feeder with strong potations too often given. Even Chrysanthemums, which are, perhaps, the strongest feeders we have, may have too much of this stimulant, and the result is loss or disfigurement of many of the leaves. A reasonable quantity, clear and well diluted, is best, as the plant is enabled to absorb all the grosser parts, and the soil is not soured to the injury of the roots. Much more might be said on this head, but sufficient has been advanced to prove that the application of liquid manure requires more prudence than that of solid, otherwise the chances are that it will do harm, or, what is nearly as bad, it will do no good. Giving it to plants while in the period of their most rapid growth will generally be beneficial; at the same time the ground it is poured upon must, if possible, be stirred as soon after as it will bear it, otherwise the caked surface which usually follows all watering, excepting that of Nature's doing, will be hurtful; for air is one of the elements to fertility as well as manure. Though an Oak or other forest tree will force its roots through very hard ground in quest of the food necessary to its enlargement, and will continue for many years—nay, centuries, to do so, plants artificially reared and expected to arrive at a condition not found in a wild state must be treated in accordance with the artificial condition they have arrived at. Ground well tilled and manure prudently applied are likely, if not certain, to insure success; but let the inexperienced beware of using liquid manure until he be assured that the object he uses it to can partake of it with advantage, for unless this be the case it is likely to sadden and sour the ground, and surfeit rather than benefit the plants it is applied to.—J. ROBSON.

## NEW BOOK.

*Rambles in Search of Wild Flowers, and How to Distinguish Them.* By Margaret Pluec. London: Journal of Horticulture and Cottage Gardener Office.

"Those who love botany would find themselves neither solitary nor desolate though they had no other companion than a 'Mountain Daisy.' The humblest weed or moss will ever afford them something to examine or to illustrate, and still more to admire." Such is the testimony of one of our masters in the science; and so fully do we agree to that testimony, that if we would and could bestow mental propensities upon a child, foremost among them should be a love of botany.

Let us give an illustration. Two cousins, one September morning, set forth from the neighbourhood of Honiton, one provided with a gun and pointer, the other with walking-stick and plant-collector's case. The sportsman in the evening complained of the "slowness" of the place, he had seen but one covey and that so wild that he had not had a chance. He was tired, bored, ate his dinner, told his sister "not to make that noise with the piano," and slept until tea-time. Wakening he saw his cousin busy with his magnifier examining the contents of his case, and inquired, "What he found to poke about?" Now, his cousin, had been more than usually successful in his botanising, giving full illustration to the lines quoted by Miss Pluec:—

"But he alone that, stooping low,  
Will stay with curious hand to cull,  
Can all the many virtues know  
That dignify the beautiful."

We cannot afford space, nor would it afford much amusement to our readers, to enumerate all that that case then contained, but we will copy one leaf from the note-book, on which eventually were recorded the ingatherings of that day:—

"September 18th.—Foremost amongst this day's prizes must be noticed that rare English plant *Lobelia urens*. It is really an English plant, for it has not been found either in Wales, Scotland, or Ireland. I found it on Shute Common. This, like all the *Lobelias*, is very acrid and poisonous—the blue *Lobelia* of

our garden-borders is no exception. They all, especially in their roots and seeds, contain a vegetable alkaloid called *Lobelinia*, on which their acridity seems dependant. If Dr. Lobel had any participation in the murder of Sir Thomas Overbury, which has been suspected, this genus of poisonous plants has been made appropriately commemorative of him. The best account of Lobel I have met with is in Pulteney's "Sketches of Botany," where credit is given him, I believe justly, for having first grouped plants according to a natural system. Some of the merit, perhaps is due to Penna, a brother botanist, who aided him in preparing the work in which this arrangement is adopted.

"I am glad to see reason to think that our Lobel was not implicated in Overbury's murder. Those who raised the question were not aware, probably, that his name was Matthias Lobel, and that the apothecary suspected of being an accomplice in that crime was 'Paul de Lobell.'—(*Calendar of State Papers. Domestic Series. 1611-1618. Edited by Mrs. Green, pp. 312-349.*) Our Lobel died at Highgate in 1616, aged seventy-eight, and was superintendent of a physic garden at Hackney, cultivated at the expense of his patron Lord Zouch. When staying with M——, I must see whether there are any records of him there in the church or elsewhere."

But what has all this to do with Miss Plues' book? Much, for it was just such a book as her's, and much such a mother as she was blessed with, that led the writer of that note-book to the study of botany. The tone of Miss Plues' volume may be appreciated from its

#### "DEDICATION.

"In memory of the pleasant conversations on wild flowers, which ever followed upon our returning blossom-laden from childish rambles through field and wood, and which sowed in our minds a love for the study of Nature, this book is dedicated with tender reverence and gratitude

#### TO MY MOTHER.

Thus do we think of her, and keep unbroken  
The bond that Nature gives;  
Thinking that our remembrance, though unspoken,  
May reach her where she lives."

It is just such a book as should be placed in the hands of the young, yet it is just such a book as the young of larger growth will read with pleasure. It is a mingling of the entertaining and the useful—an epitome of plant-knowledge stripped of all dryness, and gaily and gently revealed. No better gift-book could be found, and whoever receives such gift, whether young or old, shall say in the words of its last page, "Great is the pleasure and profit we have derived from these rambles in search of wild flowers, and all around us testify to the increased health of body and mind which has followed this pursuit."

We must not omit to mention that eighteen good coloured plates, from drawings by the authoress, illustrate the volume, and as each plate contains from nine to fourteen specimens, there are about two hundred portraits of plants.

### THE DISTRESSED LANCASHIRE WORKINGMEN BOTANISTS.

SUCH has been the generous sympathy shown to the poor "distressed botanists" here, by the readers of THE JOURNAL OF HORTICULTURE, that I am enabled to put most of these poor votaries of science in circumstances such that they will be able to weather the storm with some degree of comfort with the subscriptions I have and with what is promised; and to see the expressions of gratitude which they display would more than repay the kind-hearted donors who have responded to their call. To see them has brought many a tear to my eyes, for they remind me of time past when I was a poor struggling lad without parents or guardians, endeavouring to be honest yet surrounded with temptations, and I can assure you it is doubtful if I should have worked so hard for these poor unfortunates if I had not been as they are—in want of a friend to help me over the bridge of the river of difficulties. If there is one thing more than another that I should never like to be effaced from memory, it is gratitude; and many good Samaritans who read your Journal have engraven in the hearts of some of England's best workmen "gratitude," which cannot easily be worn out.

I have been enabled to give out to my brother botanists in distress a large quantity of good clothing and some bed clothes, amongst which were one blanket, and some good men's and women's clothing. I have given out ninety-three pairs of new

stockings, fifteen pairs of flannels, or flannel to make so many, and thirty-seven pairs of clogs (shoes with wooden bottoms), and have made some donations in money. I have received in money since I last wrote, from William Moulton, Esq., Knowsley, £5, to be given out in twenty weekly instalments at 5s.; Mrs. Horsfall, Derby, £1; A Friend, £1; W. Bosanquet, 10s.; a Working Gardener, 2s. 6d., to be continued monthly; P. P. Whitecombe, Esq., £2 2s.; the Rev. J. B. Roberts and Parishioners, Shilbottle, near Alnwick, £5 7s.; and a kind-hearted lady, who styles herself "A Mother," from Ipswich, has sent four weeks together 2s. 6d. to R. Schofield, and 1s. to J. Whitehead. And the following orders have come in for Messes and Ferns—namely, from Lady Honora Cust 150, Miss Mager (second lot), 150; and some kind inquiries have been made by others, whom I am sorry to say, that I cannot answer for a day or two.

The following clothing, &c., have come to hand—viz., from Miss Ager, Weston, flannel, one blanket, one pillow, three petticoats, one pair of slippers, one pair of boots (women's), a pocket, a bedgown, and a book for R. Schofield; from the Messrs. Harrison, of Fellfoot Ridge, Yorkshire, three pairs of drawers, five ditto trowsers, seven ditto socks, seven ditto of men's boots, one pair of gaiters, five coats, eight waistcoats, and nine neckties.

I have made a weekly allowance to an old persevering botanist who lives about three miles from here, and he has, I believe, one of the best collections of British plants in Lancashire (dried). We have got up a collection of dried specimens of Sedges (*Carexes*), Grasses, and Ferns for a lady, and the lady has expressed herself pleased with the collection. I know where there are some good collections of Grasses and Ferns, nicely preserved, which would be ornaments to anybody's cabinet.

I fear we are trespassing too much on the columns of THE JOURNAL OF HORTICULTURE, but these are exceptional times.—JOHN HAGUE, 36, Mount Street, Ashton-under-Lyne.

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

SHOULD frost prevail, advantage must be taken of it to wheel manures and composts on to the various quarters requiring them, and if they cannot be trenched-in at once, let them be laid in heaps at convenient distances and covered with soil. Ridged ground to be occasionally forked over and knocked about, to expose fresh surfaces to the ameliorating action of the atmosphere. *Asparagus*, if the soil in the frame in which the roots are planted should become dry, it will be necessary to water with water of the temperature of the bed; but this is not often necessary if the bed heats moderately, and the roots were properly watered when planted. There should be at least 4 inches or 5 inches of a loose open texture—such as leaf mould or old tan, above the crowns of the roots. Admit air freely every day to the productive beds. *Beans (Broad)*, where they have been planted in rows, and have made their appearance, draw the earth in ridges on each side of them, so as to afford them some little protection from cold cutting winds. Peas in rows should be similarly treated. *Cauliflowers*, watch narrowly for slugs amongst the young plants, and keep them free from dead leaves. If any are planted in pots for the purpose of protecting them during severe weather, they must be carefully attended to with water, or they will prematurely button in the spring. Surface-stirring amongst the young growing crops of these and Cabbages, Lettuces, &c., must be as diligently followed up now as in the summer, when vegetation is more rapid; indeed, there is no season when these operations can be neglected with propriety. Frequent pulverisation of the soil acts as a great check to the penetration of frost in winter, and to the evaporation of moisture in summer. To realise such good effects, the ground must not be trodden on after the operation is completed. *Herbs*, any that may be wanted in a green state to be taken up with balls of earth about their roots, and immediately potted and placed in a forcing-house. Attend to keeping-up a regular succession of Sea-kale, *Asparagus*, and Rhubarb, by introducing moderate quantities at short intervals into heat.

#### FLOWER GARDEN.

Now that the leaves are off the trees, let lawns and shrubberies have a thorough cleaning. Examine pillar and trellis Roses, and, if the weather is favourable, see if the soil wants renewing or the kinds changing. Preparatory to severe weather, it will be very desirable to go carefully over the stock of Carnations and Picotees in pots, and if any of their lower leaves are withered

or mildewed, they should be removed with a small pair of sharp, pointed scissors; and if any dirt or other extraneous substance be lodged in the axils of the other leaves, it must also be carefully cleaned away. The surface soil to be stirred, and a constant circulation of air to be kept up among the plants in dull weather, except during severe frosts. Pinks on beds will require but little attention if well established. Where rabbits or hares are likely to attack them, give a top-dressing of soot: this is a great preventive. Auriculas and Polyanthus in frames require but very little water, and the slight attention of removing decayed leaves. Store away Dahlia roots, and attach the name or number with metallic wire if the proper tally is desired to be retained to each root.

#### FRUIT GARDEN.

Prune Filbert trees, and standard Pear and Apple trees, and where the latter have made an over-luxuriant growth, dig a trench 2 feet from the stem all round, and cut some of the strongest roots, and especially any "tap roots" that may be found: this will induce a more fruitful condition. Although we have given 2 feet as the general average, it is to be understood that the distance from the stem must be more or less according to the age and size of the tree; the larger the tree, the further it will be necessary to keep from the stem in making the trench.

#### STOVE.

Many things will now be sinking into repose here, and from such water must be entirely withheld. Of these may be named the Erythrina, the Clerodendrons, the Achimenes, the Gloxinias, with many bulbs. It should be borne in mind that the Gloxinias and Clerodendrons are very liable to suffer from a low temperature, and that when at rest they are not safe at a temperature below 50°.

#### GREENHOUSE AND CONSERVATORY.

In foggy dull weather like the present, the conservatory will require very careful management. The best plan is to keep as low and dry a temperature as can possibly be permitted—that is, from 40° to 45° at night, allowing it to rise a little in the daytime. In mixed greenhouses, see that the young stock of Heliotropes, Cyclamens, and other flowers grown especially for winter, have light situations and regular attention as regards watering. Pay attention to the plants intended for successive blooming—such as Rhododendrons, Azaleas, Persian Lilacs, Sweet Briars, Moss, and other Roses, Ledums, Kalinias, Daphnes, Anne Boleyn Pinks, Dutch bulbs, &c.

#### PITS AND FRAMES.

The present is a very trying season for the inmates of these structures, and every advantage must be taken of mild dry days to give air freely. Scarcely any watering will be necessary here for some time to come, and the plants will be all the better for being kept rather dry at the root; but strong healthy plants will probably be found to require water occasionally. A dry awning, if possible, to be selected for the purpose, and air to be given freely during the day. All decayed leaves to be removed.

W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

ASPARAGUS being chiefly in rows, covered it with a few inches of half-rotten leaves in a frosty morning; this will not only enrich the ground, but by keeping out frost, enable us to get at what roots we want any time for forcing. We believe that, on the whole, the best plan for forcing Asparagus is to have pits made on purpose, heated either by dung linings, or by hot-water pipes, and forcing them every other year, covering the pits with glass after the shoots appear, that these may be green their whole length. Strange, however, people accustomed to white Asparagus, actually find fault with the green, even though they allow it is crisper and sweeter. For a long time we have depended chiefly on the dung-bed for early Asparagus, and though it destroys a great many plants, it gives the chance of rotation of cropping in the kitchen garden. Our first bed, made chiefly of the remains from flower-beds, as Verbenas, Calceolarias, Ageratums, &c., has answered very well, and given us a good supply, just producing the mild heat that was necessary. In these mild days the glasses are slid down a good part of the day, to prevent too much coming on at once, and the glass has been well washed to let in all the light possible. Changes of weather must be guarded against, as a dry cold air will cause the shoots to eat

stringy and hard. Extremes of heat and cold guarded against, forced Asparagus, independent of the rarity, we think even sweeter than what comes in the open air; though we prefer Asparagus green, yet the crop may be obtained in a dark place, in a temperature of from 50° to 55°, and the shoots when cut may be set in damp moss, and kept in the light a few days before being used. A correspondent wishes for the minutiae about a common frame for forcing the Asparagus, and says that we are not minute enough in describing operations, and that they fail oftener from that cause than anything else, as he has already burnt the roots of one lot, and in another bed few shoots are coming, because he is told the large roots he put in have hardly any buds. Now, we plead guilty to the charge. We are apt to suppose a certain amount of knowledge in our readers, because so many have been readers so long, and, on the other hand we do not like to clog them with the same tale over and over again. Now, then, as to these minutiae, and first as to the hotbed. Any thing that will secure a bottom heat of from 70° to 80° will do. The most economical as to time and labour would be a bed from 24 inches to 30 inches in height, formed of equal parts of tree leaves rather damp, and the other part of clearings from the flower-beds, and dryish litter from the stable. The latter will prevent the former getting too compact, and thus allow of a slow, gradual decomposition. The leaves might be thrown into a heap to heat first. In previous volumes we have given full directions how to sweeten stableyard manure, &c., but we are so short of all fermenting matter that we sweeten or decompose it previously very little, and for such purposes as Asparagus-beds, little or none at all. We thus not only save labour, but save material, by making the bed at once. As soon as the heat rises, a few inches of rotten leaves are thrown into the box, and above that 2 inches or 3 inches of soil. Then we go to the Asparagus-bed or row, with fork, spade, and mattock, and take out a good opening at one end, so as to undermine the many-branched Asparagus roots, not losing any that are sound. If the bed is old, many of these roots will be deficient in fresh buds, and we, therefore, break-up the large lumps and remove those pieces destitute of buds. All the roots well furnished with fresh buds we place carefully in a barrow, and take to the hotbed. Placing a board across the bed to stand on, we commence at the back, placing the part with the buds close to the back, and bringing the long pipe-like roots to the front, and, thus finishing one row, scatter a little sandy soil among the roots. We then commence with the second row, placing the buds as near the first row as we can, though in doing so, we place them and part of the roots over the roots of the first row, and so on until we get 9 inches or so from the front of the bed. We then scatter a little sandy soil among the crowns and roots, and give a pailful of warmed water to a light, using a rose, but holding the pail high, that the water may wash a little fine soil among the rootlets. We then cover with an inch or so over the buds. With such slight covering there is little danger of over-heating, as, if the soil below the roots gets a little extra warm, giving plenty of cool air would soon lower it, even without making holes through the bed. Little or no more covering of soil will be wanted, unless white-stemmed shoots are desired, and then as many inches of old tan or dry leaf mould may be used as the stems are required to be blanched.

For Sea-kale nothing suits better than a similar bed, not quite so deep in material, the roots taken carefully out of the ground with all their length; the larger the crowns the better, the roots doing well when strong of one year's growth, but better when two years old. These roots should be packed firmly in light, sandy, rich soil, leaving the crowns about an inch out, and about 1½ inch apart. As frames may be scarce, nothing answers better than four boards, about a foot deep, forming the sides and ends of a bottomless box, and an old door, or a thick thatched straw hurdle laid over the top. A space 6 feet by 4 feet well packed will yield a great amount of cutting, and a few good barrowloads of fermenting material would be sufficient. We have seen a couple of packing-boxes of equal size so used, close to the line in a greenhouse, the plants packed in earth in the one, and the other set bottom upwards over it, and a broad piece of list run round the place where the boxes meet. Good-sized pots may be used in the same way, but in such cases the earth will want more watering than when the plants are placed over a fermenting bed, and want of moisture always makes the Kale hard and stringy. When a little bottom heat can be given in a dark place, as in a Mushroom-house, and the plants are allowed to come on gently, the mere length of root is of less importance. We have found 3 inches or 4 inches do very well.

From 50° to 55°, and never above 60°, are the best top temperatures, and from 70° to 75° on to 80°, the best bottom temperatures for the forcing of this vegetable. The heads to be thoroughly good should not only be white, but not more than 6 inches in length. We are thus particular in minutiae from two simple facts. First, a grumble from an amateur that his Sea-kale was watery and had no substance in it. The stalks were drawn from excess of heat and moisture, were thin, and from 15 inches to 18 inches in length. They afforded scarcely any resistance to the thumb and finger, we can fancy what they would be when boiled. The second fact was, meeting with an amateur with a large basket of large roots of Sea-kale, seemingly three, four, or more years old, and these were to be planted in a trench-bed, covered with pots, and a lot of manure obtained to force them in the ground directly. Now, so treated, we could almost make certain that the smaller part of these roots, cut off and kept in dry soil in a cool place until spring and then planted out, saying nothing of seedlings, would rival if not beat these old plants in the following year; and after being thus treated, the roots might have been placed in a dark box above a small fermenting-bed, and thus produced better Kale and with less than a tithe of the manure and labour necessary to force it out of doors. Late in the spring it is obtained most economically by covering it up out of doors, the simplest modes being generally the best. We have had it very nice in beds 2½ ft. wide, with rather deep alleys between, the alleys filled with litter, and the beds covered 8 inches with coal ashes or bog earth. As soon as a leadlet got through it was time to cut it. Those who force out of doors on the ground now, cannot use anything for giving heat so good as tree leaves, with a little long litter on the top to prevent the leaves blowing about. These leaves will, unless very wet, produce a mild sweet heat. Stable dung, &c., can scarcely be used round the crowns without giving a rank taste to the heads. If we should use a little in a mild hotbed in which the plants are taken-up and put, this rankness is prevented by the covering of half-rotted leaves and soil. These in such circumstances are as useful as clay or loam for absorbing the ammoniacal gases, and this fact enables us to use the bulk of manure for hotbeds much fresher and ranker than otherwise it would be advisable to do. Cleaned away all the leaves from plants in the ground, and covered the crowns with ashes to keep snails and extreme frost from them. Must sow a good piece this spring as our stock is getting short.

Gave plenty of air to Radishes, Lettuces, and Cauliflowers, either by taking the lights off, or elevating them back and front, this mild, muggy weather. Sowed a few Dwarf Kidney Beans, though of late have given up growing them in the dead of winter, though few vegetables are more tempting at that time, they eat so crisp and nice. The Newington Wonder is the best for small pods to be kept whole. Sowed a row of Tom Thumb Peas; but, in general, prefer sowing the earliest Peas in March under cover, and transplanting when 3 inches in height. The weather has been too greasy and muggy to do much in the way of digging or trenching. Our Celery showed a little of the maggot in summer and autumn, but the leaves being picked off, it has left no bad traces behind it. We have lots of complaints as to Celery being tough and coarse, or brown at the centre, and either bolted or rotten in the middle—the results of over-rich feeding, letting manure water get into the hearts of the plant without being washed out with clear water, and from the practice of bit-and-bit earthing-up of Celery, as generally followed out.

We had next to forgotten the field of investigation opened-up by Mr. Beaton, as to the hardness of the Globe Artichoke. So far as our own experience is concerned, we do not advocate placing some long litter around the stems without cause. We think three times we have known those under our care suffer severely from frost. We should think that in the spring of 1861, we had a score of applications for plants, and as to the price they could be got at; the places whence the applications were made being left destitute of them, or nearly so. We are, however, so far of Mr. Beaton's opinion, as to believe that other causes besides frost contribute to such losses—such as allowing them to remain too many years in the same place; and, again, from growing in a damp shady place. From the first cause we have seen once-pleasid plantations degenerate and die away. In the second case the plants died from damp and the extra cold, the consequence of damp. We have no doubt, that in light, dry soils, they will be found as hardy as Asparagus. We recollect of a case of a plantation in a midland county somewhat in point. The plants had received a rough winter-dressing, and the ground was being

forked-over before a little litter should be added. The soil was deep, stiff rather than sandy, but had no stagnant water, owing to an open, marly bottom. The first rows had been forked-over, and several inches of soil raised against the plants; another row was forked, but no extra soil put about the plants, and the frost coming rather sharp before the job was finished; some rows had the surface soil unbroken and hard on the surface from the autumn rains. In spring, the first rows were all right; the second lot with the soil stirred on the surface, was a little injured; but the third lot with the unbroken, unprotected soil was very much injured, more than half of the stools in the middle of March being a mass of rottenness. In strong clayey, loamy soils, retentive of moisture, we have often noticed losses in winter, but that might be owing to excess of moisture, as well as to excess of cold. A little mound of earth, open at the surface, and a little litter over it, round the stools, would help to counteract the excess of either, and hence, under such circumstances, we would say, use a little protection. In exposed, light, dry soils, we should think that little protection would be necessary, though even there a ridge of rough dung could do no harm in the general run of years. The evil is, that when such a frost as 1860-61 comes, we may not think of the half of the things needing our aid, until the mischief is done. We are very glad the matter has been thus prominently brought before us, and would be pleased with a detail of facts bearing on this point; stating also the character of the soil as to staple, and its conditions as to dryness; the frost of the above years furnishing us with a good test on the subject. Such facts will be of more extensive usefulness than as bearing alone on the Globe Artichoke, not but that it is a matter of importance in many families, though our own opinion is, that Artichokes however dressed, are something like good flint soup, depending more on the other auxiliaries to make the soup palatable, than upon the flints.

#### FRUIT GARDEN.

In addition to the routine of looking after Grapes, washing Peach trees in pots, &c., filled a two-light box with Keens' Seedling Strawberries. This bed had been formed with rubbish and tree leaves from the pleasure-ground, much the same as the beds for Asparagus about three weeks ago. There was a good heat in the bed, though the materials had been placed there without any preparation at once—far too much, in fact, to think of plunging or half-plunging the pots. If plunged at all at this season, the heat must be mild indeed. If very hot the roots will be burned; if pretty hot an impetus will be given to leaf-production. It is better that the pots should stand on tiles or boards, and little or nothing about the pots; in the beginning of December we were not so particular, but the bed was trodden firm on the surface, and then 2 inches or 3 inches of ashes thrown over it, and on these ashes the pots stood without any plunging. Whatever heat rises between the pots can also be easily regulated by air-giving. The plants seemed in good order—the ball like a firm cheese with roots. A few plants that were rather dry were watered. All the half-withered leaves—in fact the great proportion of the leaves, were removed, leaving in general two or three of the smaller next the bud. We do not see any use in retaining the withered and half-withered and spotted leaves. They have served their purpose in ministering to the strength and the maturity of the bud. Before we want to start the plant into fresh growth these leaves act as a protection. When growth is excited they first act as drags and robbers until they are finally removed, taking the strength and nourishment that should go to the central column of the plant. We think, therefore, it is best to remove these at once. There is then a better opportunity, too, for scraping off a little of the surface soil with a pointed stick, and adding a little fresh rich soil firmly pressed down.

Another two-light box has been set on a similar bed of leaves and the remains from the flower-beds. This, about 20 inches deep, has a good heat. Four large barrowloads of fresh horse-droppings were thrown over the top and levelled, and then two or three rows of Vines in pots were set on tiles from the back of the bed, and the shoots tied down to the front. There will also be room for a ridge of droppings in the front. The ammoniacal gases thus given off would kill most things, but it will do no harm to the stems of the Vines, though it will cause the buds to swell, and give a quietus to any insect, if there should be such a thing. Of course the pots have no plunging in such a bed. We have done little in this way of late, though our earliest experiences did much to show that, but for its appearance, a great heap of fermenting manure is a fine thing in a vinery. We

did not care how rank the dung was at first if it came, as it generally did, fresh from the stable, or how dense the vapour and ammonia from it, provided it was all sweet before a bud expanded. Under such treatment no insect of any kind could hope to live.

The chief work elsewhere has been getting the lawn swept and cleaned.—R. F.

### TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

PEARS INFESTED WITH SCALE (*W. Brown*).—Your trees appear to be infested with what gardeners call the scaly coccus, an insect anything but easy to eradicate, though not so bad as the American blight on the Apple. However, we have known the following remedies efficacious, though, at the same time, they are troublesome:—Mix cowdung, soot, and soft soap together, and add as much tobacco liquor, pretty strong, as will reduce the mixture so as to lay on with a paint brush, and try it, and if it dries too dark a colour add a little lime, so as to bring the mixture as near the colour of the tree as possible; then coat every part of it over, twigs and stem, and let it remain until it shells off in summer of its own accord. A slight coating of oil will effect the same object, but it is more expensive, as vegetable oils ought only to be used. We shall be glad to hear how the above plan answers.

PEARS FOR LATE USE (*Idem*).—The following will materially assist your already good selection:—Bœufé Gris, d'Hiver, Bœufé d'Arenberg, Calabasse Grosse, Chaumontel, Napoléon, Vicar of Winkfield, Passe Colmar, Winter Nelis, Ne Plus Meuris, Shobden Court, Crasanne, and Prevost. The last we know only by report, but it is said to be a good late kind.

CYANOBYLLUM MAGNUM (*Idem*).—This handsome stove plant requires keeping in the shady part of a stove, otherwise the leaves speedily become blotched and disfigured. It is said, however, to bear cutting-down well; and the top, by being cut into lengths, forms excellent cuttings. Like most plants, however, it seems to like a rest in early autumn; and by being cut-down in December, and shortly afterwards placed in heat, it speedily throws up fresh shoots and leaves. It is seldom, however, that more than two shoots arise, but this is plenty.

BOOKS (*G. Grove*).—Lindley's "Theory of Horticulture," 21s.; Thompson's "Gardeners' Assistant," 31s. 6d.; Geometry, in Chambers' "Educational Course," 2s. 6d. If you send a post-office order with your direction, you can have the whole from this office.

GAS STOVE (*C. L., Liverpool*).—We do not know the stove you name; but any gas stove having a tube large enough and quite tight, so as to carry off the fumes arising from the burning gas without any escaping into the house, is quite safe for the cultivation of Ferns or any other plants. A vessel of water suspended over the funnel is not sufficient for keeping the air moist enough for growing Ferns. The path ought to be wetted daily. The fronds you enclosed seem dying naturally, and will be succeeded by others. Moisture in the soil and in the air are essential for greenhouse Ferns.

APPLES FROM GUERNSEY (*G. W.*).—The Apple you have sent under the name of Barcelona Pearmain is not the Barcelona Pearmain of the Horticultural Society, although in many parts of the country it is grown under that name. It appears to us rather to be Adam's Pearmain, or very much like it. Your *Guernsey Pippin* is a fine little fruit, tender-fleshed, and with a very nice flavour, brisk, and sweet. This is well worth cultivating.

FOLLOWING A KITCHEN GARDEN (*L. G. H.*).—As it is full of slugs and other vermin, you cannot do better than to throw it up roughly into ridges, allowing these to remain through the winter, and your fowls to have a free range over it. Before doing so, if the soil is at all heavy, we would pare and burn the top spit of the whole surface. That destroys not only vermin but their larvae, more effectually than any other treatment.

BRICK ARNOTT'S STOVE (*W. Walden*).—You will find a description of this and of other modes of heating, with drawings, in our "Greenhouses for the Many," which you can have free by post from our office for seven postage stamps. There is a drawing and description of the Arnett's brick stove in Mr. Rivers' "Orchard-house," price 3s. 6d.

PRUNING ESCALLONIA MACRANTHA (*An Amateur*).—In the county Tyrone, the *Escallonia macrantha* must be a complete evergreen, and it should be pruned there twice in the year—first in April, and all the young wood to be cut-in very short, something between close-spruing a Grape Vine and close-pruning a Moss Rose. From each spur then left, two or three or four young shoots will issue all over the face of the plant, which is on a south wall, and is getting "out of bounds;" all these shoots bloom at the points, and in August, when the first bloomers are past their best, the plant should be pruned, or, rather, thinned, as one would do a Rose in July; then the increased room, and the whole strength of the roots, will go to keep the plant in bloom to the very end of the season. But, as the plant is getting out of bounds now, it may be necessary at the first pruning next April to thin-out some of the main shoots entirely, as the whole plant should be in the way of a Peach tree against a wall.

TROPEOLUM PENTAPHYLLUM (*Idem*).—There is not a more graceful climber than this; but in your climate it does not get a winter's rest, and that is the cause of its not being so good as it has been. You ought there to take up so many of the largest roots at the time of lifting the Potatoes, keep them like Potatoes till the spring, plant them like Potatoes, and let the small fry of roots take their chance in the ground—they will come in their turn for lifting.

CULTURE OF VERONICAS (*Idem*).—Your plants of New Zealand Veronicas are not yet big enough for your climate to bloom freely. What they really want with you is the treatment which the London and Dublin market-gardeners give to their Red and White Currants, to the very eye and letter of the practice. First get them into good-sized bushes, not in pots; then, in November every year, prune them as close as Red and White Currants; lift them with balls, place them behind a north wall, and put lots of hay, or fern, or straw among them, halfway up the shoots, keep something at hand to put over them during frost, and at the beginning of April plant them out in good ground, and they will all bloom as freely as Beans and Peas every year. A cold pit would be best in most parts of England; but the secret is the kind of pruning, and the lifting.

WEYMOUTH PINE (*A. S.*).—Quite right. It was your own tree, the Weymouth Pine, which we intended, and not the Hemlock Spruce; and it is the Weymouth Pine which does so well all along the valley of the Thames. The Hemlock Spruce, however, does remarkably well in some of the very poorest and driest soils along both sides of the Thames, although it does not rise so high as the Weymouth. Much obliged for the correction.

ROYAL HORTICULTURAL SOCIETY'S CHISWICK GARDEN (*Pampinus*).—You must obtain an order for admission from a Fellow of the Society. The garden is open every day in the week but Sunday.

BOOK (*Canood*).—Hogg's "Vegetable Kingdom" will best suit you. You can have it free by post from our office for 5s. 8d. You will need no botanical dictionary to understand it. *Passiflora Colvilli* will do for your conservatory.

WHITE SCALE ON PINE APPLES (*An Eight Years' Subscriber*).—The safest thing we have tried is soap water, at about 120°, holding about 1 oz. of soap dissolved in 3 gallons of water. For small plants we have used clean water, at 120°, with about a quarter or pill of turpentine in 4 gallons, thoroughly mixed. This does not do well for large plants, as the water should not remain long on the axils of the leaves. We have known cases in which syringing the pipes when hot with strong drainings from the dughill, and double the above quantity of turpentine, has done for the insects, as they could not stand the ammoniacal and turpentine fumes. The best plan for all plants in pots is to give them a good steaming from rather fresh horse-dung. We hardly know a plant that would stand this, except the Pine Apple. If the scale has got to the roots, the best plan is to remove the soil and expose the whole plant to such steaming.

PIT FOR PROPAGATING AND FORCING (*Kilworth*).—1. The back wall would be better to be 9 feet, or you might make the front wall a foot lower. 2. We are afraid that sinking 5 feet under ground will involve more trouble from damp than you will gain in heat, and it is no joke removing such a mass of soil; and if you went that depth you would have to go some 5 feet more for a stakehole for your fine. A foot or 18 inches is a different affair, and sinking beyond 2 feet is seldom any advantage. We would ourselves, if we had the choice, prefer hollow walls, and the floor to be on the level of the surface soil, or a few inches above it. 3. It will be a great advantage to have the ends and front of glass, 3 feet from the ground. The ventilator may be in the front wall and the back wall; 16 oz. glass will do, or rather about 15 oz., for there is no 16 oz., though called so. 4. We presume your pit 5 feet deep and 5 feet wide will be sunk, or there will be no great space between it and the glass for plants of any size; if bottom heat is to be given by fire, we do not see why 3 feet would not have done equally well as 5 in depth. Provided the pit does not stand too high in the house, your arrangements will answer. There is no necessity for your plants being close to the glass, if there is nothing else growing above them. 5. Your proposed fire will do, but you must have openings for top heat; but of this you will see ever so much in late Numbers. Why should you have the furnace so far from the house? 6. You may do all you want in your proposed house, with the exception of early Vines. To do them well and yet keep this as a hothouse, the Vines should either be in pots or, if planted in an outside border, you should have the means of taking the Vines out of the house when at rest. You would also see various modes for doing that lately.

GREENHOUSE (*Sugatin*).—We have no doubt the plans will answer if well managed. Our suggestions are these:—1. The stage at back should be a foot or 18 inches higher, otherwise your lower shelves will be shaded by the front platform. 2. That platform seems a bed, beneath which are two pipes. You will require slides to let the heat out of that chamber. 3. In such a nice house do not think of a board partition, have it of glass. 4. That hothouse end you should be able to heat independently of the other by means of a box valve or tap. 5. You have shown no spouting for the house. 6. Your mode of planting may do for the late house, but you should have means of taking the Vines out of the hothouse part. See late Numbers. 7. We do not see the advantage of the triangular termination of your front wall. 8. To make the most of the house for plants you must not plant too many Vines. In the hot part two would be enough—one Black Hamburgh, and one Muscat of Alexandria; but if you preferred an early White, substitute Dutch Sweetwater or Royal Muscadine. In the second, one Bowdoin Muscat, one West's St. Peter's, one White Tokay, and one Lady Downe's. If you venture on five one Trentham Black.

AZALEAS IN VINERY—SULPHUR FUMIGATION (*A Constant Reader*).—You cannot do better than as you propose. When the Vines are in full leaf a cold pit after June would do, shutting up close in the afternoon. You will gain your object best by allowing no flowers next season. The best time to shift Azaleas when established is after flowering and pruning, and the shoots are coming away kindly, shading and syringing until the roots are taking hold of the fresh soil. You cannot use the sulphur more safely than by putting it in the pans along with the water. That water will rarely be above 160°, seldom so much, so that you will be safer than putting the sulphur on the fire.

YOUNG MUSHROOMS DECAYING (*An Old Subscriber*).—Seventy degrees was a good heat for the bed, or even 10° more for the first fortnight; but 70° was 10° to 15° too high for the atmosphere of the bed. We can hardly tell the cause of the decay, probably excessive heat and excessive moisture.

**DEODAR (B. B.).**—Deodar is merely a contraction of the botanical specific name *Deodara*, and is used in the singular number. Deodars, of course, is its plural.

**SCRUBBING VINE STEMS (A Reader).**—By casting your eyes back to "Dooms of the Last Week," you would see that your proposed plan of scrubbing the Vines is all right. Take the loose bark off your Vines, scrub the stems well with soft soap-water. Do the same with all the woodwork of the house and walls. Then paint the stems of the Vines with clay and sulphur, and whitewash and clean the house.

**POACING DIELYTRA SPECTABILIS (Idem).**—You may take up *Dielytra spectabilis* any time after the leaves fall, except in frost. Use pots just large enough to squeeze the roots in. If you can give the roots a mild bottom heat, whilst the atmosphere is kept cool for a month, they will do all the better, but they will do very well without, raising the temperature gradually from 50° to 60°.

**FIG TREES AND VINES IN POTS (Dalkey).**—Your Fig trees if you see young fruit at the axils, had better remain in the same 7½-inch pots if you wish to have fruit from them next season. When you wish to start them, you might set the pots into large pans half-filled with earth, or into larger pots so half-filled. If the pots should be very small for the plants, you may shift into 12-inch or 14-inch at once, and set the pots in a bottom heat of about 70°, and keep the branches not higher than 40° to 45°, until the roots are filling to the sides of the pot, and then gradually raise atmospheric heat to from 50° to 60°. Thus doing you may get the first crop and also a second. If without such care you shift now, you will get only an autumn crop, the first crop being very apt to fall. Of course, we can only speak in general terms, in ignorance of the appearance of your plants. We have seen nice little bushes in 7½-inch pots, and very small plants indeed in the same sized pots. We do not think it is at all likely you will get any fruit from your 6½-inch pots of Vines. Unless there were some reasons to the contrary, our advice would be to cut them down near the soil, or to the lowestmost bud. Set the plants in the bottom heat in your greenhouse in March, water as they require it. As soon as shoots have pushed 2 inches or 3 inches long, have some warmed soil ready, take the plants out of the pots, shake away a good portion of the old soil, repeat into nine-inch pots, plunge again and shade a little for a few days, and about the end of May give a shift to 14-inch pots, and treat just in proportion as you wish to plant out or to fruit in pots. If you need minutiae in either respect, jog our memory again, referring to chapter and verse.

**HYACINTHS (Ignorance).**—The piece of wire to be simply used as a stake inserted near the bulb and the spike tied to it. It is more slightly than wood.

**ROSES (Idem).**—The standards are not to be cut back till March. The Teas should be well washed, potted, and then cut back, but not close, if you wish them to flower in the house in April.

**GREEN FROGS (S. Tebb).**—We believe you can obtain them from Messrs. Veitch, Exotic Nursery, Chelsea. They might be kept in a fish globe with some chinkers to imitate rockwork, rising just above the water for the frogs to rest upon when inclined to leave the water.

**SEEDLING CHRYSANTHEMUMS (Elizabeth).**—In the report of the Floral Committee on the Chrysanthemum seedlings of this season, it is stated that the members of the Committee were unanimous in their belief that many more of Mr. Salter's new seedlings would merit higher awards as soon as the seedling plants recovered from the ill effects of this untoward season for them. Your seedlings with imperfect blooms must have been under the same influences, and it is only reasonable to expect they will be much better another year, or even if that should not turn out to be the case, there can be no harm in taking good care of them for another chance. The seedling plants want no particular treatment from that of the old kinds. All old plants of Chrysanthemums are more safe out of pots and in the open air, in all parts of the three kingdoms, than being kept in pots and in a cold frame or pit. When turned out of pots, the side of a wall is the best place to keep the hails, plunged all their depth, and in severe frost some loose straw or fern to be thrown over them and taken off in fine weather. The suckers are then in the best natural state for making cuttings in April, or the balls to be merely shaken and divided at the end of the month.

**ACHIMENES (Idem).**—They cannot be grown in a greenhouse till they are showing for bloom, and then they would grow in the open air. They require hotbed culture till they are about to bloom.

**POTTING YOUNG PELARGONIUMS (Nursery Foreman).**—You struck a lot of most beautiful Pelargoniums last August, and have had them since in No. 72 pots—that is, in very small No. 60's. You say they are "quite pot bound;" but they were more than pot bound two months ago, and they have been slowly murdered every day and night since last Michaelmas. Such cuttings ought to be fine, large, bushy, and very stocky plants in No. 32 pots on Lord Mayor's Day, and be in their flowering pots by the 1st of January. But, as it is, anybody could excel you now by cuttings just put in. Starving young plants, whether they be for pots, beds, or forests, is the ruin of plants, and the cause of so many complaints about them afterwards. Pot the starvings at once into No. 48 pots and keep them a little warmer for the next three weeks, and pot them again very early in February, unless you mean to sell them off in the 48 pots. But who will buy plants that have been so badly used?

**THE PURPLE SATIN COLEUS (Idem).**—How could you think, much more attempt, to keep old specimen plants of any Coleus over the winter, when ten times better plants could be had next year, and plants, too, four times the size of those of this season by merely making a few cuttings last August, which should now and to the middle of January be cramped in No. 60 pots, just like your poor Pelargoniums? Therefore, be it known to all men and masters, that Coleus Verschaffeltii is the, or one of the, best drawing-room plants in the world; that ladies are most particularly fond of it there all through the summer months, and there is only one right way of doing it for that work, and that way is to make it an annual like a Balsam, but from cuttings in place of seeds. Of course, first-class gardeners will have it for dining and drawing-room decoration in Nos. 48 and 32 pots all through the winter; but such men never have large specimen plants of it to face a winter with.

**NAMES OF FRUIT (T. G. F.).**—Your Pear is *Passé Colmar*, and it is not likely to be better in a stiff cold soil.

**NAMES OF PLANTS (J. C.).**—It is the good old *Thunbergia coccinea*, which we have not seen in bloom since the winter of 1834. It is one of the

hardest greenhouse climbers, and one of the most difficult to bloom freely. Keep it in the pot, and it will now flower freely enough every winter; but if you were to plant it out it would soon cover an ordinary greenhouse, and not bloom for another ten years. It comes from cuttings as easily as *Verbenas*. (*W. B., Barton-on-Trent*).—*Pteris tremula*; *Achyranthus grandiflorus*. (*Alethea*).—A frond of *Polystichum angulare*, too young to show if it be of any peculiar variety. (*H. B.*).—1, *Acacia decurrens*; 2, *Brachycoma lanceolatum*, var.; 3, *Asplenium trichomanes*; 4, *A. magellanicum*; 5, *Woodwardia (Doodya) caudata*. (*A. B.*).—*Calampelis scaber*, also called *Keeremecarpus scabra*. (*A Subscriber, J. P.*).—1, *Begonia rupestris*; 2, *Pilea serpyllifolia*; 3, *Nothochloa flavens*; 4, *Jussiaea speciosa*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### BIRMINGHAM POULTRY SHOW.

The merits of this great Show, and the perfect arrangements of Bingley Hall, are so well known, that they need no mention. Almost every one who takes interest in the pursuit is acquainted with the locality and its peculiar merits. All know the value put upon a first prize gained there. It is the war of the giants, and a success stamps a character on the yard. It is the meeting of all others, and a high commendation is more than an equivalent for the first prize at some small local shows. By great exertion we were able to give our readers the awards last week: it will, therefore, now only remain for us to comment on the principal classes and the prizetakers, observing that we hardly ever recollect such dissemination of the prizes. We like to chronicle the success of the old names of our old friends and exhibitors; we also like to see our new names encouraged by prize-taking. Success makes people careless in all pursuits, and nothing is so beneficial as a check now and then. We have also to note the re-appearance of many old exhibitors. Those who exhibit for the first time, and being very sanguine, are somewhat disappointed that they get no higher than, perhaps, a high commendation, may be comforted by the fact, that great success is never attained the first, and seldom the second year. It is a progressive thing, there is no royal road to it. There will, however, always be enough to give zest, and to teach a lesson.

The first class was for adult *Silver Grey Dorkings*. We confess we have doubts as to the policy of classes for this breed. For adults there were only six entries. There were four prizes to award, and the Judges were compelled to withhold two of them. This will at once prove there were but two out of six pens that answered the requisitions of this breed. They belonged to Mrs. F. Blair and Mr. Stoller. We congratulate the lady on her success. It may be, perhaps, that as these birds get older they become grey, especially on the breast. This would explain that whereas only two pens of old birds could be found perfect, that among the thirty-three pens of chickens there were twelve found worthy of notice in the prize sheet, and many others that lacked merit had no positive fault to disqualify them. Those classes have been in existence long enough to come to a correct judgment, and we shall be curious to know next year how many of the thirty-three pens of chickens shown here retain a plumage that will enable them to compete among old birds. By this should be measured the amount of support to be given to these classes. They have accomplished one thing—they have gone far on the road to overtake their coloured brethren in size. They formed a beautiful class. Mr. Cargey took first and second, Lord Hill third, and Mr. Stoller fourth. These all deserve especial mention, as did many of the highly commended. The classes for hens and pullets do not fill as they should. They are made to suit those who have difficulty in sending a whole pen, and to meet the requirements of purchasers. Formerly in buying a pen, there was a dread that it contained brothers and sisters, but now they can be bought from different classes, and different owners. We are at a loss to know why the hens and pullets are not as well represented as the cocks.

The only classes that showed a falling-off were the *Spanish*. We do not wish it to be understood there were not good birds, but the general entries were not such as we have seen in former years. Mr. Teebay's adults, and Mr. Lane's chickens, Mr. Martin's second-prize adults, and Mr. Fowler's, were very good. Here, again, the hens and pullets were weak in numbers.

The *Cochin-Chinas* in every class were most excellent. We believe we may say they were as good as were ever shown. Mr. Kellaway's were perfect. The same may be said of Messrs. Bates, Fell, and Musgrave. The White, Grouse, and Partridge were equally meritorious. Messrs. Stretch, White, and Musgrave, showed beautiful pens. In all these classes extra cups were given, and added much to the competition and interest. There

was one feature that deserves notice—the absence of birds with faulty-coloured breasts. Messrs. Chase and Felton deserved their prizes.

*Brahma Pootras* were excellent, and are now thoroughly understood. Mr. Teebay, and Messrs. Fowler and Allen, took all the prizes.

We can speak in terms of unqualified praise of the *Malays*. The classes for this breed were very numerous; but we are always surprised that in large towns they are not more kept. They are made for confinement, and there is no back yard that will not suit them. Their merits are not appreciated. Mr. Sykes took three out of four prizes, and Mr. Manfield the fourth.

The *Golden-pencilled Hamburgs* were a great class, and all that has been asked by Judges was shown by exhibitors. Formerly the pencilling was often complained of. In the Spangles the breasts were dark, in all faulty combs were common, but now every class has its perfect specimens. They were well represented in numbers, bringing 152 pens. Messrs. Martin, Munn, Dixon, and Luce, were large prizetakers.

Nowhere was improvement more apparent than in the *Polish* classes. They were in all respects the best we have had for many years. We saw it with much pleasure. The Black brought nineteen entries; the Golden fourteen; the Silver eleven. For some years we have lamented the decline of these classes, both in numbers and merit, but now we can speak in unqualified praise. Messrs. Ray and Edwards, in Blacks; Messrs. Adkins and Dixon, in Golden and Silver, showed birds that were perfect.

The *Distinct Variety* class was very rich, and this also showed an improvement. Several breeds here brought in numbers that indicate a necessity, if they maintain their growing entries, of asking a class for themselves. The Black Hamburgs showed seven pens, Crève Cœurs five, Cuckoo Dorkings four. A class does not necessarily require three prizes, and we think next year Crève Cœurs might stand alone. If they maintain their ground in public estimation, they will give good entries in 1863. We think they might have two prizes, and the Black Hamburgs the same. Good Silkies were shown.

The next classes were for *Single Cocks*. Among Silver Greys Mr. Staller was first. Some exhibitors declare they cannot now understand what is a Silver Grey. Messrs. Staller and Cargey both know not only what they should be, but also how to select them. Next were thirty-five Grey Dorkings, nearly all perfect birds. Lady Holmesdale won first prize easily, spite of competition of no ordinary nature. Mrs. Arkwright and Mr. Garrard were deservedly rewarded with second and third. Nearly the whole of this class was sold. The Spanish cocks were better than their brethren in the classes, and the competition was very hard and close. Messrs. Rodbard and Lane deserved their honours, but it was not an easy victory. The names of those who won in the Cochín-China classes will be the guarantee for the excellence of the birds, and the nature of the contest. Mr. Teebay won with a beautiful Brahma Pootra cock, but the class was numerically weak. With the exception of the Golden-pencilled, Hamburgs brought few entries in these classes. The Polish were excellent, and Messrs. Adkins and Dixon showed birds of rare merit.

We must now retrace our steps to review the *Game* classes, which form an exhibition in themselves. If our readers will refer to the list of winners published last week, they will see the truth of our assertion. Eighty-eight pens were named in the awards. Among many new names, some of the old ones will be seen—Messrs. Archer, Fletcher, Swift, and others. The Brown-breasted Reds were the best of these classes. The White and Piles the weakest. The Duckwings were very good. The Blacks and Brassy-winged do not increase or improve. Among all the single cocks, Mr. Edward Archer stood as the owner of the best bird. We thought very highly of those belonging to Mr. Stubbs, Mr. Staller, and the Hon. W. W. Vernon.

All judges proclaimed it the best show of *Bantams* yet seen. The success of Mr. H. D. Bayly in these classes is no novelty, but it is an exploit to take nine prizes. Nothing can exceed the merit of the birds shown by this gentleman in Gold and Silver-laced, White and Game. Fifty-six pens of Bantams received especial notice at the Judges' hands. Messrs. Musgrove, Leno, and Rumsey struggled well, but were obliged to be content with second honours. In the class for Any other variety of Bantams, some Japanese oddities deserve especial mention. They are very singular and pleasing birds, having large combs, ample tails, and no visible legs.

The *Aylesbury Ducks* were very good, but they seem almost to have reached their maximum of weight. The first weighed 26½ lbs., second 25½ lbs., and third 24½ lbs. *Rouens* rise; first 21½ lbs., second 20½ lbs., and third 19½ lbs. One pen in this last class weighed 25½ lbs.; but, unfortunately, the only bad bill shown was in it, and disqualification was the consequence. The Black Ducks were very beautiful, and are fast losing the proportions that a mistake in breeding was giving them. They cannot be too small. Mandarin, Top-knotted, Wild, Muscovy, Brown and White Call, were perfectly represented in the Various class; as were Cape, Sebastopol, and Barnacle among the Geese.

This brings us to the most notorious and meritorious (rare conjunction), pen in the Show. Three *White Geese*, perfect in shape, colour, and condition, weighed 76½ lbs.: they belonged to Mrs. Seamons. Mr. Manfield's weighed 65 lbs., and Lord Kinnaid's 64 lbs. In the next class Mr. Manfield was first, 55½ lbs.; Lord Kinnaid second, 50½ lbs. It deserves especial notice that Geese should travel from Perth to such a competition as the present, and be successful in each class. Mr. Allen did the same in the next class. The *Grey Geese* weighed 72½ lbs., 67½ lbs., and 58 lbs. The young birds 61½ lbs., 57½ lbs., and 55 lbs.

We have seldom seen *Turkeys* better shown, and Scotch birds were second among the adults. The prize birds weighed 62½ lbs., 60½ lbs., and 51 lbs. Young ones 50½ lbs., 45½ lbs., and 45 lbs.

We shall have to do with some details next week; our remarks are so lengthy we must postpone them till that time.

One thing is, however, urgent. It is to tender our best thanks to Messrs. Luckcock, Shackel, Matthews, Wright, Adkins, Lowe, Mapplebeck, and many others for another successful and pleasant meeting. These gentlemen are indefatigable, and their continued success must be the reward of their long and unselfish services on behalf of their townsmen, and all interested in the pursuit.

JUDGES.—Rev. R. Pulleine, G. J. Andrews, Esq., Messrs. Bailly, Chaloner, and Fould.

We published the prize list last week, and we now add a list of the commendations.

DORKING (Silver Grey).—*Chickens*.—Highly Commended, Right Hon. Lady Bagot, Blithfield Hall, Rugeley; Right Hon. Lord Hill, Hawkstone, Shrewsbury; G. Cargey, Sandon Farm, Stone, Staffordshire. Commended, Right Hon. Lady Bagot; Mrs. Arkwright, Spendon House, Derby. *Hens*.—Highly Commended, G. Cargey. Commended, D. V. Allen, Inchmartine, Inchture, N.B. *Pullets*.—Highly Commended, Countess of Chesterfield, Brethly Hall, Burton-on-Trent; J. Robinson, Vale House, Garstang. Commended, Mrs. Seamons, Hartwell, Aylesbury.

DORKING (Coloured, except Silver Grey).—Highly Commended, T. W. Hill, Heywood, Manchester. Commended, Mrs. A. Guy, Eaton, Grantham; A. Potts, Hoole Hall, Chester; J. D. Hewson, M. D. Stafford; C. H. Wakefield, Malvern Wells. *Chickens*.—Highly Commended, Mrs. Arkwright, Derby; Right Hon. Viscountess Holmesdale, Linton Park, Staplehurst, Kent; A. Potts; Rev. J. F. Newton, Kirby-in-Cleveland, near Stokesley, Yorkshire; D. V. Allen; C. H. Wakefield. Commended, Rev. J. G. A. Baker, Biggleswade; Capt. W. Hornby, Knowsley Cottage, Prescot; A. Potts; J. Robinson; E. Garrard, Broadway, Worcestershire. *Hens*.—Highly Commended, Capt. W. Hornby; D. V. Allen; H. W. B. Berwick, Helmsley, York. *Pullets*.—Highly Commended, Right Hon. the Earl of Chesterfield, Brethly Hall, Burton-on-Trent; Miss L. D. C. Fenwick, Newton St. Loe, Somersetshire; J. Smith, Henley-in-Arden. Commended, E. Smith, Middleton, near Manchester.

DORKING (White).—Highly Commended, Mrs. Beardmore, Uplands, near Fareham, Hampshire. *Chickens*.—Highly Commended, Mrs. Beardmore. Commended, Mrs. Beardmore.

SPANISH.—*Chickens*.—Highly Commended, J. K. Fowler, Aylesbury; J. Smith, Hillingdon, Middlesex. *Hens*.—Commended, J. K. Fowler, Aylesbury. *Pullets*.—Highly Commended, J. K. Fowler. Commended, H. Yardley, Birmingham.

COCHIN-CHINA (Cinnamon and Buff).—Highly Commended, H. Bates, Edgbaston, Birmingham. Commended, E. Musgrove, Aughton, near Ormskirk; W. Cople, Eccleston, Prescot; S. Statham, Forest Row, Sussex. *Chickens*.—Highly Commended, J. G. Sugden, Kighley, Yorkshire; E. Musgrove; H. Bates. Commended, J. Heape, Ladypool Lane, Sparkbrook, Birmingham; T. Stretch, Ormskirk. *Hens*.—Highly Commended, T. Stretch. Commended, H. Bates. *Pullets*.—Highly Commended, Rev. G. Gilbert, Claxton, Norwich; S. Statham; H. Tomlinson, Balsall Heath Road, Birmingham. Commended, T. Stretch.

COCHIN-CHINA (Brown and Partridge-feathered).—*Chickens*.—Highly Commended, P. Cartwright, Oswestry. Commended, P. Cartwright; E. Tudman, Whitechurch, Shropshire. *Hens*.—Highly Commended, H. Chavasse, King's Heath, near Birmingham; T. Stretch, Ormskirk. Commended, Master R. W. Chase, Moseley Road, Birmingham.

COCHIN-CHINA (White).—Miss E. Biggar, Nethermilne, Moffat, Dumfriesshire; G. C. Whitwell, Kendal; R. Chase, Birmingham. Commended, C. Felton, Erdington, near Birmingham. *Chickens*.—Highly Commended, G. Lamb, Compton, near Wolverhampton. Commended, D. V. Allen, Inchmartine, Inchture, N.B.; C. Felton.

BRAHMA POOTRA.—*Chickens*.—Highly Commended, Mrs. Hargreaves, Reading; Mrs. Seamons, Hartwell, Aylesbury; D. V. Allen; T. W. Hill, Heywood near Manchester. Commended, C. Dain, Southampton.

MALAY.—Highly Commended, J. Rumsey, Shadwell, London. *Chickens*.—Highly Commended, J. Rumsey. Commended, Miss C. E. Ballance, Taunton.

**HAMBURGH** (Golden-pencilled).—*Chickens*.—Highly Commended, Rev. T. L. Fellows, Beighton Rectory, Acle, Norfolk; Messrs. Carter & Vallant, Poulton-le-Fyde; A. Wilkinson, Birmingham. Commended, Mrs. Wolfertan, Tanworth.

**HAMBURGH** (Silver-pencilled).—*Chickens*.—Highly Commended, E. Smith, Middleton, near Manchester. Commended, W. Mitchell, Keighly. *Pullets*.—Highly Commended, Messrs. Carter & Vallant.

**HAMBURGH** (Golden-spangled).—Highly Commended, S. H. Hyde, Taunton Hall, Ash-on-under-Lyne; I. Davies, Harborne, near Birmingham. Commended, W. R. Lane, Bristol Road, Birmingham. *Chickens*.—Highly Commended, J. Dixon, Bradford, York-shire; W. Kershaw, Heywood, Manchester. Commended, G. Lingard, jun., Birmingham; N. Marlow, Denton, near Manchester.

**HAMBURGH** (Silver-spangled).—Highly Commended, W. Cannan, Bradford, Yorkshire. *Chickens*.—Highly Commended, Mrs. Pettat, Asbe Rectory, Basingstoke; J. Fielding, New Church, near Manchester. Commended, Right Hon. Viscountess Holmesdale, Linton Park; S. Saaw, Stainland, Halifax. *Hens*.—Highly Commended, S. H. Hyde. *Pullets*.—Highly Commended, H. W. B. Berwick, Helmsley, York; Right Hon. Viscountess Holmesdale; S. Shaw.

**POLAND** (Black with White Crests).—Highly Commended, J. Dixon, Bradford. Commended, T. P. Edwards, Landhurst, Hamshire. *Chickens*.—Highly Commended, J. Ludlow, Solihull, near Birmingham; T. Battye, Holmbridge, near Huddersfield.

**POLISH** (Golden).—Highly Commended, Mrs. Pettat; H. Child, Sherborne Road, Birmingham.

**POLAND** (Silver).—Highly Commended, G. C. Adkins, the Lightwoods, near Birmingham. Commended, G. C. Adkins.

**ANY OTHER DISTINCT VARIETY**.—Highly Commended, Hon. E. N. Hill, Cronk Hill, Shrewsbury (Buff Polish—"Shamois leather"); W. Chamberlain, Desford (Sulphurs); S. Shaw (Black Hamburg); Miss Clifton, Whittington, Worcester (Negro, or Seinde); D. V. Allen (Crevo Cour and La Fêche); W. Marlow, jun., Dorchester (Rumples). Commended, Miss C. H. Ballance, Taunton (Chinese Silky); D. V. Allen (Houdans).

**GAME** (Black-breasted Reds).—Highly Commended, W. Boyes, Beverley, Yorkshire. Commended, E. Archer, Malvern. *Chickens*.—Highly Commended, G. Cargey, Staffordshire; E. Archer, Malvern. Commended, J. Firth, Halifax; J. Hay, Sudbury, Derby.

**GAME** (Brown and other Reds, except Black-breasted).—Highly Commended, J. H. Braikenridge, Chew Magna, Bristol; R. Swift, Southwell, Nottinghamshire; G. Cargey, Stone Staffordshire; W. Boyes, Beverley; E. Archer, Malvern. (An extraordinarily good class. Best class of Game in the Exhibition.) *Hens*.—Highly Commended, J. Wood, Wigan; T. Carless, Hovingham, near Nottingham. Commended, E. Aykroyd, Bradford, Yorkshire; E. Archer, Malvern. *Pullets*.—Highly Commended, J. Wood; Wigan; E. Archer, Malvern; G. Cargey, Staffordshire. Commended, W. R. Lane, Bristol Road, Birmingham; J. L. Lloyd, Soho, Birmingham.

**GAME** (Duckwings and other Greys and Blues).—Highly Commended, W. Kershaw, Heywood, near Manchester. *Chickens*.—Highly Commended, J. Stubbs, Stafford. Commended, J. Wood, Wigan.

**SINGLE COCKS.**

**DORKING** (Silver Grey).—Highly Commended, D. V. Allen, Inchmartine, Inchture, N.B.

**DORKING** (except Silver Grey).—Highly Commended, Mrs. Rothery, Haslemere, Liphook; J. D. Hewson, M.D., Stafford; Rev. J. G. A. Baker, Biggleswade; T. W. Hill, Woodlands, Heywood, near Manchester; J. Smith, Henley-in-Arden; W. Endall, Henley-in-Arden; T. W. Hill; J. Hill, Burton-on-Trent; Master E. A. Tudman, Whitechurch, Shropshire. Commended, Rev. E. Cadogan, Walton Parsonage, near Warwick; E. H. Garrard, Broadway, Worcestershire.

**SPANISH**.—Highly Commended, Miss E. de Conroy Drevar, Keso Hill, Black Rock, County Dublin; Miss E. Biggar, Dumfriesshire; R. Tebbay, Fulwood, near Preston; J. W. Smith, Oundle, Northamptonshire; T. P. Wood, jun., Cheshire; C. H. Wakefield, Malvern Wells; J. Choyce, Atherstone.

**COCHIN-CHINA** (Cinnamon and Buff).—Highly Commended, H. Tomlinson, Balsall Heath Road, Birmingham. Commended, Capt. Heaton, Lower Broughton, Manchester.

**COCHIN-CHINA** (except Cinnamon and Buff).—Highly Commended, P. Cartwright, Oswestry (Partridge).

**BRAMA POOTRA**.—Commended, C. Dain, Southampton; Messrs. Philpott & Weeks, Bromyard, near Worcester.

**HAMBURGH** (Golden-pencilled).—Highly Commended, J. Munn, Shawclough, Newchurch, near Manchester; Mrs. W. Kershaw, Heywood, near Manchester. Commended, Mrs. W. C. Worrall, Knotty Ash, near Liverpool; C. H. Wakefield, Malvern Wells; J. Choyce, Atherstone.

**HAMBURGH** (Silver-pencilled).—Highly Commended, Messrs. Burch and Boulter, Sheffield.

**POLAND**.—Highly Commended, G. C. Adkins, Birmingham.

**GAME** (White and Piles, Duckwings, and other Varieties, except Reds).—Highly Commended, G. Hellowell, Walkley, near Sheffield; H. Worrall, West Derby, Liverpool.

**GAME** (Black-breasted Reds).—Highly Commended, H. Shield, Northampton; R. Swift, Southwell, Nottinghamshire; J. Keable, Thatcham, Newbury, Berkshire.

**GAME** (Brown and other Reds, except Black-breasted).—Highly Commended, J. Fletcher, Stoneclough, near Manchester; W. Dawson, Selly Oak, Birmingham. Commended, T. Robinson, Ulverstone; G. E. Meredith.

**BANTAMS** (Gold-laced).—Highly Commended, R. M. Stark, Hull; M. Leno, jun., Dunstable.

**BANTAMS** (Silver-laced).—Highly Commended, R. Swift, Southwell, Nottinghamshire; Mrs. Pettat, Basingstoke; M. Leno, jun., Dunstable.

**BANTAMS** (White, Clean-legged).—Commended, N. Sykes, Glohe Road, Mile End, London.

**BANTAMS** (Any other variety).—Highly Commended, F. Musten, Marshal's Wick, St. Alban's (Japanese Ruffles and Cream).

**GAME BANTAMS** (Black-breasted and other Reds).—Very Highly Commended, W. Wood, Walkley, Highly Commended, W. R. Lane, Birmingham; T. Burgess, Burfleydam, Whitechurch, Shropshire; W. Newsome, Bingley, Leeds; J. Grocott, Cheshire. Commended, C. W. Brierley, Rochdale; H. Bates, Edzbaston, Birmingham; J. W. Kelloway, Merston, Isle of Wight; J. Camm, Farnfield, Southwell, Nottinghamshire.

**GAME BANTAMS** (Any other variety).—Highly Commended, Mrs. Sheild, Northampton (Duckwing); Messrs. Parkinson & Lawrenson, Preston

(Duckwing); R. Hawksley, jun., Southwell, Nottinghamshire. Commended, R. Moon, jun., Wavertree, Liverpool (Duckwing); J. Munn, Newchurch, near Manchester (Duckwing); C. Brierley.

**GAME BANTAM COCKS**.—Highly Commended, W. Pares, Ocbrook, Derby; R. Hawksley, jun., Southwell, Nottinghamshire; J. Camm, Southwell, Nottinghamshire; W. T. Everard; A. H. D. Bayly, Biggleswade. Commended, W. C. Worrall, Knotty Ash, Liverpool; J. W. Haslam, Shropshire, (Black-breasted).

**DUCKS** (White Aylesbury).—Highly Commended, Rt. Hon. Lord Kinnaird, Rosie Priory, Inchture, N.B.; J. K. Fowler, Aylesbury.

**DUCKS** (Rouen).—Highly Commended, Rev. H. G. Bally, Wiltshire; D. V. Allen; W. H. Deason, Woburn Sands, Bedfordshire; W. Mitchell, Keighly; J. Holme, Knowsley, Prescott; T. Hollis.

**DUCKS** (Black East Indian).—Highly Commended, R. M. Stark, Hull; F. W. Earle, Jessop, Lancashire. Commended, Miss C. H. Ballance, Taunton; J. R. Prescott, Hull; J. Martin, Chaires, Worcester; A. Smith, Atherstone.

**DUCKS** (Any other variety).—Commended, Mrs. Whitehead, Kingsland Road, London, N.E. (Grey Call); J. Dixon, Bradford, Yorkshire, (Grey Call); T. W. Hill, Heywood, near Manchester. Commended, Hon. Mrs. Colville, Lullington Top-knotted Aylesbury.

**GREYS** (Grey and Mottled).—Highly Commended, Hon. Mrs. Colville, Lullington, Burton-on-Trent (Tonlouse).

**TURKEYS**.—Highly Commended, Right Hon. Lord Hill, Hawkstone, near Shrewsbury (Black American).—*Poultis*.—Highly Commended, D. V. Allen; S. H. Truelove, Hoppesford, Coventry (Black); J. F. Tempest, Wootton Hall, Henley-in-Arden (White). Commended, J. F. Tempest.

**PIGEONS.**

**CARRIERS** (Black Cock).—Highly Commended, P. Eden, Salford, Manchester. Commended, E. L. Corke, Croydon. *Hens*.—Highly Commended, P. Eden; Messrs. W. Siddons & Sons, Birmingham.

**ALMOND TUMBLERS**.—Highly Commended, G. C. Adkins, Birmingham.

**JACOBS**.—Highly Commended, J. T. Lawrence, Liverpool. Commended, J. Baily, jun., Mount Street, London, W.

**PASTALS**.—Highly Commended, D. Thwaites, Cheshire. Commended, F. Else, Bayswater, London; J. W. Edge, Aston New Town, Birmingham; G. C. Adkins, Birmingham.

**TUMBLERS**.—Highly Commended, F. Key, Beverley. Commended, C. Felton, Erdington, near Birmingham; W. H. C. Oates, Besthorpe, Newark, Nottinghamshire.

**OWLS**.—Commended, H. Morris, Forest Hill, Kent; F. Else, Bayswater, London.

**NUSS**.—Highly Commended, S. Shaw, Stainland, Halifax.

**TURBITS**.—Highly Commended, G. F. Nicholls, Cheltenham. Commended, Miss L. C. D. Fenwick, Newton St. Lo, Somersetshire; S. Shaw, Stainland, Halifax; F. Else, Bayswater, London.

**NUSS**.—Highly Commended, G. C. Adkins, Birmingham. Commended, C. Baker, King's Road, Chelsea, London.

**DRAGONS**.—Highly Commended, F. Else, Bayswater, London. Commended, J. Lowe, Birmingham (White); H. Yardley, Birmingham.

**ANY OTHER NEW OR DISTINCT VARIETY**.—Highly Commended, Her Grace the Duchess of Sutherland, Trentham Hall, Staffordshire (Spots); H. Yardley, Birmingham. Commended, G. F. Nicholls, Cheltenham.

**THE DORKINGS AT THE BIRMINGHAM SHOW.**

The Birmingham Poultry Show is very justly considered the first in the kingdom, and the description of bird which there obtains prizes or commendations in the respective classes may be fairly looked upon as the standard of perfection. The colour, shape, size, and characteristics of such birds may be considered as establishing and fixing the rules which should guide poultry-fanciers in the breeding and choice of their exhibition specimens.

Now, I have just returned from Bingley Hall, where I went, according to my wont, as a devoted Dorking-fancier, as well to improve my judgment by the sight of the perfect specimens of that class of birds there exhibited, as to buy stock for next season's breeding. I have returned perfectly bewildered! and I hasten to impart the causes of my astonishment to you, in order to draw the attention of your Dorking-fancying readers to what has puzzled me, and to seek for some explanation, if any is possible, of the strange things I saw.

I am only going to speak of the Dorking class. I do not understand other birds; but Dorkings I have bred successfully for some years, and with their points I am pretty well acquainted.

From the results of all former Shows the following rules have become established:—

- 1st. That a Dorking, whether cock or hen, must have five toes distinct, fully developed, and healthy.
- 2ndly. That excellence of condition and of colour, and of general symmetry should be preferred to mere size. (There is a special notice to this effect in the schedule of the Birmingham Show.)
- 3rdly. That the colour for a Dorking cock should be on breast and tail as nearly black as possible; saddle and hackle should be either white or straw colour, with certain well-defined markings on the wings.
- 4thly. That the hens exhibited in one pen should be uniform in colour, marking, and size.

Such I believe to be the general rules which Birmingham Judges have up to the present time impressed upon Dorking-breeders the necessity of adhering to.

Either the Judges have most erroneously given their judgments at the present Show, or else they intend us for the future to be guided by new rules, or, more probably, by no rules at all. As soon as I entered the Hall I hurried to see the first-prize birds in Class 5, old birds. To my astonishment, in the pen distinguished as the best pen of Dorkings in the Show (pen 81), I saw a cock, certainly of great size, but with quite as much white on his breast as black, and with as many white feathers, if not more, in his tail, as black ones. His fifth toe far from well put on, and like that of each of his two hens, sadly disfigured and swollen.

I next turned to the second-prize pen in the same class. Here I found a hen positively with nothing more than the merest apology for the fourth or lower toe! On one foot she had but a small, dependent nail to represent the lower toe, and on the other foot a tiny stump or excrescence, without a nail on it, to represent the corresponding toe.

Are five toes necessary in a first-class Dorking hen? Is any mere undeveloped or malformed toe to be accepted for the future instead of the "well-developed and distinct" formation?

I passed on to Class 6, young birds. Here I came to a highly commended pen (128), in which one pullet had a pale white-crowned breast, and the other had a full-coloured salmon breast. The general colour of the two birds was also quite distinct, the one with the light breast being altogether of a lighter colour. In addition to this difference in their colour, which, according to all rule and precedent, should be fatal to the pen, the pullet with the light breast had not got five distinct toes. The hind toes had grown together, forming one thick toe, which had a short slit in it at the end, and two nails!

Is one pretty long toe with a short slit in it, about one-fourth the length of the whole toe, to be considered a sufficient representative of the characteristic of the first-class Dorking?

Amongst the single cocks, again, I saw one cockerel highly commended (pen 934), which had the fourth toe represented by a mere diminutive excrescence, as in the case of the hen in the second-prize pen of old birds. The toe had either never assumed a defined form, or else it had been partially removed; in other respects the bird was a good one.

Another bird, also highly commended, was in such wretched condition that, even at the early hour at which I saw him—viz., 10.15 A.M. on Monday, he looked dreadfully ill. His comb, face, and wattles were pale and flaccid, and he had evidently scarcely done moulting, as his tail-feathers were few, and he was otherwise ragged. Is "condition" represented by a bird in such a state? There was another bird commended, whose most remarkable feature was a general bottle green hue toned down with soot. I saw another bird of this curious colour in Class 6. Is a white or golden saddle, with clean, well-marked hackle, necessary to a good Dorking cock or not?

I repeat that what I saw, and what I have described, puzzled me very much. Nor was I alone in my astonishment, for several gentlemen, who were at the same time eagerly examining the pens, expressed much the same feeling. I do not presume to say that this or that pen should have prize or commendation in preference to others; I only pretend to assert that certain broad, well-established, generally-accepted rules and principles in the characteristics of good Dorkings have been broken and disregarded; and if they are to be so broken, disregarded, or even relaxed, I think it should be well understood that such is, for the future, to be the case.

For my part, I shall be very sorry if more latitude is given in the choice of a first-rate bird. If delicacy and purity of colour—if well-formed, distinct, and healthy toes—if the brilliancy of plumage—if "good condition" are no longer to carry the day against mere size and weight, we shall soon have a coarse, ugly, and ungainly brute in the place of our present noble-looking and high-bred favourite. Huge size, if colour and "breeding" are no object, can easily be obtained by a dash of the Partridge Cochins or Brahma Pootra; and I shall be quite surprised if the decisions of our Judges at this Show do not tend greatly to deteriorate the quality of the birds at the next.—E. C.

CRYSTAL PALACE POULTRY SHOW.—This Show commences on Tuesday the 9th instant, and continues the three following days. We are pleased to hear that the entries are most

satisfactory. The number of pens of poultry are in excess of last year. The Pigeons show a slight decrease; but the Rabbits will be in greater number than upon any former occasion. The following are the number of pens:—Cochin-China, 83; Brahma Pootra, 19; Dorking, 178; Spanish, 79; Game, 184; Hamburg, 95; Polish, 31; Malay, 11; other distinct breeds, 26; Bantams, 92; Geese 13; Ducks, 69; Ornamental Water Fowl, 6; Turkeys, 10; Gold, Silver, and other Pheasants, 19; Pigeons, 277; Rabbits, 118. Total, 1310.

### CHIPPENHAM POULTRY SHOW.

The Chippenham is one of those few Agricultural Societies which consider poultry to be worthy of their notice. They, therefore, offer a sufficient amount in prizes to produce a very spirited, though principally local competition, which would, doubtless, be less local if the Show was more generally advertised, and in papers more likely to fall into the hands of distant exhibitors. That poultry adds materially to the attractions of an agricultural show admits of but little doubt; and that it is not, as some imagine, a clog round the neck of the Society to which it is attached, the Chippenham Society does, we think, most definitely prove, as few local societies stand better in point of funds than this; and we cannot help regretting, when we see agricultural societies so blind to their own interests as to exclude poultry from their list altogether, the result of which is they lose support they would otherwise obtain, both as regards exhibitors, visitors, and subscribers. The exhibitors of poultry are much more numerous than of stock, the crowds round the poultry pens at the shows plainly showing where the great point of attraction lies, especially amongst the fairer sex, and there are many who would subscribe to a poultry show, who would not care to do so to a society rigidly excluding their favourites.

*Dorkings* headed the prize list, though if we except the prize pens, we can scarcely say they were worthy of that honourable position, as they were neither numerous nor particularly good. Messrs. Blinkworth and Heath were the successful exhibitors of *Spanish*, the cock bird in Mr. Blinkworth's pen being very good; but we fancied his comb a little inclined to droop behind. The Black-breasted Red Game formed the class of the Show, producing a most spirited competition; Mr. Waller eventually carrying off the first prize with a very beautiful pen of chickens, and we think the cock bird only required a little care and attention to make a first-rater. Many other pens in this class might also be well spoken of, especially Messrs. Hanks' and Bridges'. Mr. Elling showed two good Brown Red hens with a very coarse cock. In the other varieties of Game there was nothing of note. The Golden-pencilled *Hamburgs* mustered well, though curious to say, there was not a single pen either of Silver-pencilled or Spangled, though there were special classes for them. *Cochins* were represented by two pens only, and those were inferior. In *Polands*, Silvers alone entered an appearance. The first prize for Game *Bantams* was withheld, there being one pen only of inferior Brown Reds. Black and White Bantams were well represented, but no Sebrights were entered. In the class for breeds not mentioned in the prize list, Mr. Fox stood A1, with a beautiful pen of Malays, there being also some good Brahmas and Silkies.

Miss Milward, as usual, headed the list for *Turkeys*, with a remarkably fine pen. *Geese* were not particularly good. We have seen much better *Aylesbury Ducks*, but Rouens made amends, mustering ten pens, with scarcely an inferior one amongst them. Messrs. Hanks' and Fry's pens being particularly good. Mr. Phillips' East Indians in the "variety" class, well deserved the position they held. They were, however, hard-pressed by Miss Milward's and Mr. Fox's pens.

In the sweepstakes for *Game Cocks* two very inferior Black Reds only appeared.

The Judge was Mr. Geo. Saunders Sainsbury, Devizes.

### THE YORK POULTRY SHOW.

The sixth annual Exhibition of the Yorkshire Society for Fat Stock, Poultry, and Roots, was held in the new buildings at the Cattle Market, York, on Wednesday, Thursday, and Friday last. Much more space was allotted than in previous years for the accommodation of both the animals and visitors; indeed, it is said the Society's showyard is now one of the most perfect in

England; and, whether with regard to the arrangements, or the number and superior quality of the animals, this is, undoubtedly, the best Show of fat stock that has ever been seen in York.

We subjoin a list of the awards in the Poultry classes.

**DUNKINS** (Any colour).—First, J. White Warblay. Second, Rev. G. Holdsworth, Aldborough. Third, H. W. B. Berwick, Helmsley.

**SPANISH**.—First, J. Shorthose, Newcastle-on-Tyne. Second, E. Brown, Sheffield. Third, H. A. Hudson, Ousecliffe.

**COCHIN-CHINA** (Cinnamon or Buff).—First, H. W. B. Berwick. Second, Rev. G. Gilbert, Norwich. Third, R. D. Ewes, Knareborough. (Any other Variety).—First, J. Shorthose. Second, G. Hatchinson, York. Third, J. Bell, Thirsk.

**GAME** (Black-breasted and other Reds).—First, H. Adams, Beverley. Second, F. H. Dodds, Ovendon, Halifax. Third, A. D. Sunderland, Oakworth. (Any other Variety).—First, H. Adams. Second, A. Cattley, York. Third, J. Firth, Halifax.

**HAMBOURH** (Golden-pencilled).—First, S. Smith, Northorham. Second, J. Sunderland, jun., Hipperholme, Halifax. (Silver-pencilled).—First, J. Sunderland, jun. Second, J. Firth. (Golden-spangled).—First, G. D. Mann, Hemstet. Second, H. W. B. Berwick. (Silver-spangled).—First, J. Mitchell, Hipperholme, Halifax. Second, W. B. Richard-son, York.

**ANY FARMYARD CROSS OR OTHER VARIETY NOT PREVIOUSLY CLASSED**.—First, Lady Hawke, Pontefract (Brahmas). Second, R. M. Stark, Hall (Polish). Third, T. Jolly, Warblay.

**GUINEA FOWL**.—First, J. R. Jessop, Hall. Second, G. Trotter, Poppleton.

**BANTAMS** (Game).—First, R. M. Stark. Second, E. Brown. (Black or White).—First, A. Cattley. Second, R. M. Stark. (Any other Variety).—First, R. M. Stark. Second, A. Cattley.

**TURKEYS**.—First, Lady Hawke. Second, J. S. Tenge, York. Third, R. M. Stark.

**GESE**.—First, H. Ambler, Halifax. Second, J. R. Jessop. Third, T. Dickson, York.

**DUCKS** (Aylesbury).—First, T. E. Thell, Wetherby. Second, B. Storey. Third, R. M. Stark. (Rouen, or any other variety).—First, W. Cannon, Bradford. Second, J. R. Jessop (East Indian). Third, B. Chadwick, Manston, Leeds.

The Judges of Poultry were J. F. Smith, Esq., Skelton Grange; and Mr. Charlton, of Bradford.

## THE PIGEON SOCIETIES OF LONDON.

### II.—THE NATIONAL COLUMBARIAN CLUB.

THIS Society, which was established in 1857, meets at Anderson's Hotel, Fleet Street, on the evenings of the fourth Tuesdays of the months of October, November, December, January, and February, the annual Show being held on the ordinary day of meeting in February.

The National Columbarian Club was started by some young but enthusiastic fanciers, and was originally formed by several members of the older Philopeteron Society. At the present time the officers of the Society are—President, Mr. Fry, of Brighton; Vice-Presidents, Messrs. Jones and Freeman; and Secretary, Mr. Betty. The annual subscription and entrance fee are 10s. 6d. each.

Although so recently founded, this Club must be considered as firmly established—a fact which is, in great part, owing to the active and zealous exertions of Mr. Betty, the Hon. Sec. The number of its members is increasing, and the quality of the birds shown at its monthly meetings is very good.

Most classes of birds find supporters amongst the members: thus the Secretary is distinguished for his very valuable stud of Carriers. Mr. Jones is notorious for his Barb. The Short-faced fanciers are well represented by Messrs. Percivall, Jeans, Smith, and Freeman. Mr. Baechus is very strong in Powders. In Toys, Mr. Morris is a host in himself. Amongst the members is included Mr. Potter, one of the breeders to whom the Carrier-fanciers of the present day are deeply indebted for short birds of very superior quality. We regret to record the fact that a large number of Mr. Potter's birds were stolen during the last season, and no trace of them has ever been discovered. The members of this Society are diligent in their attendance, and there is usually a very good show of choice specimens on every meeting night. At our last visit to this agreeable *réunion* of fanciers, we saw several new pattern show-pens well adapted to display large birds—such as Carriers in pairs. These pens were cylindrical in shape, being about the size of one of the sale-baskets used at Stevens' auctions. The wires forming the sides were perpendicular, and inserted into a mahogany ring or moulding at the top. As show-pens for pairs of birds they were the most effective we have seen.

## “UPWARDS AND ONWARDS” DEFENDS HIS APIARY.

I NEVER intended to claim priority of invention of the narrowed drone-refusing passages from a hive into a super. I

merely adopted the peculiar entrance *apropos* to my hives having central holes in their tops. I was led to do so to redeem their character from that severe condemnatory castigation which “A RENFREWSHIRE BEE-KEEPER” administered, who erst explained his plan in preference, and which, if I remember rightly, read much the same as that now propounded by Mr. Fox. Both the “RENFREWSHIRE BEE-KEEPER” and Mr. Fox, for their respective counties and practices, are right in what they say, but very large supers will not do here. I tried them for years and could seldom get them completed. Furthermore, for the million, the three side entrances would, I think, complicate a hive too much. Mrs. Barratt would be sure to cast over it her wet blanket, and say, “Your gentleman's bee-keeping won't do for poor people.” If I lived in Mr. Fox's beautiful county of Devon, trust me but I should have adopted the plan when first broached by “A. R. B. K.” long ago. I know his prolific honey neighbourhood, and I made more friends down there in one week than I have been able to make here during a residence of sixteen years.

My large hives are equal to the propulsion of any amount of cold-shoulder-extraneous coverings, and in summer they become shaded by the trees by twelve o'clock, so when supering I never find any difficulty; and if I did, I would cause larger, thin, topless hives to be made to slip over the stock-hive, in preference to the “oilcloth.”

I beg to assure Mr. Fox that my bee-boards would bear 1 cwt., at least, without bending. The bees certainly did work their combs down to the board, and that at once, and they would do so again if I dispensed with the crossed sticks. I do not lay any very great stress about central holes incommoding the breeders in these large hives through press of workers. The honey-gatherers, agreeably to my observations, instinctively take their ways outside, and along the top, and not through the central brood-combs; and as far as the means of communication is concerned, I have allowed for measurement more than half the main entrance to the hive, which is quite proportionate enough for the up-honey-gatherers—say one hundred each minute. Much more room could be given by skeletonising the flaps with a few more slits, though upon repeated examinations and watchings I feel convinced the space I have given would do for almost any super.

I wonder if Mr. Fox ever tried my bee-feeder? It answers with me very well. In fact, I have the very original which I exhibited along with its quarter-of-a-peck-measure substitute, doing duty this very moment. I deferred feeding two of my hives till I had my second-best honey from the Exhibition, to make it into artificial food. I administered the feeders yesterday evening, the 1st inst., containing 7 lbs. of food each; and this afternoon, the 2nd, there is scarcely an ounce of food left in both. Could bottles beat this? Pray let it be understood, that I say nothing against bottle-feeders, never having tried them; but as Mr. Fox openly pits them, and every other feeder, against mine, I will merely observe, that it strikes me in the application of the bottle, the bees must take the contents whether they feel inclined to do so or no, or become saturated with it.

I am sorry that I have offended so much against Mr. Fox's good taste. Amongst visitors here, I have not met with a single instance of disapprobation, but considerable hilarity has been displayed at the caricatured conceptions. Again, at the Exhibition, I was told by a regular attendant upon an adjacent machine, that “almost every one who visited your case was very much amused with your head.” Now, is not that something to congratulate oneself upon in this serious workaday world? For the sake of these good-humoured people I hope Mr. Fox will reconsider his verdict. I fancy they form a preferable finish to the flat bottom of the pan being bound. I have tried cord in lieu of “copper wire,” after that fashion, which, with the fragmentary bricks and rough stones, I must beg to be allowed to object to. I am now having some stone protectors against all comers sculptured, one in the shape of a lion couchant, and the other, old England's device—the rose, the shamrock, and the thistle.—UPWARDS AND ONWARDS.

## DZIERZON ON PARTHENOGENESIS IN THE HONEY BEE.

No one can fail to recognise in the articles from the pen of Mr. J. Lowe, which have recently graced the pages of THE JOURNAL OF HORTICULTURE, the same qualities which he ascribes

to the writings of his distinguished contemporary Dzierzon—viz., that they enunciate the opinions of a man who is well acquainted with apiarian science. He has, however, made so great a mistake in his last communication, with regard to the estimation in which Dzierzon now holds his well-tryed and firmly-established doctrine of parthenogenesis in the honey bee, that I deem it important to lose no time in correcting it.

I speak advisedly in saying the estimation in which Dzierzon now holds his doctrine of parthenogenesis, since it is by no means one of the least singular of the circumstances which attended the promulgation of this remarkable discovery, that the original promulgator of what was then merely a colourable hypothesis, based on his own unassisted observations and experiments, should, at one time, appear to have succumbed to what Mr. Lowe terms the antiquated notions and confirmed prejudices of bee-keepers, so far as to doubt the perfect tenability of his own theory. This curious instance of a great originator of a new idea faltering in the advocacy of his own discovery, until it was raised by the investigations of others to the rank of an established scientific fact, seems to have occurred about eight or nine years ago, and this it is which has probably caused Mr. Lowe to entertain the mistaken notion which pervades the first part of his last article.

Von Siebold, writing in 1854, says:—"I must not omit to mention that Dzierzon himself, after calling a number of opponents into the field by the promulgation of his new theory, and after all possible imaginable objections had been raised from the most various sides against its correctness, began to doubt the perfect tenability of his theory. Notwithstanding that very recently Dzierzon expresses himself with peculiar reserve and caution upon certain points of his theory, other experienced apiarians still held firmly to it, as, after it had once become perfectly familiar to them, by its assistance every occurrence in a bee-hive, however unexpected or apparently strange, was instantly understood by them. Above all, we must mention Herr von Berlepsch, who has set himself the task of testing Dzierzon's theory in every direction, with his abundance of beehives." Here follows an account of several interesting experiments made by Berlepsch, which Siebold considers "must again convert Dzierzon himself, since he appears to have become a doubter of his own theory."

Whether the experiments of Von Berlepsch were attended by the anticipated result, or whether, as appears most probable, it was due to the conclusive investigation of Von Siebold himself, I am unable to state. All that is certain is, that Dzierzon was reconverted to a belief in his own discovery, which he, in common with all his apiarian contemporaries in Germany, now holds to be perfectly indisputable, as will be perceived by the following extracts from the last edition of his work, entitled "Rational Bee-keeping," and written no longer ago than 1861:—

"We find queens in many stocks, young as well as old weak ones, which are only able to lay drone eggs. Under certain circumstances workers also lay eggs, from which, however, only drones arise. With a truly impregnated queen, however, we find the wonderful power of adapting to the cells the eggs which she lays in them—of laying female eggs in the small workers' and male eggs in the large drone-cells—thus fixing arbitrarily the gender of the egg. To solve this riddle recourse was had to the most diverse hypotheses, whereby, however, the matter only became more complicated. Why male and female eggs were laid according to the cells some tried to explain by supposing drones to be the offspring of certain workers, whilst the queen was supposed, in contradiction to all experience, to lay only worker eggs. Every attentive observer may, however, often see the queen lay eggs in drone-cells. The long and acrimonious dispute, which, notwithstanding this was carried on with regard to this point, was brought by the Italian bees to a sudden end; for when an Italian queen was introduced into a common stock, not only Italian workers but Italian drones appeared also, proving incontestably that they owed their existence to the queen. The appearance of mothers (whether queens or workers) laying only drone eggs was attempted to be explained by the hypothesis of an imperfect impregnation, owing (according to Busch) to its having taken place within the hive, or (according to Huber) to its having been retarded. These hypotheses are, however, perfectly incapable of proof, and are found on closer examination to be altogether untenable. Impregnation never takes place within the hive. Although a multitude of drones may exist, a young queen will not be fertilised if the weather or

the season does not admit of her flight. Both parties are indisposed to copulate within the hive. If, also, the sexual ardour of drones could be excited in-doors, the queens would have no rest whatever during their existence. So long, however, as a young queen flies out for copulation, which certainly in the warm summer will, at the most, last four weeks, but which in the cool spring or autumn, when life and development in the stock is more at rest, will take place after five or even six weeks, she is able to become perfectly fertile. No reason can be assigned why a retarded impregnation should be less perfect, or why it should only enable the queen to propagate the male gender. The truth is this, that with queens which only produce drones no impregnation has taken place, or it has remained without effect, or has become inoperative, since fertilisation is unnecessary for drone eggs, as they bring the germ of life from the mother's ovary, and become drone eggs from this circumstance—that they are laid unfertilised; but if the egg be fertilised, if from the spermatheca of an impregnated queen, filled with semen, a spermatozoon is slipped into the passing egg, by this the germ of life for a different bee-individual, a worker or queen, is awakened. In this proposition lies the key for solving all questions which have hitherto seemed inexplicable. This proposition forced itself upon the Silesian Bee-friend\* when he had an opportunity of observing several young queens, which, from either having defective wings, or being hatched in the cold season, had evidently been unable to undertake the wedding-flight, and which afterwards were proved by dissection to have remained unimpregnated, but were yet laying eggs, from which proceeded drones only. Now, as these eggs, germinating first in the ovary, would most certainly have become worker eggs if impregnation had taken place, no other conclusion could be arrived at than that all eggs are originally equal or generically indifferent, and that they become male or female eggs according as they are laid unfecundated or fecundated. By this is easily explained why unimpregnated queens or workers, which are incapable of impregnation, can lay only drone eggs, whilst impregnated queens lay both worker and drone eggs, and this at will, since it is easy for the queen to prevent fecundation, or permit it to take place by the motion of a muscle.

"This proposition, which the author ventured only to submit as a hypothesis in the first volumes of the 'Bee Journal,' and which in his earlier writings he more fully explained and proved, met with the most violent contradiction because it was opposed to a law hitherto universally considered valid—that no life is possible without fecundation. As, however, this theory explains the phenomena of the bee-hive as perfectly as the Copernican hypothesis the phenomena of the heavens, it found more and more adherents; even physiologists began to take an interest in it, and now it is received as a doctrine, after having passed the fiery ordeal of science under the microscope and dissecting-needle of the great physiologist, Professor Theodor Von Siebold, formerly of Breslau, now of Munich.† At this time there is no longer any dispute as to the correctness of his theory."

These, then, were the opinions expressed by Dzierzon on this subject so recently as 1861. Having myself been a constant reader of all articles from his pen which have appeared in the German "Bee Journal" during the present year 1862, I can vouch for the fact that since that time he has never in any one instance swerved from his faith in the truth of the doctrine of parthenogenesis in the honey bee, or even once referred to what Mr. Lowe so justly designates "the antiquated and untenable theory of a bygone age."—A DEVONSHIRE BEE-KEEPER.

\* Dzierzon speaks of himself under the above name.—A DEVONSHIRE BEE-KEEPER.

† *Vide* "A True Parthenogenesis in Moths and Bees." By Carl Theodor Ernst von Siebold. London: Van Voorst.

## OUR LETTER BOX.

**Cows (Inquirer).—**There is no difference between the breeds of Alderney and Guernsey if pure. Of Devons, the usual colour of the best is entire red; but there are many brown, chestnut, and even yellowish. The last are said to be particularly liable to diarrhoea.

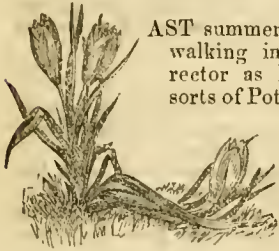
**MILK-BOWLS (A. B.).—**We are of opinion that bowls or pans of glass are in every respect to be preferred. Made of green glass one-eighth of an inch thick, they are very strong, are most easily kept clean, are neat in appearance, and yield as much, if not more cream, as vessels made of any other material. Sixteen inches wide at the top, with a thickened edge; 12 inches wide at the bottom, and 6 inches deep, is a good size, holding about eight quarts, but not more than six quarts should be put in. They only require to be rinsed with lukewarm water, and then with cold water. Scalding or boiling water is totally unnecessary.

WEEKLY CALENDAR.

Day of M'nth	Day of Week.	DECEMBER 16—22, 1862.	WEATHER NEAR LONDON IN 1861.					Sun		Moon		Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.	Rises.	Sets.	Rises and Sets	Age.			
16	Tu	Heliotropes.	30.190—30.124	51—40	N.W.	—	m. h.	m. h.	m. h.		m. a.	350	
17	W	EMBER WEEK.	30.167—30.012	49—35	N.W.	—	3 af 8	49 af 3	59 1	25	4 9	351	
18	Th	Leschenanlia formosa.	29.944—29.809	46—36	N.W.	—	4 8	49 3	19 3	26	3 39	352	
19	F	Cypripediums.	30.222—30.177	45—30	N.W.	—	5 8	49 3	39 4	27	3 10	353	
20	S	Sun's declin. 23° 27' S.	30.376—30.303	42—35	N.E.	—	6 8	50 3	0 6	28	2 40	354	
21	SUN	4 SUN. IN ADVENT. ST. THOMAS.	30.380—30.233	41—37	N.E.	—	6 8	50 3	12 7	29	2 10	355	
22	M	Ceanothus azureus.	30.206—30.194	45—36	N.E.	—	7 8	51 3	49 a 5	1	1 16	356	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 44.7° and 33.5° respectively. The greatest heat, 58°, occurred on the 16th, in 1849; and the lowest cold, 7° on the 16th, in 1855, and 19th, in 1859. During the period 133 days were fine, and on 112 rain fell.

COMPARATIVE MERITS OF POTATOES.



LAST summer twelvemonths, as we were walking in the garden, I said to the rector as I cast my eyes over many sorts of Potatoes—a motley group which were growing there, “I really think I shall give up scouring the country, and confine myself to Mitchell's Early Albion Kidney, Early Shutford Seedling, the Lapstone Kidney and the Fortyfolds—those

four sorts that suit us so well. It costs a good round sum one time with another for the sake of introducing and proving for the people here the best kinds which are likely to suit them; and after all they do not care one farthing about the giver.” “Well,” the rector said, “you will do it.”

On the following autumn I paid a visit to Suffolk, to the old folks at home, and of course the ruling passion soon led me in search of Potatoes of the best local sorts; and fourteen varieties were carefully packed in a hamper, soon to find their way to Woodstock, to be spread out in trays (see No. 48, page 436), and looked fondly upon as coming from the old home, and in consideration of the trouble that the dear friends and villagers had taken to procure them for me.

On passing through London I happened to go to a coffee-room, and the subject of Potatoes was on the tapis. Some tubers from Lambton Castle were being handed about and extolled as an excellent sort. Of course I turned beggar at once and got a share. Though their name was forgotten I hope, if Mr. Stevenson should cast his eye over this, he will kindly let us know their name, if he recognise the sort from my description. Well, not many weeks after my return a letter arrived to me from Mr. Daintree, of Fen Drayton, to say that he had forwarded me a peck of his Earliest Seedlings, requesting me to try them against any approved sort which I might have, and in due time to oblige him with the result. Now here was I, after having half vowed to restrict myself to four sorts, booked to a certainty for twenty during the following summer, which “is a thing,” as Lord Dundreary would put it, “that no fellow can understand.” I did not get that peck of Potatoes which Mr. Daintree was to have sent, so after an unreasonable time I wrote to him to say so; and he replied that the Potatoes had been to Woodstock, but were returned to him with a superscription written on the label that no such person was known here. Now that was a thing I at once understood. So, having shortly to go to London, I sent Mr. Daintree my direction there, where he sent me another peck of Potatoes, and they arrived there where I was known almost to the hour when I expected them. I had yet another peck sent to try with some late sorts at a late planting, and the results were as follows:—

COMPETITION 1.

March 14.—Planted Mitchell's Early Albion Kidney, Walnut-leaved Kidney, Shutford Seedling, Early Prolific, Early Shaw, and Daintree's Earliest Seedling Potatoes.

June 9th.—Examined a root of each sort, and singled out the largest tuber, which weighed respectively—Mitchell's Albion, 2½ ozs.; Walnut-leaved Kidney, 2 ozs.; Shutford ¾ oz.; Early Prolific, 1½ oz.; Early Shaw, ½ oz.; Daintree's Seedling, 1 oz. Mitchell's ate the firmest, and was sufficiently forward for use; and the Shutford came palatably next. I wish it to be observed that I received the Daintree's only a few days previous to planting them, and they were a fortnight later in making their appearance aboveground than the rest, in consequence of the others having undergone my usual winter preparation, and were endowed with strong green shoots, thick, and as long almost as one's little finger, and as firmly attached to the sets as the limpet is to the rock, which I always calculate make a difference of a fortnight or three weeks in the maturation of the tubers. I presented a few of the Daintree's to my gardening and bee-keeping friend, Mr. Morris, who planted these at the same time with his other sorts which had not undergone any previous preparation, and the Daintree's were up the earliest by ten days, and kept the lead towards maturity, with the exception of a kind he calls the “Racehorse,” that beat the Daintree's for the potato by a neck; but with a few months' running the Racehorse would be nowhere for a first course on the dinner table; and if the Daintree's were, and if they are in the future to be beaten with me by the Mitchell's and the Shutfords, still it is immeasurably their superior in keeping and cropping qualities, and at any rate will come in for use just upon their heels.

June 16th.—Two roots of each sort weighed respectively—Mitchell's Albion, 1 lb. 1 oz.; Walnut-leaf, 1 lb.; Shutford, 1 lb.; Early Prolific, 1 lb. 6 ozs.; Early Shaw, 1 lb. 2 ozs.; Daintree's Seedling, 1 lb. 4 oz.

July 29th.—Took up the Potatoes, all of them quite ripe, and perfectly clear from disease. To 4 yards of drill or ridge (36 inches between each apex), each sort weighed—Mitchell's, 20½ lbs.; Walnut-leaf, 18 lbs.; Shutfords, 20 lbs.; Prolifics, 22 lbs.; Shaws, 23 lbs.; and the Daintree's, 28½ lbs.

COMPETITION 2.

April 15.—Planted Cambridge Kidney, Blooming Astor Kidney, Salmon Kidney, Fluke Kidney, Lapstone Kidney, “Lambton” Kidney, Negro Kidney, Freebearer, Early King, Fortyfold, and Daintree's Seedling Potatoes.

June 9th.—The tops were all well aboveground, excepting the Daintree's Seedling, which came up a fortnight later for causes above stated.

July 29th.—Tried a root of Daintree's Seedling, quite mealy, white, and excellent flavour; ditto Lapstone Kidney, quite mealy and excellent. These, which I consider to be a first-class white Potato, appeared even to have a

tinge of yellow when side by side with the Daintree's in the dish.

July 30th.—Tried a root of Negros; waxy, white, and no flavour. Ditto Early Kings; close, yellow, and poor flavour.

August 1st.—Tried a root of Fortyfolds; mealy, white, and excellent. Ditto Cambridge Kidney; mealy, yellowish, and of very good flavour.

August 2nd.—Tried a root of Freebearers; mealy, white, and fair flavour. Ditto Fluke; mealy, of a yellowish cast of countenance, and fair flavour.

August 3rd.—Tried a root of Blooming Ashtop, consisting of three long Potatoes; mealy, white, and excellent. Ditto Salmon Kidney; close, yellowish-salmon colour, poor-flavoured. "Lambton" (pear-shaped) Kidney; mealy, slightly yellow, but of excellent flavour.

August 16th.—Daintree's, Fortyfolds, Lapstones, "Lambton," and Early Kings, have their tops turning quite yellow; whilst the Freebearers, Flukes, Negro, and Cambridge Kidneys, maintain their tops as green as grass. The Salmon Kidneys and Blooming Ashtops are quite withered and gone.

August 17th.—Took up Daintree's Seedling. The tubers for 4 yards of drill or ridge, 42 inches between each apex, weighed 31 lbs.; ditto Fortyfolds, weight 27 lbs.; ditto Lapstones, weight 29 lbs.; ditto Salmon Kidney, weight 24 lbs.; ditto Early Kings, weight 25½ lbs.; ditto Blooming Ashtops, weight 18 lbs.; "Lambtons," two roots, which is my extent of crop, weighed 2 lbs. 4 ozs., which may be compared for bulk to the Salmon Kidney.

September 29th.—Took up Freebearers: 4 yards of tubers weighed 33½ lbs.; ditto Negros, 34 lbs.; ditto Cambridge Kidney, weight 30 lbs.; ditto Flukes, weight 24 lbs. The tops of these were scarcely yet turning yellow, and the haulm, with the exception of the Flukes, was monstrous. That of the Cambridge and the Negros, moreover, began to show symptoms of spot. The tubers, however, were all free from disease.

#### COMPETITION 3.

May 19th.—Planted Daintree's Seedling, Haigh's Kidney, Lapstone Kidney, York Regent, Pink Regent, Freebearer, and a late sort from Suffolk partaking something of the appearance of an Ox-noble. I could not ascertain its name, so I will call it the Unknown. It is said to be never known to have had the disease.

August 27th.—The tops of Daintree's and the Lapstones are become quite yellow, and those of the Haigh's, being spare and brittle, were blown completely away by the wind; whilst the Regents, the Freebearers, and the Unknown, are perfectly green—the latter are monstrous. I never saw such tops in my life. Some of the stems near their junction with the ridge would measure almost an inch in diameter. Dug-up and cooked a dish of Pink Regents, close, yellow, and unflavoured; ditto York Regents, moderately mealy, whitish, and with the flavour that can be sworn to, let it come from what part of the nation it may. The Unknown was waxy, unripe, and tasteless. The Daintree's, Lapstones, and Freebearers of this late planting are equally good with their relations mentioned above. On the 27th I dug-up the Daintree's, which weighed per 4 yards of drill, 20 lbs.; ditto Lapstones, weight 22½ lbs.; ditto Haigh's, 6 lbs.

October 7th.—Took up York Regents, weighed 24½ lbs. per 4 yards of drill; ditto Pink Regents, 23 lbs.; and the Unknown reached to 30 lbs. I attribute the falling-off of the weight of crop in the Daintree's and Lapstones mostly to the late planting, but something to the wind having lacerated their foliage when it was in full vigour of growth. The leaves of the Regents, &c., in a great measure defied it on account of their breadth and coarseness of foliage. I believe the Unknowns would have flourished till the frost; nevertheless, the time of planting was too late. They would all have given better crops had they been planted earlier; though even the Lapstone, as can be seen, now gains a step on the Daintree's, which I account for from its greater measure of haulm, which, again, helps to verify my previous recommendations—that all coarse-topping Potatoes are more suitable for cottagers on poor land and for field cultivation than the meagre-topping finer sorts. Starvation of root is made-up for comparatively by the multiplication of the mouths of the foliage feasting on the carbon of the atmosphere. The smaller the top the better should be the soil, and *vice versa*. I could never get a coarse-topping Potato to give me a crop at all in this garden. It was "all tops and no bottoms,"

as they say, till I took to the ridge-and-french system, and I find most of the coarser-foliated Potatoes that I have introduced maintain themselves amongst the allotment-holders here, light soil inclining to stone brash, whilst the finer sorts soon get lost to them.

#### COMPETITION 4.

June 30th.—Planted a row of Shutford Seedling, having shoots to the sets 4 inches long, on the site of a row from which I had taken my first Mitchell's Albion.

August 16th.—Dug a dish: their skins scraped off as freely, and they were as firm and quite as full-flavoured as their predecessors of the spring time. They served us for a change as new Potatoes into the middle of October, though their foliage by that time became much spotted, and some of the tubers began to be diseased. I shall adopt this plan again if I can instinct-out a good Potato season betimes next year. I can remember an instance when some of those late young Potatoes were tubbed in nice moist earth, and sold as quite youngsters at a fabulous price in the next February to good people of an island town not one hundred miles from Portsmouth! Much better to have finished them off in October and have done with them.

#### SYNOPSIS.

*Mitchell's Early Albion Kidney*.—Will do either to force or to come in as a first early in the open ground; firm and slightly yellowish when cooked. An excellent Potato.

*Shutford Seedling*.—A small glazed-topper, very much like the Mitchell's, but it is a round Potato, very early and a tolerable keeper; precocious in meanness, and of a yellowish cast when boiled. Its only fault is in producing a good many little ones.

*Walnut-leaved Kidney*.—Later, and of coarser growth than the Mitchell's Albion. It is a multiplied identity of that variety.

*Early Prolific and Early Shaws* are good-flavoured, white, mealy Potatoes; but their tops are too coarse and sprawling to please me as early sorts.

*Daintree's Earliest Seedling*.—I should not like to positively affirm that it will be the earliest Potato grown; but, if not, it will be difficult to find a round-keeping household Potato to beat it. It proved with me a first-rate second early, an excellent cropper, precocious for meanness, perfectly white, and an excellent-flavoured variety.

*Lapstone Kidney*.—The best of all household Kidney Potatoes within my knowledge. It is a second early, and will do its work as quickly as Daintree's, and will keep to the end of another year. It has fine delicate foliage, and requires room. It is precocious as to meanness, white, and of first-rate flavour. Everybody should grow it.

*White-blossom Ashtop Kidney*.—Is long as its name; rather early, white, and of first-rate flavour. A meagre cropper, though a fine Potato, and few in a hill.

*Haigh's Kidney* (Mottled purple and white).—Is very satisfying. A rich Potato, so to speak, and requires a very rich soil to grow it in, and thus it will produce fine, showy, exhibition tubers. I grew it chiefly for that purpose; but I shall give it up, for it is very subject to the disease, and its foliage will not stand the strong winds we are so often favoured with.

*Fortyfold* (Blue and white-mottled).—An excellent round Potato up to the new year; second early, white, and mealy; capital for mashing, and of first-rate flavour. It has been for many years a favourite with me, but it must now give place to Daintree's.

*Cambridge Kidney*.—Large, pear-shaped, and a bountiful cropper; yellowish, though mealy, and very well flavoured. It produces enormous foliage. The leaf is glazed and very handsome; but I fear it is disposed to disease, otherwise it is a poor man's Potato.

*Salmon Kidney* is a kind I should say that would resist the disease; and that is all, I think, I ought to say about it.

*Early King* would also suit the cottager, but it is not suitable for a parlour table. It is close, yellow, and pretty well flavoured.

*Freebearer* (Mottled blue and white).—A large, coarse-eyed Potato, and an enormous cropper, but without good flavour, and white. Suitable for the gardens of district unions, or any poor or rich man either who is fond of a large roasted Potato. Foliage immense.

*Negro* (Dark blue).—This is another to astonish the natives; great parallelograms of gluten, farina, and water; coarse, with many eyes, though when boiled white as a napkin, and of middling

flavour. It is monstrous for crop and top; but no longer than prizes continue to be given for large coarse things would I entertain the idea of it.

*Fluke*.—Of course everybody knows the Fluke, though I am rash enough to own that it is no favourite of mine: I never could think it a good-flavoured Potato. It is of a yellowish hue when boiled; and let a Potato be however good-flavoured, it loses caste with me unless it is white as the driven spray.

*"Lambton" Kidney*.—A first-rate second early, pear-shaped, a moderate topper and good cropper. An excellent-flavoured Potato, mealy, but with the shade of yellow when boiled.

*York Regent*.—It is a popular London Potato, and known far-a-field; whitish when boiled, though in the spring it is apt to show the black nose. It is too astringent in flavour for a connoisseur, though a good rich Potato for a poor man's family, and capital to "bring on" his pig; and there is no better judge than a porcine epicure of what a Potato should be in a general way.

*Pink Regent*.—This is a favourite amongst labourers, but a pig would much prefer the former, and so would I; and the Unknown, which I feel also bound to say a word for, is a coarse, very late, whitish Potato, of no flavour to speak of, though if, as it is said to be, impervious to disease, it is a great point gained, and its coarse deep eyes would be winked at by the labourer's family.

As a synopsis within a synopsis, I would say to cultivators of limited space, Grow the Mitchell's Early Albion Kidney, the Lapstone Kidney, and Daintree's Seedling, and you cannot do wrong.—UPWARDS AND ONWARDS.

## PROPAGATING CYCLAMENS AND FARFUGIUM GRANDE FROM CUTTINGS.

FOR my theme to-day I have one of the most interesting cases that have yet been broached in these pages.

A man has a Cyclamen with leaves "as large and blotched as those of *Farfugium grande*," and I happen to have some *Farfugiums* new whose leaves are not so big as those of some of my *Cyclamens*: therefore, we shall say this Cyclamen has very large leaves, and they are marked, or banded, or blotched out of the common run; and for the last year no one, not even the owner, could find out or suggest how to seed it; and if they did, it is a hundred to one if any of the seedlings would have the leaves similarly marked.

Now, failing in the means of increasing this extraordinary variety of the *Cyclamen persicum*, the owner of it is willing to give a leaf or two of it to our correspondent "T.," if he, the said correspondent, can find the means of rooting them; and "T." applies to us to know "if it be possible to produce *Cyclamens* from leaves?" and I am not quite certain that there is a man in the kingdom who can say if it be really possible or not. There is nothing published in English, as far as I know, to tell either way. There may be many who have failed in rooting leaves of *Cyclamens*, but we have no account of them and how they went to work. A thousand might have failed in rooting a particular leaf, and yet the leaf be capable of rooting nevertheless. I never tried to strike a *Cyclamen* leaf, and I do not know of any person who did try them in earnest; but I take it for granted, that as the Messrs. Henderson, of the Wellington Road Nursery, have not propagated their new strains of *persicum* by the leaf, that they are aware of the impracticability of that mode of increasing them.

But I have just said I had a most interesting case. So I have; yet I must ask that no one be disappointed if what I say, as it were, in a private letter should not come to pass.

Well, between "T." and Donald Beaton my opinion decidedly is, that *Cyclamens* of sorts may be so grown that they can be propagated by cuttings. It was one part of my scheme for the last three years to test this thoroughly, but the frost and the failure of this time last year put an end to the experiment for a time. But I will tell you how it was.

Four years back there were very few of us who knew that any other *Cyclamen* than Sweet's *vernum* had spur-stems on the crown. I did not know it, and I took the spur to be a specific distinction. Since then some of the great *Cyclamen*-growers put me right, and said there were spurs on all kinds of *Cyclamens* occasionally, and even that they could be increased from spur-cuttings, but that such cuttings never formed tubers—a result as interesting as anything I know of in gardening. Meantime I

had *Cyclamens* from Italy with spurs over the crown, some with one, some with two or three, and I had one with six spurs. Then, it struck me as curious that one *Cyclamen* should have spur-growths, and another of the same kind, and by all appearance an older plant, should have none; and my experiment was designed to prove how such came to pass in the pastures and passes of the south of Italy.

As far as my experiment went, I am sure that it is possible to cause all kinds of *Cyclamens* to produce spurs to flower on; and if so, I have found out the reason why it is that *Cyclamens* in the wilds and woods of nature do occasionally produce crown-spurs, like those Sweet first describes on the *vernum* he figured from. But I have not such a proof in my hand as I could wish, otherwise I would take the responsibility of detailing the whole process to all my readers as much as to one correspondent, but here they are.

Italy has been said to be the land of rivers and fountains; and we all know from the accounts of travellers how rapid and how strong the fountains and rivers roll down their waters from alpine regions in the times of heavy storms, and on the melting of the snow along the high ridges. By such means, and by other natural causes, quantities of soil, sand, and débris, are brought down and overlay the lower grounds near the margins of the streams, and cover the surface-vegetation deeply in some places, in others less so, and still less deeply towards the extreme limits. Then, when a *Cyclamen* field becomes covered with the less amount of sand and silt, and the bulbs are not covered so deeply as to ruin them, they make efforts to extend their leaves up into the light and air as usual, and that effort causes the substance of the bulb itself to be expended in the form and manner of these spur-growths.

That is the only way in which I could account for the formation of many of the bulbs which I have handled for the last three years. I have seen some, and many of the best gems in the British flora, under similar conditions—from the Sundew on the margin of the lake in the bottom of the valley, to the Cloudberry flanking the verge of the limits of vegetation on the mountain side, and I had no reason to doubt the idea; and, therefore, I made the attempt in that experiment to follow Nature as closely as my garden would allow of, and the cocoa-nut fibre refuse helped me more than I had reason to calculate on.

I planted bulbs of the *persicum* breed, and of all the sections of *Cyclamens*, from 2 inches to 3 inches deep over the top of the crown; and in two years' growth, or rather in one growth and one-half of a season's growth, owing to the frost, I had evidences enough to warrant me in believing that all kinds of *Cyclamens* would form spurs on the crown of the bulbs, if they were thus buried in planting or in potting. Several of my *persicum* tubers have made two or three spurs, but very short ones, in the period just stated.

I had the experiment not been cut short by that frost of last year, I intended to put one more inch of the cocoa-nut fibre refuse over these bulbs, and I think that would have been a more safe practice than to have put too much, or say 4 inches deep, on at the first planting.

When I used to say that I could make all kinds of *Cyclamens* look like *macrophyllum*, this was the means by which the leaves were to be had so large. One could not prove this in pots, because the pots, to allow of that deep planting, would be too big for good practice; but in a pit or border the practice is quite safe, and not only so, but deep planting has given me finer leaves and larger flowers than I ever saw in pot culture.

There are two ways by which I think I could increase the *Farfugium-grande*-like *Cyclamen* in question. The first is to plant it out of the pot in the front of a cold pit where the sun could not strike it direct, for none of them like that; to use good strong yellow loam, and to reduce the strength of the loam with the cocoa-nut refuse until it is as loose as sandy peat; to plant the bulb in this stuff; to have the bulb fully 2 inches deep over the crown, and to press the soil very much under the bulb and all round it. At the end of twelve months I would put on another inch of half loam and half cocoa-nut fibre refuse; and I am satisfied, from the age of the bulb and from the account of the size of its blotched leaves, that it would bear to have a second application next season—that is to say, in two years it could bear to have the crown of the tuber fully 4 inches below the surface, and that it would make half a dozen spurs in its attempts to throw-up the leaves to the light; also, if the luxuriance of the tuber is the cause why the plant refuses

Indeed, this way of taking that pride out of it would be the means of making it a fruitful plant.

Then, suppose you cut off five of the six spurs to within one-quarter of an inch from the bottom, and left the one for fear of the spurs going blind, the five spurs would make five plants certain, for one of the best authorities has said so not long since in these pages. Under such a gardener as our friend Mr. Holland, who has a three-year green *Cyclamen europæum*, I should have no fear but the rooted spurs would grow on and bloom as well on their own roots as from the strength of the mother tuber. It would, indeed, be a strange thing if we should be able at last to have a generation of stemmed *Cyclamens* without tubers; and as they, or some of the kinds, can be kept green from year to year, like one of my vernums—my original, and like one of Mr. Holland's *europæum*s, there can be no doubt about some of the stemmed plants keeping green, advancing slowly, and flowering as they go.

At all events our correspondent "T." has two chances for getting hold of the *Farfugium*-like *Cyclamens* which he seems so much to have set his heart upon. The second chance is even more curious than that just suggested, yet I am as confident of it as I can be. Since I planted-out my original plant of vernum, which blooms from a knotty burr of spurs, it has made two more effect-like spurs from the lower sides of the tuber, not from the under side; and now if I were to break off the spurred crown these bottom spurs would, or must, grow on the faster, and I could propagate the tops of them as in the former case, sure enough. Here, then, would be the beginning of the second chance for a *Farfugium*-foliaged *Cyclamen*. We will suppose it to be established one, two, or more years in the front of that cold pit, like my vernum, only that it is covered 3 inches or 4 inches over the crown, which my vernum is not; then at the beginning of the next growing season the one-half of the crown, or part from which the leaves come, would be blinded by scraping-off the parts from which the leaves spring. That check to upward growth would induce the tuber to form means of side growth, just like my vernum, and, if I recollect rightly, like Mr. Holland's bulb of *europæum*. Or, if the stopping of one-half of the crown did not effect the desired end in two or three months, one-third more would be blinded in the same way; and if the tuber still persisted in spending force only in crown-growth, it would be reduced to the last extremity by blinding all the eyes on the crown but one. As two distinct kinds have made side growths under cultivation, and as I have seen many bulbs of neapolitaness with side shoots on from their native wilds, and having more than one bulb of it in which all the growth came from the sides of the tuber, and the crowns completely blind, I cannot conceive of any structural difference in the tuber of a persicum variety of *Cyclamen* to render this *Farfugium*-like variety proof against a second chance for its propagation.

By the middle of next spring I shall be able to resume the experiment of planting so many *Cyclamens* at such and such depths, so by that time my frosted stock of last year will be up to the mark again, and the same plants will do for the trial of enduring so much cold, and for this way of propagating the kinds. Meantime, some of our *Cyclamen* correspondents might set about the same inquiry at once; I mean those of them who now grow their *Cyclamens* out of pots planted in beds in cold pits. All that would be necessary for them to do would be to put two more inches in depth over so many of the plants at one corner or one side of the bed, and watch the difference, and I would guarantee that the extra depth would not hurt any of their established plants, but rather the contrary.

Another branch of the subject might be set about early in February, long before I can do much in it for want of means, the use and power of a propagating-bed or place. Any one who has more than one top spur on the crown of a *Cyclamen*, could then try one spur of each kind as a cutting, and, after rooting it, endeavour to keep it green all the year round, for there is no other means of keeping in existence plants so obtained according to our present experience; but who knows but in a fresh start amongst so many, and all bent on the same ends, some one or other, or some chance not looked for, may, or may not, reveal another opening for the preservation of spur-propagated plants?

D. BEATON.

#### CAUTION IN USING GISHURST COMPOUND.

On Saturday, while giving my trees their annual wash with Gishurst compound, 8 ozs. to the gallon of water, I found many

of the Cherry buds showing green; this proves the trees to be earlier than usual. Will you allow me, therefore, to suggest to those of your readers, whose orchard-houses are like mine in forward situations, and who act on Mr. Rivers' directions and use Gishurst as a winter wash, that December will be a better time for its application than later. Strong applications of Gishurst, though most beneficial to trees at rest, have, when not followed by water-washing, been found in several places to injure buds when applied after swelling had begun.—GEORGE WILSON.

#### THE FUTURE OF THE GLADIOLUS.

FEW flowers have, in one's recollection, more rapidly taken up a leading position than this easily-cultivated and most showy bulb; and it is because it is so popular, so easily grown, and so showy, that I desire to say something in its favour, and to lift up both my hands against some false ideas which I conceive to have been promulgated concerning it, and injustice from which it has suffered. I think no one can now deny but that it is to be justly ranked amongst florists' flowers. The immense variety that it exhibits in its colours and markings, the points of shape which the eye of a connoisseur sees needful to its perfect beauty, and which those who only grow it for "effect" can also distinguish, claim for it that position; and hence the idea of treating it merely as a border flower and of exhibiting it in bundles must, I think, be pronounced as most arrant heresy; and yet not only was this recognised by judges during the past season, but advocates for a continuance of the system have, unfortunately, made their appearance since. The two exhibitions at which it was brought forward during the past season were the Crystal Palace and South Kensington, and in neither case was there, I think, a true standard or correct arrangement set forth. It was a mistake at the Crystal Palace, for instance, to offer prizes for the best collection. It was this, perhaps, that led M. Loise to make that formidable array of pint bottles, which so offended the eye of any one with an atom of taste, surmounted, too, as they were with starveling blooms of *Gladioli*; but doubtless he thought, as M. Barral seems to have done, that we cannot grow any flowers in England except under glass, and that his must necessarily take first place. He must have been a little astonished at what he beheld, and perhaps laid it to the charge of that "perfidious Albion" which is ever lying in wait to bring dishonour on "la belle France." It was this, too, that induced Mr. Youell to exhibit the bundles or sheaves of *Gladioli* that he did—very showy, very attractive, no doubt, but in no way meeting the requirements of a refined taste. If any one had taken twenty blooms of a sort, instead of three or four, doubtless he would have occupied the post of honour which Mr. Youell took. Mr. Standish, with a more correct taste and clearer appreciation of what is needed, exhibited single blooms, and hence was placed in the second rank. Another grand mistake was, I think, that of excluding amateurs altogether; not that it was done so positively, but the natural effect of offering prizes in this way, and of not dividing the classes of amateurs and growers for sale, was that the former felt utterly helpless, and in not one instance entered the lists against those whose bulbs, perhaps, outnumbered theirs in a hundred to one. There is another autumn flower, the admired of all but a few—the noble *Dahlia*. Now suppose the same principles were adopted with this—suppose that it were to be exhibited in bundles—suppose that prizes were offered for a collection—would amateurs ever venture to exhibit? And we must recollect that, after all, it is to amateurs that the grower looks for encouragement—it is the large amateur element which has made floriculture what it is in England—it is the lack of it which causes it in France to drag behind, to expend itself mainly in raising novelties for exportation, or plants for the "marché aux fleurs."

There is one excuse which has been made that has some little weight in it—viz., that the flower has so lately become a favourite one, that there was not a likelihood of amateurs coming forward; and their absence in the autumn of 1861, when a prize was offered for them at South Kensington, may justify this. Such is not likely to be the case again, and, therefore, in the future of the *Gladiolus* we hope to see this remedied.

Passing on to the Royal Horticultural Society, there we find one of the errors existing—the non-recognition of the amateur class. But more definiteness was given to what was expected by having the numbers required; and some variety was introduced by offering prizes for dark-coloured flowers of the French-

leyensis type, as well as for the spotted, striped, and lighter ones. Will it be allowable for us to hope that the other mistake will not be perpetuated?

If one may judge from the number of advertisements, and the number of inquiries concerning the *Gladiolus*, it will be very extensively grown during the ensuing season; and if only fair play be given to it in the exhibitions, we shall see it, I believe, occupying a prominent place at our autumn shows. A word or two, then, as to its cultivation.

I see Mr. Beaton recommends the bulbs being left in the ground all the winter. There seem to me two objections to this, which I have found more or less to affect all bulbs. First, that the cold wet soil is very apt to cause them to rot, and secondly, that worms and grubs of all sorts are likely to prove injurious to them; they work their way through the bulbs, and this also causes them to decay; hence I must still maintain that the old plan is the best of taking them up carefully, and keeping them in a place neither too hot nor too cold. So again with regard to soil. It is quite clear that they will flourish in any good rich loamy soil, and that they have no objection to a tolerably good coating of manure. And then with regard to sorts. There ought to be, I think, a mixture of the best varieties of French and English origin; and I have, therefore, given several lists, from which the needful information may, I think, be gained. As in honour bound, we will give the precedence to the stranger; and in list No. 1 will be found the newer varieties of the last three seasons. Those marked with an asterisk have only been let out this autumn, and have, consequently, not been seen on this side of the channel.

LIST No. 1.

- Belle Gabrielle, rosy lilac, shaded with bright rose.
- Cuvier, deep amaranth flamed with crimson. Very large and fine in shape.
- \*De Candolle, clear cherry flamed with rose, and striped with brilliant carmine.
- Dr. Lindley, rose shaded, deeper centre, tipped with carmine.
- \*Endulia, lower petals white, striped with violet, upper with white line.
- Eldorado, pure yellow with white stripes.
- \*Flore, ground white, shaded with lilac rose, with very large lively red spot.
- \*Impératrice Eugénie, white flamed with rose, interior violet, exterior lilac. Said to be the most remarkable of all known varieties.
- James Watt, brilliant vermilion scarlet, pure white spots, slightly striped with delicate rose.
- Leonardo da Vinci, orange, striped with violet rose.
- \*John Waterer, clear cherry, with lively red stripe; large white spot, marked with rose.
- Madame Adèle Souchet, white flamed with rosy carmine.
- Madame Percire, pure white with violet spots.
- Reine Victoria, pure white spotted with violet. Very large and fine.
- \*Stephenson, very beautiful spike; carmine cerise, with white lines.

The varieties in this list range in price from 5 to 8 francs in the French lists, and from 5s. to 10s. 6d. in the English lists.

LIST No. 2.

- Achille, bright currant red striped with pure white. A very attractive variety.
- Ceres, pure white striped with rose violet.
- Comte de Morny, bright cherry, spotted with white and striped with violet.
- Duc de Malakoff, orange red flamed with a brighter colour; white centre.
- Linné, orange cherry spotted with yellow.
- Eugénie Domage, bright red, beautifully shaded and striped.
- Madame Lesèble, pure white spotted with violet rose.
- Ophir, yellow spotted with purple.
- Raphael, vermilion, white shaded and spotted with violet.
- Rembrandt, deep crimson scarlet.
- Solfaterre, yellow. Very large and fine.
- Turenne, bright red spotted with yellow; white centre.
- Victor Verdier, brilliant scarlet. Extra fine.

The average price of the above is in the French lists about 2 francs, and in the English about 2s. 6d.

LIST No. 3.

- Aglæ, salmon rose.
- Brenchleyensis, vermilion. Showy.

- Calendulaceus, nankeen.
- Docteur André, bright orange.
- Don Juan, deep orange red.
- Galathée, pale yellowish-flesh spotted with white.
- Fanny Rouget, bright rose, flesh centre.
- Hebe, delicate flesh striped with carmine.
- Isoline, blush striped with red.
- John Bull, white.
- Mars, scarlet erimson.
- Mathilde de Landeroisin, white striped red.
- Napoléon III., erimson scarlet striped with white.
- Oracle, rose cherry.
- Sulphureus, sulphur yellow.
- Vulcan, deep red.

The above are cheap, varying in price from 4s. to 10s. 6d. Some of them are very fine, and such kinds as *Napoléon III.* and *Brenchleyensis* very showy.

LIST No. 4.

- Adam Bede, peach, lower petals deep scarlet.
- Bacchus, beautiful carmine, with delicate white lines; rich centre.
- Basil, beautifully pencilled carmine, with deep crimson blotches.
- Earl of Carlisle, bright rose, deep lake feathers.
- General Cabrera, bright scarlet.
- Isaac Anderson, deep red, white throat, and purple feathers.
- Isa Craig, pale lemon, purple stripes.
- John Leech, salmon, purple feathers, bronze lower petal.
- J. W. Lane, bright vermilion, centre yellow, deep carmine eye.
- Lord Downshire, bright yellow, blotch of reddish-brown on under petals.
- Mdlle. Victor Balfé, clear white, distinctly marked with violet blotches.
- Mrs. Dombrain, pale rose striped with lake, and lake feathers.
- Mrs. Edward Nott, fine yellow.
- Mrs. Hole, pale buff shot with pink; purple stripes.
- Paul Bedford, scarlet crimson, purple throat.
- Robin Hood, scarlet, violet throat.
- Rosenberg, deep scarlet blood colour.
- Sir Walter Scott, creamy buff, with puce feathers.
- The Ensign, fine red, light erimson feathers.
- Tom Moore, erimson, with erimson violet feathers.

This list contains a selection from Mr. Standish's *transmission* progeny; such as I have myself, through his liberality, had an opportunity of testing in my own little garden, where they flourish very well. Their price ranges from 2s. 6d. to 5s., and although I have selected these, there are a number of others equally meritorious.

Those who desire to compete will find, I believe, their wants met in lists 1, 2, and 4; while those who simply desire effect will find the most desirable for that purpose in lists 2 and 3. But I have no great opinion myself of the *Gladiolus* simply as a decorative plant; its true place is as a cut flower, whether for the exhibition table or in the drawing-room. It has the admirable property of opening its bloom-buds regularly in water, so that all that is required is to shorten the stalk as the lower blossoms decay. I hope that many will attempt their cultivation this year who have never done so before, and that I may not be far out in predicting a glorious future to the *Gladiolus*.—W. Dool.

FRUIT TREES IN VANCOUVER'S ISLAND.

THE following extract from a letter dated September 29th, 1862, received a short time since from a correspondent wishing for a consignment of fruit trees sent to him "round the Horn," may be of interest to some of your readers who think of making that fertile spot their home.—T. R.

"The fruit trees imported into this colony are without names and not always good sorts. They are raised across the sound at Olympia and other places in the Washington State, and also at Portland, in Oregon. A few are sent from San Francisco.

"The climate of this island, judging by trees already planted, seems specially adapted for the production of all hardy fruits. Little trees, planted only two or three years, are loaded with fruit, the trees at the same time growing most vigorously, and perfectly free from disease or blight of any kind. Plums hang on the trees literally in masses. I think every blossom produces its fruit, which seem to be all perfectly formed, with scarcely an ill-shaped one among them. Young Pear trees on Pear stock that in England one would scarce expect to see produce a fruit for the space of five or ten years, here bear the second year

after planting. No Quince stocks wanted here. The soil is principally a black decomposed vegetable deposit, or what in England we should call peat, resting on a compost subsoil of drift-sand, gravel, and clay, liable to burn in summer.

"A very small proportion of the surface of this island will ever be available for agricultural operations, it being too mountainous, too poor, and too rocky. Some of the valleys when cleared of the heavy crop of Pines, of which you may have bushels of seed, will form good farms. There is a little prairie land, but not above, perhaps, 15,000 acres in the whole island."

## ROYAL HORTICULTURAL SOCIETY.

DECEMBER 9TH.

**FLORAL COMMITTEE.**—Rev. J. Dix in the chair. The most attractive of the objects exhibited at this Meeting were the new *Chrysanthemums* brought home by Mr. Fortune, and which are in the hands of Mr. Standish, of Ascot and Bagshot Nurseries. The most striking were a very large yellow of rich golden colour, called *Grandiflorum*, and which, Mr. Fortune says, "grows as large as your hat;" and a beautifully striped one, white and pink, also large and showy, called *Striatum*. The former of these was awarded a Second-class, and the latter a First-class Certificate. A pretty little quilled variety with fringed florets and pure white, called *Laciniatum*, was awarded a First-class Certificate. It is very beautiful and singular, but not so telling in its effect as the other two. There was another sort called *Speciosum*, which is rather a singular-looking oddity. The florets are twisted-up tight, like lengths of brown twine, and are crowded close together. This, however, was not quite in full bloom, and no award was made to it. Among the other plants exhibited and to which no awards were made, were *Plumbago rosea coccinea* from Messrs. Veitch; a fringed Chinese *Primrose* from Mr. Treen, of Rugby; a fringed white *Cineraria* from Mr. Earley, gardener to F. Pryor, Esq., Digswell, Welwyn; and a beautiful variety of *Cypripedium* insigne from Messrs. Maule & Son, of Bristol, a plant of which Messrs. Maule liberally presented to the garden at Chiswick.

**FRUIT COMMITTEE.**—Mr. Osborn in the chair. At this Meeting prizes were offered—Class A, for the best three dishes of dessert Apples; B, for the best three dishes of dessert Pears; and C, for the best three bunches of White Grapes.

In Class A there were seven competitors. The first prize was taken by Mr. Simpson, of Stoke Farm, Slough, with very excellent specimens of *Rosemary Russet*, *Cockle Pippin*, and *King of the Pippins*; and the second prize was also awarded to that gentleman for equally fine *Cornish Gilliflower*, *Keddleston Pippin*, and *Cox's Orange Pippin*. We cannot speak too highly in favour of the *Rosemary Russets* and *Cockles* in these exhibitions. The former, not at all a common Apple, is a very fine one, and these were some of the best specimens we ever saw. *Cox's Orange Pippins* were also excellent, and *Keddleston Pippin*, a small variety like a *Golden Pippin*, deserves to be better known. Mr. D. Cunningham, of the Palace Gardens, Fulham, had very nice specimens of *Blenheim*, *Ribston*, and *Cockle Pippins*, but they could not approach Mr. Simpson's in flavour. Mr. Earley, gardener to F. Pryor, Esq., of Digswell, near Welwyn, exhibited beautiful specimens of *Court of Wick*, *Golden Pippin*, and *Cockle*; very beautiful and even dishes they were, and would have graced any dessert. Mr. Hall, gardener to Capt. Tyrrell, Fordhook, near Ealing, had good examples of *Golden Winter Pearmain*, *Blenheim Pippin*, and *Court-Pendu-Plat*. The same may be said of the exhibitions of Mr. Smith, of Nassau House, Enfield, and Mr. Curd, of Sulhamstead.

In Class B, Mr. McLaren, of Cardington Gardens, Amptill, was first with very fine examples of each—*Glou Morceau*, *Winter Nelis*, and *Burré Diel*; and Mr. Simpson was second with *Glou Morceau*, *Joséphine de Malines*, and *Easter Burré*. Mr. Cunningham exhibited good specimens of *Burré de Rance*, *Ne Plus Meuris*, and *Chaumontel*. Mr. Earley had nice specimens of *Passe Colmar*, *Winter Nelis*, and *Glou Morceau*; and Mr. Hall had *Burré Bosc*, wrongly named, *Bishop's Thumb*, and *Winter Nelis*; but they all came short in flavour of those that took the prizes.

In Class C, Mr. Hill, gardener to Ralph Sneyd, Esq., of Keele Hall, exhibited three splendid bunches of *Trebbiano Grapes*, and, as a matter of course, had the first prize awarded them. These were the production of a Vine grafted on a Black *Hsm-burgh*, and the result is larger bunches than are got from the

plant when it is on its own roots, and such berries! The three bunches weighed 10½ lbs.

Bunches of two seedling Grapes were sent by J. B. Faviell, Esq., of Stockeld Park, near Wetherby, Yorkshire. They are both White Grapes, and produce large bunches. No 1 appears to produce the larger bunch, which is shouldered and ovate in shape. The berries are thickly set, and are on rather long foot-stalks, quite round, and of a greenish tinge, with the skin so thin and transparent as to show the texture of the flesh through it. The flesh is very firm and crackling, crisp as an apple, and with a sweet and refreshing Sweetwater flavour. Unfortunately it was not sufficiently ripened. No. 2 is also a large-bunched Grape, producing a large oval berry of the size and shape of the *Muscat of Alexandria*, but without any *Muscat* flavour. The flesh is firm and crackling, with a sweet, rich, and sprightly flavour. This was awarded a First-class Certificate, and is a very excellent Grape.

Messrs. Jackson & Son, of Kingston-on-Thames, sent a fruit in a pot of *Fairrie's Queen Pine*, a small, dwarf-growing plant with a fruit which weighed 1½ lb. Unfortunately it was so late in the season the flavour of the fruit was gone, and the Committee reserved any decision on the subject; for the same reason a nice handsome fruit of *Oates' Seedling Pine*, sent by Mr. Oates, gardener to Lord Doneraile, at Doneraile Castle, Ireland, was also passed without an opinion being given upon it; but as this variety has been before the Committee in its best state, and has already received a First-class Certificate and Sir C. W. Dilke's prize of £5, there can be no doubt of its merit.

Mr. Rivers, of Sawbridgeworth, sent specimens of *Tangerine Oranges* grown in the *Orange-houses* in his nursery. They were perfectly ripe and in flavour superior to those that are imported from Lisbon. The fruit was accompanied by some branches of the plants bearing fruit less fully matured, which show that the trees are quite prolific. Lieut.-General Rawdon sent a fine large *Pine Apple*, grown by Mr. John Davies, gardener to Sir Charles Coote, Bart., but it was far gone in ripeness.

A nice collection of Apples was exhibited illustrative of the varieties grown on the coast of Sussex; they were sent by Thomas Boorn, Esq., Chidham, near Emsworth.

A collection of Apples and Pears was received from the Local Committee of the Valley of the Tweed, accompanied by the report of a meeting held at Kelso. The report being read, the thanks of the Meeting were voted to the Tweed Committee.

A very pretty exhibition of vegetables was sent by Mr. W. Earley; it consisted of enormous *Parsnips*, excellent *Sea-kale* (forced), *White Broccoli*, admirable *Salsafy*, capital *winter Lettuce* and *Endive*, *Variiegated Kale*, *Jerusalem Artichokes*, and a number of other things; and the Committee unanimously awarded Mr. Earley a *Label of Commendation* for his interesting exhibition.

## HEATING A SMALL CONSERVATORY.

WOULD a boiler heated by gas be the best means of warming a conservatory about 12 feet by 10 feet, and very lofty for its size? It is exposed to the air on three sides, and has a glass domed roof; it is, therefore, very cold in winter. Owing to doors, &c., on the fourth side, the hot-water pipe could only be carried round the floor on three sides, and on the fourth it would have to go under the floor, which would diminish the amount of heat emitted. At page 38 of "Greenhouses for the Many," it is stated that the efficiency of the boiler does not depend so much on its size, as on the amount of surface exposed to the fire. Economy of space being a great object in so small a conservatory, I wish very much to know on good authority what sized stove and boiler, and what sized pipe would be required to keep the temperature in my conservatory at about 45° through the night in winter. I should also be very glad of information respecting the probable price, and also the name and address of the best maker of such stoves. One has been named to me, a patent of Pettit, of Oxford Street. It is 2 feet high and 10 inches in diameter, and contains a tubular boiler holding a gallon, with a small feeding-cistern of a pint. The boiler is heated by gas jets, forty in number, in two rings; the hot water to circulate in a two-inch cast-iron pipe—price about £15. This sounds well, but I should like to have the opinion of an experienced person before deciding. The conservatory faces the west.—MRS. GARLAND, 15, Queen's Gate, London, W.

[We have no doubt that such a boiler as that given at page 38 of "Greenhouses for the Many," that you refer to would suit

your purpose; and you would need two three-inch pipes all round, or at least on three sides, to keep the heat up if the house is so lofty and domed. Instead of having the boiler with a convex bottom, we would have it concave, or, rather, with an open tube through it, for the gas heat to play upon. We think, however, that for such a house a small gas stove to hold the burners, and three-inch pipes round the house for the heat of the gas burners to go through, would be sufficient. But for some necessity for using gas, the cheapest and simplest of all would be a metal stove with a square top for holding water, and a cast metal pipe for taking the smoke out where most convenient. The shorter the horizontal pipe the better, and if the most part is upright, or sloping in an upward direction, there will be little trouble in its lighting or drawing well. The chief thing for such a stove is, that it should be wide enough—say 18 inches, so that the firebrick little fireplace in it shall never allow the fuel to touch the sides or make it red hot. This would be the most economical; the gas stove the next, where a small flue could not be placed under the floor with a furnace outside.]

### NEW BOOKS.

*The Gardeners' Annual for 1863.* Edited by the Rev. S. Reynolds Hole. With Coloured Illustration by John Leech. London: Longman & Co.

NOR so long since there was a festival in the far far East. There were assembled the brilliant, the beautiful, and the gay; there were damsels ripened by a warmer sun than ours; there were music and the gentle song, such as *Taza bu taza ta bonou*; there were fireworks, and sprinklings with Rose water, and all were assembled in a Rose garden. The book before us puts us in mind of that festival, and, like it, we fear that it will never be repeated. Annuals are not the class of books in request; they meet nobody's requirements. There was a great effort made to establish them once, but "The Keepsake" was not kept; "The Souvenir" soon ceased to be remembered; and "The Forget-me-not" soon passed from memory.

In the volume before us there is much that deserves success. A bright frontispiece by Leech, of five "daughters of England" looking archly over their souchong as they sip it among Tea Roses, and the Cupid turning his back upon us in that picture is no more than they ought to expect of whom it may be said "Time has thinned their flowing locks, and the few now left are grey." Then, all the contributors to the volume are "good men and true." There are such craftsmen as Reynolds Hole, Rivers, Dombrain, Paul, Turner, Dix, Standish, and Dean. There is not much of novelty in their contributions, but they write pleasantly and truthfully of what they thoroughly understand—Roses, Hollhocks, Pansies, Japan Plants, Pelargoniums, Greenhouses for Working Men, and such like. We shall gladly welcome their "Annual" for many lustrums of years, and shall rejoice if this differs in its fate from that of most of its kindred, which, true to their name, have died at the end of the year.

*Science and Practice of Gardening.* By G. W. Johnson, F.R.H.S., &c. Journal of Horticulture Office, 162, Fleet Street, London.

FOR the last two years I have had many inquiries after such a book as the above from amateurs and young gardeners; and within these three months I have had a number of private interrogatories as to the character of the above book, and if it was likely to meet the requirements of those who wished to know the principles on which common gardening operations were based. I regret not being able to read it attentively earlier; but now having done so, though there is not so much on practical details as the title would suggest, leaving these to be largely inferred, though never left in doubt if the science is studied and comprehended, giving thus to the reader a generalising power more useful than minute directions, I can honestly say that the book will meet a want long felt, and enable young gardeners to know as much as those getting grey in the profession.

In judging of the success of a work, it is right we should keep the object of the author clearly before us. This is, as stated in the preface to the work, "to place before all who delight in gardening, not only directions how to perform its various operations, but to explain how these operations are needful. In doing this the author has followed a cultivated plant through its whole existence, from its birth to its death; explained all the

modes and phenomena of propagation, growth, disease, and decay; at the same time illustrating as he proceeds all that can be done for the protection and prolongation of the life of plants. Such knowledge is absolutely necessary for all who cultivate plants intelligently, whether in the open ground or in glass structures; and to place such knowledge within the power of the greatest possible number of readers, this volume is published at the lowest remunerative price."

The above plan, which has both peculiar advantages and disadvantages, has been successfully carried out by the author bringing all previous and modern experience and investigation, as well as his own, to bear upon the subject of inquiry. That our young friends especially may form some idea of what they are to find in this three-shilling volume of nearly four hundred pages, we prefer giving a running outline of its more particular contents instead of a mere notice or review.

**SOWING.**—After some introductory remarks on the importance of chemistry to horticulture, the author introduces us to the sowing of seeds, and here discusses the varieties of seeds—the processes of germination in exogenous plants—the great diversity of seeds as to their powers of retaining vitality, being low in the Coffee plant and high in the Celery; and that this, too, is greatly dependent on the presence of starch and the absence of nitrogenous matter, being high in Rice and low in French Beans; but that seeds abounding in oil, though they soon lose their vitality when exposed to the air, will often keep it for long periods when shut out from its influence, as in the case of Mustard and Charlock seeds growing when dug up from great depths. Interesting lists of seeds are given from Loudon and Mr. Baxter, of Oxford, as to the age in which seeds have germinated; but the practical rule deduced is not to trust to old seeds. Tables are also given as to the time many seeds require to germinate, though this will greatly depend upon the treatment. Instances are adduced to show that seeds may be all right, though they do not grow when we do not place them in the right position for doing so, as De Candolle found Tobacco plants came every year for ten years in succession from one single sowing, and we can fancy such seeds coming up for twenty years longer, just as those too much buried were brought in contact with the air; and then we are treated in detail to the three chief agencies in germination and growth.

The first of these is **HEAT**. Though many seeds, as Grounsel, will germinate at a low temperature, few or none will do so below the freezing-point. A few seeds will bear a high temperature, even that of boiling water, for short periods with impunity; but, in general, a continued high temperature is much more dangerous to vitality than the greatest amount of cold and a long continuance of frost and cold, provided germination has not commenced. The influence of different soils in securing the necessary heat; dry, dark-coloured soils being heated more quickly, and parting with it more slowly than wet light-coloured soils: thence the necessity of draining and pulverisation, as such soils will be less frosted in severe weather, illustrated by interesting tables of the temperature of the air and the temperature of various soils at various depths, the surface soil being warmest in summer, and the temperature increasing as we descend in depth in winter. The second agent in germination is

**MOISTURE.**—And here, for general purposes, pure rain water is the best. All acid steeps should be continued only for a short time. Before sowing, seeds cannot be kept too dry. When sown, extra moisture is to be avoided: hence the importance of shallow sowing, and especially in stiff soils, and well-aerated pulverised soil to sow in. I will add here, that all seeds that there is any doubt about as to their thorough ripeness or too weak vitality on account of age should be allowed to absorb moisture very slowly. I have sown some in dryish soil, and others in similar soil but watered; and whilst the first have grown, the second from the same bag have all rotted. The third agent is

**AIR**, or, as most books tell us, the oxygen of the atmosphere. I prefer myself the common term—air, as with few exceptions, such as experiments recorded by the author, seeds will grow better on having access to our common atmosphere than either in oxygen alone or any other combination of gases. Here, in addition to numerous interesting experiments, will be found additional reasons for shallow sowing, that the seeds may be within the reach of the air. I, myself, firmly believe that one-half of the complaints from amateurs of bad seeds would never be heard of could they be induced to sow more shallow.

These three agencies our author considers, if properly directed, sufficient to produce all the wondrous phenomena of germination

and growth; as he does not consider light to be at all injurious, if the seed is kept suitably supplied with moisture. I know that this is now a general opinion among those qualified to be our teachers, upheld, too, by many experiments here detailed; and yet I cannot help believing, that if comparative shade and darkness are not essentials, they are at least great auxiliaries. The covering of seeds not only secures them the requisite amount of moisture more easily than any other mode, but the keeping off the full force of the sun's rays I consider such an advantage, that I would advocate keeping seeds before sowing in a shaded as well as a dry place. It may be only an impression, but observation seems to confirm it, that many seeds are deprived of their vitality by being exposed to the full force of the sun's rays for long periods before they are sown or germinated. Passing descriptions of phenomena in germination, times and rules for sowing, regulated more by the state of the soil than the day of the month, we come to the

Root, and are here treated to its duration, its character, its direction to get nourishment: hence the importance in cultivating such roots as the Carrot not only of deep trenching, digging, and pulverising, but of securing the richest soil deepest; the number of roots in proportion to the poverty of soil—a matter of importance, I think, when flavour rather than bulk is an object; the importance of roots being kept near the surface, when fine fruit is the object; no analogy between the extent of root and branches, for whilst the former at times may be measured by yards, the latter may be measured by inches, and yet the importance of reciprocal action between roots and branches in all cases, and especially of heating the soil for roots in the case of forcing (page 47); beneficial influence of rotation of cropping; importance of pulverisation for securing the necessary amount of moisture and air (see interesting tables, page 57); light sandy soils often need compressing, and the very different effects of stagnant water and running water on roots, owing to the access to oxygen in the latter. Then we have the whole processes of hoeing, digging, and trenching; and in relation to the first we are with great truth informed, page 61, "Very few people ever consider in detail the expenditure of labour required from the gardener when digging. It is a labour above most others calling into exercise the muscles of the human frame, and how great is the amount of this exercise may be estimated by the following facts:—In digging a square perch of ground, in spits of the usual dimensions (7 inches by 8 inches), the spade has to be thrust in 700 times; and as each spadeful of earth, if the spade penetrates 9 inches, as it ought to do, will weigh on the average fully 17 lbs., 11,900 lbs. of earth have to be lifted, and the customary pay for doing this is 2½d.;" and thence it follows, that the weight of the spade considered, and the weight of the soil in digging an acre, at least 1278 tons weight will be moved. Digging, therefore, is very hard work, especially when engaged in now and then; and I commend the above extract to those who can see no necessity for a labourer straightening his back, whilst they sit comfortably at a parlour table. Then, in addition to preferring four-pronged light forks to spades for digging, we have most interesting tables of the resistance to labour in various soils, in proportion to their character and their dry or wet condition; the great superiority of hoeing over weeding, not only for eradicating weeds when young, but enabling the soil to be furnished with moisture and air; the benefits of ridging; the fact that when perpendicular roots are stopped fresh ones are pushed out more horizontally, and that "the lateral branches from perpendicular roots are always the more vigorous the nearer they are to the trunk, whilst, on the other hand, the lateral branches of horizontal roots are the less vigorous the nearer they are to the trunk" (page 67); and also that roots extend farthest in the poorest soils, roots of trees having been traced down perpendicularly 14 feet without finding their termination; followed by very instructive tables, showing the effects of drainage in raising the temperature of soils, and others showing how that temperature is influenced by colour and density when exposed to the sun, though cooling more quickly in the shade; analysis of soils; ditto of water from drained land; superiority of rain water to land water, owing to the presence of more nitric acid and ammonia, and water for irrigation being chiefly valuable in proportion to its nourishing qualities; analysis of manures; absorbent properties of manures, of charcoal, &c.; mixtures of dung and artificial manures. On burning weeds our author states, page 143, "It is a common practice to burn Couch Grass, Dock, Gorse, and other vegetables, which are very retentive of life, or slow in decay. A more

uneconomical, unscientific mode of reducing them to a state beneficial to the land of which they were the refuse cannot be devised. In all cases, if the weeds, leaves, &c., were conveyed to a hole or pit, and with every single horse-load, and with barrowloads in proportion, a bushel of salt and half a bushel of lime were incorporated, it would in a few months form a mass of decayed compost of the most fertilising quality; the lime retaining many of the gases evolved during the putrefaction of the vegetable matter, and the salt combining with the lime to destroy noxious animals, which might form a nidus in the mass. By this plan nearly all the carbonaceous matters of the refuse vegetables are retained. By burning, all of them are dissipated. The forming of a compost, such as that recommended, is justified and approved by the experience of many." I may just add, that the more heat evolved, the greater the chance of destroying all seeds of weeds; and if steam or gases are apt to escape, a little earth thrown over the upper layer will arrest them.

STEM, AND BRANCHES, AND LEAVES.—Here we are treated to an analysis of woods; the composition and functions of the bark and the other parts of the stem; the functions of leaves; the necessity for keeping bark and leaves clean; the influence of light on leaves as respects decomposition and assimilation of carbonic acid, and perspiration through their pores; the lowering of temperature thus produced by perspiration, even in the hottest days. Transpiration is influenced by dryness and heat, showing the importance of a moist atmosphere in hothouses, especially in the growing period; as, if a plant in a house at 75° exhales fifty-seven grains of moisture, if raised to 80° it would exhale 120 grains in the same time, if no means were taken to increase the humidity of the enclosed air. But, on the other hand, the danger of scalding in high temperatures is also to be avoided; the danger of an atmosphere over-supplied with carbonic acid, sulphurous acid, and ammonia, as in dung-beds; and among many other matters the danger to plants from being placed in an atmosphere deprived of its usual portion of carbonic acid. Our author states, page 183—"Though an excess of carbonic acid gas is detrimental, yet its partial absence from the atmosphere is equally fatal to a plant's leaves, for without it they wither and fall. It is not a matter of indifference, therefore, whether a greenhouse or hothouse be whitened with a solution of lime, which absorbs that gas from the air, a fortnight or only a day or two before the plants are introduced or forcing commenced, for it is the infliction of several trivial injuries to a plant that prevents its successful cultivation. No one who is entitled to practise in the higher departments of his art ever makes such great blunders as at once to destroy the plants under his care. That fresh-limed walls do injure plants is beyond dispute; for the plants in a row of small pots next the back wall in a propagating-house, which had been thus whitened only the day before, have been more than once observed to be the only plants that acquired a sickly hue and shed nearly all their leaves. Fleshy-leaved plants would not be so liable to injury if obliged to be brought into a house fresh-limed, for these require much less carbonic acid daily than thin-leaved plants. Fine plants of *Cactus speciosissimus*, in the injured row just noticed, were not apparently affected. Thin-leaved plants consume daily from five to ten times their own bulk of carbonic acid gas; whilst fleshy-leaved plants, such as *Cacti*, *Aloes*, *Agaves*, and *Mesembryanthemums* do not consume more than their own or double their own bulk of that gas."

I consider the above extract well worthy of notice and of warning. I am not prepared to say from investigation how long quicklime would take to become mild under such circumstances, nor how much it would affect the plants in its vicinity; but I consider that the reflection of heat and light from such a white wall would be quite sufficient to produce the effect on the shelf near the top that is here stated. Would such effects have followed if the part above the wall had been somewhat darkened with lamp black or soot? I have frequently been obliged to do so in the case of such shelves. In fact, the bright white, or the more subdued colour of the wall, should be regulated according as we wish that to reflect light and heat, or so far absorb these as to be safe for plants placed close to them. That it would be advisable to allow houses to sweeten a little after lime-washing there can be no doubt, but I just think that any other bright white colour in the present instance would have been nearly as hurtful as the lime.

SAP.—Under this head we are treated to its nature and composition at different times, the force of its flow, the unsatisfactoriness of the theories respecting it; the theory of grafting,

budding, inarching, ringing, &c., with numerous illustrative woodcuts; influence of temperature on the flow of the sap; but the importance of knowing not the mere average temperature, but the highest during the day and the lowest during the night, and the same as respects the temperature in summer and winter at those places from whence exotic plants come, in order to secure their successful cultivation; high temperatures at night in hothouses generally unnatural; reasons for stopping shoots to secure equally-balanced wood; of pruning, to admit light, equalise growth, secure fruit-spurs, &c.; the whole theory and practice of rooting cuttings, with numerous illustrations, whether as respects cuttings by slips, buds, or leaves, and the due importance rightly given, in all cases where nicety is required, not only to secure abundant drainage, but to place the cuttings close to the hard drainage, or, better still, to the sides of the pot used for propagating, not only "because there the atmospheric air gains a salutary access," but also because in my opinion there is there not only less danger of damping, but the resistance given by the hard sides of the pot to the swelling albumen causes roots sooner to be protruded in self defence.

**THE FLOWER.**—Here we are presented with the various parts of a flower, the organs of fructification, the inhaling of more oxygen, and the exhaling of more carbonic acid by flowers than by leaves, with illustrative table; changes of colour in flowers; predominant colours; fertilisation how naturally and artificially effected; cross-breeding known to Moses; phenomena and principles of hybridising and cross-breeding, with illustrative experiments by various authors, and chiefly by Mr. Beaton, leading us anxiously to desire that that great experimentalist and botanist would give us a little book on the subject, to which we might refer as an authority and a pocket-companion, facts being always so superior to theories; convertibility of leaf-buds into flower-buds, and *vice versa*; theory and modes for obtaining and retaining double flowers; odours of flowers, day-scented and night-scented flowers; and sweet scent of flowers not sufficiently attended to by cultivators—a charge to which I fear most of us must plead guilty. Under

**FRUIT AND SEED** we are told all about the kinds and forms of seed-vessels and seeds; that each fruit has an elaborating power, according to its condition; "during the green and growing state, they are usually converting growing matter into an acid, but during the ripening they are as commonly converting an acid into sugar;"—illustrative tables are here given of the constituents of fruit at different periods; the contest that must ever exist between extra luxuriance and extra fruitfulness; influence of light and heat on ripening fruit; theory and practice of shelter and protection in securing heat, illustrated by the beautiful phenomena of dew and hoar frost (see page 321 and onwards, which thoroughly explains the whole principle of protection); the influence of colour in absorbing, and retaining, and radiating heat; artificial means of giving heat to glass houses; tables showing the heating powers of different kinds of fuels, showing as the useful lesson that what may be the cheapest is often the most expensive in reality; the different modes of heating, as stoves, flues, steam, and hot water, and the preference rightly given to the latter, where much is to be done especially, and a preference seems rather to be given to tanks instead of pipes; but with illustrative tables showing the size of boiler, and the quantity of piping needed under various circumstances, according to size of house, and temperature required; angles for the roofs of glass houses, so as to admit most light when most wanted; followed with directions for gathering and storing keeping-fruit, the chief requisites for keeping being a uniform low temperature from 34° to 40° and freedom from exposure to the atmosphere—setting the fruit on sand, and covering with the same thoroughly dried, being much recommended for keeping out air and moisture, and keeping carbonic acid round the fruit, which is one of the greatest opponents of decay, charcoal dust being better still, if the fruit were kept clean, such fruit to be taken out and placed in an airy, warm place a few days before being used; Pine deal shelves to be avoided, as likely to communicate a turpentine flavour.

**DISEASES OF PLANTS.**—Strange that so little attention has been paid to this subject. Comparative ignorance on the whole matter; analogy between the composition of animals and plants; canker in its various forms being chiefly alluded to, with shorter notices of spot on Pelargoniums, and shanking of Grapes, the latter being owing chiefly to a want of reciprocal action between roots and branches, and also, I may add, to deep planting and heavy cropping.

**DEATH AND DECOMPOSITION.**—Exhausting effects of heavy cropping, unsuitable soils, improper supplies of moisture, deleterious food, un congenial temperatures, and deficient light, tend to shorten the life of a plant, and the reverse to prolong existence, though not to perpetuate it; and the processes of decomposition and putrefaction are explained; but much has been adduced on this subject in rules for making and preparing dung-beds for forcing, &c.

I have thus glanced at some of the more salient contents of this closely-packed, interesting volume, leaving many, very many, matters wholly unnoticed; but enough, I hope, to whet the curiosity of our readers to judge for themselves. I feel sure it will prove a source of great gratification to the intelligent amateur; and though, so far as I know myself—and that is no easy matter—I am pretty well a stranger to what I am told are the gnawings of envy, I rather think I felt some twinges of that failing when thinking of the improvement and advantages young gardeners might gain from such a volume in these long evenings. If they use these privileges aright they ought far to exceed the Beaton, and Spencers, and Flemings, and Thomsons of our day, as they can occupy the vantage ground which ere long the forwardest of them must leave; but even that they will not do without study and working.

I would in conclusion express a wish that in a new edition, though costing a little more, the large sections should be thrown into lesser chapters, or the paragraphs so numbered as to afford another means of ready reference, in addition to the excellent index; and that the section of diseases and their remedies, so far as known, should be extended; and a new section or chapter given to the insects and other vermin most troublesome to the gardener, and the best-known modes of preventing or settling their depredations. Such a subject would, with illustrations, be well worthy the attention of the author, either as an addition to the present, or as forming the nucleus of another volume to which we could refer in our difficulties.—R. FISII.

### RENOVATING STANDARD APPLE TREES.

WHAT will your readers say to standard Orchard Apple trees—say thirty-years' growth, being most wonderfully renovated by burying the stems 3 feet in depth in nothing but solid clay?

Three trees, as above, quite stunted, hidebound, and fruitless, have been changed into fine healthy trees, producing a profusion of fine clean fruit of a large size, and making abundance of healthy young wood 2 feet long, by having the clay from constructing a pond thrown up against them to the amount of many tons three winters ago; the effect is marvellous.

I have always considered burying trees deep to be certain death; such has not proved to be the case in the present instance. The experiment may be worth trying by parties who have orchards and trees in a similar condition. I should say, Place three or four cartloads of clay on the roots, and around the stems quite close up, and try a few at first. My experiment is actual fact.—HENRY MAX, *the Hope Nurseries, Bedale.*

### SLATING VINE-BORDERS.

I VENTURE to lay before you the plan I have adopted with my Vine-borders. In the beginning of September I felt anxious to secure my Vine-borders from the drenching rains we get in the autumn and winter months. I have found macintosh and asphalt very expensive, and not so durable as I would wish. The next thing I thought of was slate. I procured some of 3 feet 2 inches long and 1 foot 8 inches broad. The next thing was to get spars. I laid them on the border 19 inches apart (rows of bricks will answer the purpose equally as well as spars). The next thing I commenced was laying on the slates, giving them a lap of 2 inches. I feel perfectly satisfied with what I have done, and intend letting them remain on all next summer. When the border wants watering I can draw out a few slates, as I have not used either laths or pegs. The slates are from 2 inches to 3 inches from the soil, and I think the roots will be almost as comfortable as though they had been planted inside the house. I have slated two borders each 50 square yards. Perhaps you will give me your opinion of what I have done.—W. C.

[We agree with your plan, except for summer; then, if we left the slates on, we should place them on the soil, and not leave air beneath them.]

## CULTURE OF ERIOSTEMONS.

THE *Eriostemons* are greenhouse evergreen shrubs, generally of compact habit, and much sought after by exhibitors of plants. They, as well as most other of the races with which gardeners have to deal, possess their peculiarities, which must be attended to in order to insure success in their cultivation. Some of them, particularly *E. buxifolium*, *scabrum*, and *intermedium*, are better grown as pyramids, than as dense dwarf bushes. To have them of this shape, it is necessary to begin with young healthy plants having a leading shoot. It is immaterial whether the plants be grafted or not; but the nurserymen generally graft them, as they thus obtain more readily a supply of plants.



*Eriostemon intermedium*.

If the plants are obtained in the spring, set to work with them immediately. Those that want repotting should have a liberal shift at once into the following compost, which will also serve to grow them in afterwards:—Three parts good turfy peat earth to one part of silver sand, using a liberal quantity of charcoal, both for drainage, and also mixed with the soil. The pots should be well drained with potsherds; and a little of the roughest peat, or some moss, should be placed over the drainage to keep it free and open. This is a great point in the growth of potted plants. After they are potted they should be watered freely, and then placed into an intermediate-house, if large good plants are wanted in the shortest space of time. If not, and slower growth is preferred, which is, perhaps, preferable, the ordinary greenhouse will do very well for them, if the part of the house where they are placed is kept rather close, until they are established in their new pots, when they will soon begin to grow vigorously. It is then necessary to keep the middle stem, or leading shoot, protected by means of a small stake, which, for that purpose, should be a little longer than the shoot. If one side of the plant is inclined to grow more than the other, keep that side cut back a little until the other side has made equal growth, and that part of the plant which is thus behind should be turned towards the lightest part of the house, in order to encourage it as much as possible. If they go on favourably, they may be syringed every fine morning, and a little air given. Bear in mind, however, that they must be shielded from cutting winds, which check them, and turn their foliage of a brownish colour. When they are growing freely, they sometimes show a disposition to callous up the stem; if any sign of this should appear, discontinue the syringing, and give more air until the wood gets a little hardened, which will be a kind of rest for them. After a time they may be examined, and repotted if they are pretty well rooted. This will give them as much pot room as they will require in one season.

After the second shift, they would do best in a frame that could be kept close until they had got rooted into the fresh soil, and raised by degrees, to admit plenty of air round the bottom of the plants; for it is necessary that the second growth should be slower and more stocky; and, to this end, watering over head should, to a great extent, be discontinued, that the wood may become firm and well ripened, so as to withstand the winter. The plants will at this latter season continue rooting without any growth of wood, and will be pretty well pot-bound by the following spring, when they should be treated in the same way as before; and this treatment must be continued year after year, until they are good specimen plants, which will be in the third or fourth season.

The stronger-growing kinds may be managed in the same way, except that they require more pot room, and should from time to time be stopped-back to produce bushy growth.

The following are the best half dozen of the introduced species:—

*E. scabrum*.—A dwarf evergreen shrub, with linear acute leaves, covered with minuta asperities, and numerous axillary whitish flowers, deeply tinged with pink. New Holland. Introduced since 1840.

*E. buxifolium*.—A dwarf evergreen shrub, with small, smooth, broadly elliptic leaves, and white flowers, tinged with pale rose. New Holland. Introduced 1822.

*E. intermedium*.—A moderate-sized evergreen shrub, with large, oblong, obovate leaves, rather glaucous, and having glandular dots, and large white flowers, somewhat tinged with pink. New Holland. Introduced since 1840.

*E. myoporoides*.—A moderate-sized evergreen shrub, with smooth lanceolate leaves, having glandular dots, and large flowers, white tinged with pink. New Holland. Introduced 1824.

*E. cuspidatum*.—A strong-growing evergreen shrub, with large, oblong, lance-shaped glaucous leaves ending in a hooked point, and pale pinkish or rose-coloured flowers. New Holland. Introduced 1823.

*E. salicifolium*.—A strong-growing evergreen shrub, having large linear-lanceolate smooth leaves and pinkish flowers. New Holland. Introduced 1824.

They all bloom during the spring and early summer months, from April to July or August; and the flowers are, in all other species, more or less deeply tinged with pink or rose colour, when developed in a low temperature, and exposed to free air and light. They also generally open with more of the pinky tinge than they retain as they approach the period of their decay.—(G. FREEMAN, *Botanic Garden, Chelsea, in Gardeners' Magazine of Botany*.)

## CENTAUREA ARGENTEA AS AN EDGING.

I AM a'raid the truly beautiful *Centaurea argentea* or candidissima cannot be very generally known, otherwise it would meet with the extensive circulation it merits.

I cannot remember seeing it this season either at Kew, the gardens at South Kensington, or the Crystal Palace, though there was not any scarcity of the much inferior *Cineraria maritima*. I put out nearly 600 of it last spring, as edging for beds on turf, and in ribbon-borders I find it exceedingly effective when placed in front of the Crystal Palace Geranium. Rain or shine, it always looks well. It grows freely, keeps a uniform height, requires no attention in the way of stopping or pegging, "that pest to gardeners," and is in my humble opinion one of the best and most easily cultivated plants of modern introduction for the embellishment of our gardens. I trust some of your correspondents will endorse the character I have given it.—G. J. O.

## HARDY CONIFERÆ.

THERE is nothing more pleasing to a benevolent mind than to observe, amid all the bustle and competition of this age of excitement, the daily increasing taste for the beautiful *Coniferæ* diffusing itself over the length and breadth of the land. In no other manner, to my apprehension, is the disinterestedness and the noble-mindedness of man so finely developed as in planting for posterity. How barren and dreary is a country without trees! What scene so beautiful as the landscape adorned with the tall, stately, and conical forms of some trees, the gracefully drooping

branches of others, and the ever-changing and beautiful features that each revolving season gives to all. When we now admire the landscape scenery of the country, adorned as it is principally by the natives of the soil—fine fellows, too, the brave old Oak, Elm, Beech, and many others—we cannot help picturing to our minds how great the change will be, and how enriched the embellishment produced over the whole face of the country when the fine and noble race of Coniferae, having arrived at the perfect state of maturity, shall contribute an oriental grandeur to the scene. Posterity cannot be too grateful to the many gentlemen—philantropists in the true sense of the word—who have planted, or are preparing to plant, the hardy denizens of other climes, to give splendour and beauty to the pleasure grounds and parks, to the hills and valleys of their own estates.



Juniperus excelsa.

The accounts given by travellers of the rich luxuriance of the large and handsome trees of foreign and distant climes are interesting and instructive. They are also useful, as it has been generally in consequence of such accounts that collectors have been appointed to different parts of the world to send home seeds or plants of all that would be useful or ornamental in this country. It is pleasant to picture to one's self the marked change that the whole face of the country shall undergo, when the noble and majestic *Arucaria imbricata*, the graceful *Deodar Cedar*, the beautiful *Abies Douglasii* and *Pinus insignis*, *P. monticola*, and many other majestic Coniferae of varied and vivid greens, shall be luxuriating with us in all the natural beauty of their native drees.

Nearly all the Coniferae are valuable for timber, or for ornament, and generally for both. The *Thujas*, *Cypresses*, and *Junipers* are particularly interesting in their habits of growth, and are suitable either for exposed situations or on very rocky poor soils about the home grounds. When we hear of some of the Coniferae being introduced from tropical climates, we are disposed to doubt that they will ever become useful in this country; but we must consider that, although there are many parts, even within the tropics, exposed to a bright sky and intense heat, there are other parts exposed to frost and snow. In such climates the range of vegetation naturally adapted for each locality progresses as the range of temperature extends from the sultry valleys to the snow-capped mountains. With the uncertainty that always exists about the proper management of plants introduced from countries but slightly explored, it is satisfactory to know that many Coniferae have been tested by the most severe winter on record in this country (1837-38), and have proved hardy.

As it is probable that many persons who have been nursing their Coniferae through a severe winter will be disposed to plant them out at the first approach of fine weather, I am induced to caution them against so doing, and to give them a few hints that may be useful when the time arrives for carrying

them into practice. At present, the best thing to be done is to select the situations in which they are to be planted, and to turn up the soil into mounds 18 inches or 2 feet high, the better to ameliorate and pulverise it by exposure to frost and other atmospheric influences. The situation to be selected should be rather exposed, where a good growth could be made sufficiently early to become matured before the nipping frosts of autumn appear. No practice that we can adopt will change the nature of a plant, but we may be able to influence its susceptibility so far, by good management, as to enable it to withstand the many atmospheric changes to which it may be exposed. The soil being well pulverised and raised into finely sloping mounds, about the middle of May, when all danger of frost is over, is the best time for turning the plants out of their pots into the open ground, where they are to remain to adorn the park scenery or pleasure-ground views. The object in planting them upon mounds is to produce a thorough drainage for the roots and a more agreeable appearance in the landscape. The soil being mulched or covered with the mowings from the pleasure grounds, or with leaves or any other litter easily procured in summer, will prevent evaporation, and the moisture in the soil will be retained for the healthy vegetation of the roots.

During the summer, when the days are long, the sunlight powerful, and the temperature high, vegetation is excited to produce luxuriant growth. As the days become shorter, the sunlight less powerful, and the temperature lower, a change is produced in the system of the plant, and it gradually subsides into a comparatively dormant state—the leaves being dependent upon the influence of heat and light for their excitability, for the proper elaboration of the sap, and for their healthy perspiration; and when these influences are on the decline the plant is approaching the state of rest natural to vegetables in all parts of the world. It then attains to a state of rest in which it is able to withstand the severity of winter. Although roots are never entirely inactive, nevertheless their action will in a great measure depend upon the active vitality of the leaves. It is principally by the action of the leaves that the roots are excited to imbibe nourishment from the soil; but when the power of the leaves to perspire aqueous matter, and to absorb the nutritious gases supplied by the atmosphere, ceases, the roots gradually, and in less quantities, imbibe food from the soil to supply the waste produced in the system during the summer and autumn growth of the plant, and to collect a store of organisable matter to supply the demand of the leaves and branches the following spring. When the roots are surrounded with a superabundance of water in badly drained soils, they imbibe it in immoderate quantities, the vessels of the plant become gorged, the tissues lax, and the whole system disorganised; then they are most susceptible of injury from frosts. It is for such reasons advisable to plant Coniferae in open or exposed situations, where their growth would be gradually arrested by the coldness and other atmospheric influences of such situations. The truth of the principle is proved by the fact, that in severe winters the more exposed plants have been grown, the less they have suffered; and, on the contrary, the more they have been sheltered, without being protected artificially, the more severely they have been injured.

The following is a list of hardy and handsome Coniferae, selected either for diversity of foliage or habit of growth:—

MEXICAN.	<i>Pinus insignis</i>	<i>Abies Bruniana</i>
<i>Pinus Ayacahuite</i>	<i>Lambertiana</i>	<i>Murinda</i>
<i>apulcensis</i>	<i>monticola</i>	<i>Smithiana</i>
<i>Devoniana</i>	<i>Caulteri</i>	<i>Webbiana</i>
<i>Hartwegii</i>	<i>Sabiniana</i>	<i>Thuja orientalis</i>
<i>Llaveana</i>	<i>Sir-clairiana</i>	<i>Cryptomeria japonica</i>
<i>Mantezumæ</i>	<i>Abies Menziesii</i>	<i>Juniperus chinensis</i>
<i>macrophylla</i>	<i>Douglasii</i>	
<i>patula</i>	<i>Picea amabilis</i>	EUROPEAN.
<i>Russelliana</i>	<i>nobilis</i>	<i>Pinus halepensis</i>
<i>Teocote</i>		<i>bruta</i>
<i>Picea religiosa</i>		<i>Picea cephalonica</i>
<i>Juniperus flaccida</i>	INDIAN.	<i>Pinusapo</i>
<i>tetragona</i>	<i>Pinus excelsa</i>	<i>Juniperus excelsa</i>
N. W. AMERICA.	<i>Gerardian</i>	<i>occidentalis</i>
<i>Pinus macrocarpa</i>	<i>Cedrus deodara</i>	

—(W. P. KEANE, in *Gardeners' Magazine of Botany*.)

### RASPBERRY PLANTING.

ALLOW me to say a word or two on this subject. I never recollect seeing my mode of planting the Raspberry described in print or in practice, except by the man I learned it from, and

that was thirty years ago: therefore, it may be new to some of my brother readers.

In the first place, I prepare the land as any other gardener would that wishes the plants to do well, any day after Christmas when time and opportunity offer, and take care to have the ground in good condition by the time the suckers are about a foot or 15 inches high. I have planted them when 18 inches high, but would rather have them lower, as the sun does not affect them so much.

I select the strongest suckers that are well rooted. I am particular to have a good fibrous root with a good collar, though the cane is small, rather than a strong cane with what I call a carrot root. I then dig out the holes, and put three plants in each hole, in a triangle, about 9 inches apart, spreading the roots out nicely; fill-in the soil, give a good watering, and then the work is done, all but paying attention to watering till the plants have got good hold of the ground. I never shade; but where time will allow, and the weather is very hot, shading will benefit.

As far as my experience goes, this beats all the ways of planting Raspberries I have ever tried or read of. I have tried Mr. Pearson's way.—WORCESTER.

### FAILURE OF CELERY THIS YEAR.

"P. L. C." inquires, as any one would reasonably inquire, why Celery should be bitter, stringy, and rotting at the heart after giving it such excellent treatment as he describes. I do not profess to be able to assign a reason unless it be that Celery is, like many people, the better treated the more perverse; but if by giving my experience of the last few years I can throw any light on the subject, I am willing to do so. In truth, I believe the worst Celery I ever grew is the present crop, which is taken up daily, and which yields a very small per-centage of eatable matter, although very few plants have gone-off entirely, and the flavour is pretty much as it should be. It has been tolerably free from the fly; the worst pest appears to be a small worm that eats into the leafstalk, beginning at the bottom and working upwards. The crop is below the average size. In July and August it made little progress, being almost at a standstill, but in September it began to grow vigorously. It was planted in double rows, and had at least 6 inches of good rotten manure—rather more than I have usually given former crops. Another advantage it had was, that the ground had been unoccupied six months previous to planting in the trenches, so that with all these advantages and better treatment the crop is the worst I ever had. It was sown in March, pricked-out in April, and planted-out in the trenches in June, and well watered when necessary. The sorts are Coles' Red, Crystal White, and Incomparable Dwarf White, the same as I usually grow.

The best crop of Celery I ever grew was about ten years ago, on a rather heavy soil sloping to the north. The ground was never to my knowledge trenched or dug more than one spit deep, and very little manure was given when the crop was planted-out. It was treated in other respects just the same as the crop above mentioned, saving that, whilst I generally prick it out on a bed of manure, manure having been scarce then, I had to prick it out on the common earth. When the crop was taken up for use it was of good flavour, very clean, solid, and of immense size. The excellence of the crop might be derived from the nature of the soil and a favourable season; but I imagine that Celery does not like altogether the peculiar mode adopted in its culture. The ground is generally thrown out to the depth of a foot or 15 inches; the dung is put in the trenches, and either dug-in or some of the soil that was taken out is put in again. Generally speaking, neither the manure nor the soil is in a fit state for the plants to root into immediately; for, the soil being from beneath, the surface requires aerating, and the manure wants to be further decomposed; and what is unfavourable to immediate root action is unfavourable to the growth of the crop the rest of the season, but is favourable to the development of grubs and worms.

Five years ago I had a very bad crop of Celery on a piece of ground that had been trenched 3 feet deep the previous winter, after a crop of early Peas. The Celery was planted and it scarcely grew at all till the end of September, and the same thing happened two years ago, while that planted in untrenched ground did much better. I had very fine crops three and four years ago on untrenched ground, when the Celery was planted

in very shallow trenches and received very little manure. I thus appears to me, that though Celery is a gross-feeding plant, it is possible to feed it too grossly, or, at least, that the soil may be too highly enriched with manure, and too loose and friable, and that a firm tenacious soil would suit it much better.

Another important matter is in the time of sowing and pricking-out. It is all very well to sow in February in heat to get an early crop, but for the main supply I believe it is bad policy either to sow in heat or to sow too early. What has to stand the season should not be stimulated in the early months by artificial heat. If for the main and late crops the seed is sown on the open ground late in March or early in April, it will be quite soon enough if the plants can be kept in a growing state, and it will be far more crisp and solid than that sown in February, and placed under glass, hardened-off, &c.—processes which, but for the sake of getting it very early, are not only unnecessary but inimical to the crop, which towards autumn becomes weak and sickly, and falls a ready prey to the fly and the wireworm.—F. CHITTY, *Stamford Hill*.

### CULTURE AND HARDINESS OF THE GLOBE ARTICHOKE.

This plant is said to be indigenous to the countries which bound the Mediterranean, and is, consequently, a native of a more genial climate than our own.

The soil best suited for the Globe Artichoke is a stiffish loam, impregnated with a portion of saline or alkaline matter, as nothing is more inimical to the successful cultivation of the Artichoke than a dry soil; in dry sandy soils where the roots of the plants are burnt up in summer the produce is rarely worth the gathering—diminutive in size, and of bad quality. We have attempted its cultivation in such a soil, and the result was a dead failure.

As a manure, seaweed must have the precedence; for Artichokes, Asparagus, and Sea-kale, there is nothing equal to seaweed. I have been so situated as to be able to obtain it in almost any quantity, and am ready to testify to its superiority as a manure for the plants just named over all others; it contains the ingredients which it would seem are essential to their full development, the only difference being that the sandy soil suited to the two latter is altogether unsuited to the Artichoke. The finest Globe Artichokes I ever remember seeing were growing in a deep loamy soil, and the only manure they ever had was an annual top-dressing of seaweed spread over the surface of the soil between the rows of plants to the depth of 5 inches or 6 inches; it was put on early in winter, and allowed to remain till spring, when a part of it was taken away, and the remainder dug-in between the rows of plants. This, of course, is all very well where seaweed can be had, but this is not always procurable, and the next best substitute, so far as I am aware, is well-rotted stable-manure. It is better, however, to dig the dung in, and not to leave it exposed on the surface as in the case of the seaweed.

In preparing the ground for the Globe Artichoke it should be trenched to the depth of 2 feet, and pretty well enriched with manure, and the plants placed 5 feet apart both ways; they will also be benefited by having the ground between the rows of plants sprinkled with a little salt at least once a-year in the same proportion as is usually given to Asparagus.

Propagation is a very simple affair, as it is readily accomplished by suckers from the roots; this may be done in March or April, or any time after the plants have pushed to a height of 5 inches or 6 inches. These will probably produce a few heads the same year, but not abundantly, but will do so the following summer.

It is proper to make young plantations at short intervals—every second or third year; for, although the old plants will continue to produce for an indefinite period of time, the edible part degenerates both in size and quality when they become too old. In our soil, which, for the most part, is of a stiff heavy nature inclining to clay, and resting on a subsoil of the same material, the Globe Artichoke does well, producing magnificent heads; but though the plants grow well, even grossly, in summer, they are very apt to rot at the crown in winter, owing to our naturally damp soil conjoined with the annual rainfall, which is above the average of most other countries in England, if we except, perhaps, the lake districts of Cumberland. We are, therefore, less apprehensive of frost than wet; indeed, we are inclined to think that the plant is much more hardy than most

of us are willing to believe. We seldom have recourse to covering the plants in ordinary winters. We take away the soil all round the crown of the plant to the depth of 3 inches, and fill up either with sand or riddled coal ashes. This keeps the collar of the plant dry, and prevents rotting; and in general we find it ample protection in winters of ordinary severity.

It is recorded that the Globe Artichokes in England were almost annihilated by the severe winter of 1739. How that winter would stand in comparison with 1860 I have no means of knowing; but I am not aware that they suffered extensively in the latter. But in winters of extraordinary severity, as we have recently experienced, protection, of course, is indispensable, and that, too, to a considerable extent. When I use protective matter at all for Artichokes it is usually dry tree leaves, with a sprinkling of soil put over them to prevent them from being blown away by the wind. But as Mr. Beaton has been the first to agitate the question, "Is the Globe Artichoke hardy?" the opinion of others would be both interesting and instructive to many of your readers.—J. DUNN, *Harrock Hall Gardens, near Wigan.*

**THE TREE AND FRUIT TRADE OF ANGERS.**

THE trade in fruits and trees at Angers is so extensive, that the district may justly claim to be entitled the nursery of France; and in proof of this assertion we adduce the following statements of the quantities of trees and of Apples and Pears sent away by railway by the nurserymen and fruiterers of Angers. These statements have been prepared by M. Baptiste Desportes, from the books of the railway company, and may, therefore be relied upon.

The trees and plants sent by railway from Angers in the year 1860-61 weighed in round numbers 1476 tons; and it is estimated that about a third more, or 492 tons, is conveyed away by boat, carriers, and carts, making the total weight sent away 1968 tons in a single year. This enormous quantity of fruit trees is sent to all parts of France, to Belgium, Holland, Germany, Switzerland, Spain, Portugal, the coast of the Mediterranean, America, &c.

Although the trees sent by railway give such a large tonnage, that of the fruit, Apples, and Pears, is yet greater, as will be seen by the following table, which shows the quantity conveyed from July, 1861, to February 1862:—

Month.	PEARS.		APPLES.	Total.
	Fast Trains.	Slow Trains.	Slow Trains.	
	tons.cwt.lbs.	tons.cwt.lbs.	tons.cwt.lbs.	tons.cwt.lbs.
1861.—July .....	14 19 21	70 6 48	.....	25 5 69
August .....	64 0 49	244 5 101	.....	308 6 33
September .....	38 1 59	158 5 79	.....	196 7 26
October .....	19 7 82	113 3 73	323 17 88	456 9 19
November ..	3 11 90	15 5 11	503 1 27	523 18 16
December ..	2 12 95	.....	284 9 53	287 2 36
1862.—January ..	0 2 107	.....	220 7 87	220 10 82
February .....	.....	.....	128 13 3	128 13 3
Grand Total .....	142 16 55	541 6 88	1462 9 34	2146 12 65

On glancing over the table, it will be seen that the fruit traffic commences in July, and that during August and September it consists in Pears only. The quantity conveyed is greatest in August, when it averages nearly 10 tons a-day. Williams' Bon Chrétien, which is extensively grown in the orchards of Anjou, and which is in great demand at Paris, is almost the only variety which is sent by the fast trains. This circumstance is easily accounted for by the fact of its being of better quality, handsomer, and more sought after than other kinds ripening at the same time [more probably owing to its not keeping when ripe], and, consequently, it brings a higher price, which admits of a greater expenditure in carriage.

It must not, however, be supposed that all the fruit sent otherwise than by the fast trains is of inferior quality, for at least one-fifth of such is estimated to be first-rate. The remainder consists of inferior fruit for selling in the streets, which is carried in the goods-waggons without being packed, a little straw being thrown over the bottom to prevent bruising.

Again, referring to the table, it will be seen that the traffic continues brisk in September and October. The choice kinds principally consisting of Louise Bonne of Jersey, Duchesse d'Angoulême, Beurré Diel, Beurré d'Arenberg, and Easter Beurré; the others, with few exceptions, are inferior kinds for selling in the streets.

The total quantity of Pears sent throughout the season amounts to 684 tons, and is of an estimated value of £8342, and taking into account the other railways in the department, this estimate may be doubled.

The common kinds of Pears are all sold at Paris; those of superior quality only in part there, the remainder going to Havre for shipment to England and Russia.

The traffic in Apples is even greater than that in Pears; it begins in October, amounts to 323 tons in that month, and in November it reaches 505 tons, as much as 30 tons and 40 tons being sometimes sent off in a single day. The quantity of Apples carried by the Angers railway up to the end of April was 1727 tons, and it is computed that the other lines in the Department bring up the total weight sent by rail to 2950 tons, whilst about 1970 tons more are loaded on to boats, making altogether 4920 tons, of the estimated value of £19,230. The total value of the Apples and Pears sent from Angers to Paris, and abroad, approximates, therefore, closely to £36,000.—(*Proceedings of the Comice Horticole de Maine et Loire.*)

**THE DISTRESSED LANCASHIRE WORKINGMEN BOTANISTS.**

I PURPOSED giving the many kindhearted people, who have so generously answered my call for help to distressed brethren, a sort of epitome of the character of the men relieved, but must forego it this week. I have been under deep obligations to our worthy Mayor of "the Borough" (for we have two Mayors here), who has kindly sought out some information that I wanted about some persons I have relieved; and others here high in station have rendered me all the assistance I required, for it could not be supposed that I could know all who might come before me, and therefore I sought for reliable information.

As a whole I have found the private characters of these poor naturalists very good. Of course there are black sheep in almost every flock, but I feel convinced your readers who have helped these poor lovers of "humble-looking weeds" will have no cause to regret their aid.

I have received since I last wrote the following:—Mrs. Elliot, 2s. 6d.; A Gardener, 5s.; Mrs. Wigan, £1 1s.; Mr. J. Stollard, 10s. 6d.; G. S. W., Esq., and family, £2, with a lot of very valuable bed and other clothing; Miss Hammer, £1 1s.; Miss Shore, Kensington, £2 (some of the above are for Mosses, Ferns, &c.), Mrs. Henley, and servants of Leigh House, Chard, Somerset, a box of very good and substantial clothing. The servants at the above house have subscribed and bought a blanket and one pair of stockings for my poor scientific friends, and I wish especially to thank them.

The botanists purpose to thank you and your numerous readers, who have so kindly helped them in this hour of trial, in the course of a few weeks.

There is a little sickness in two families; and the doctor, a worthy alderman, who attends them, has ordered me to get some wine for some of the invalids, and he will give it them in such manner that it will be used properly.—JOHN HAGUE, 36, *Mount Street, Ashton-under-Lyne.*

**CONSTRUCTING SMALL PITS.**

IN the letter of your correspondent "F. C." in last week's Journal upon the above subject, it is stated, amongst the many other mishaps which befel his friend's flue-heated pit, that "it was impossible to get heat enough to keep out a sharp frost." I think there must have been some mistake in the construction of the flue, as with my small roughly-made furnace (as described in No. 87), the following heat was attained. On the 1st inst. my frame thermometer stood at 51°, and as I have only Mushroom-beds under the lights at present, I lit the fire and allowed it to burn for some five or six hours; forgetting, however, to open the lights. On the 2nd, at 8 A.M., on inspecting the frames I found the thermometer at 95°; the outside temperature being 36°, and having been down as low as 30° during the night. The flue also retained sufficient heat in spite of day ventilation to keep the mercury up to 75° till the 4th inst., when it sank quickly. My forgetfulness has, I expect, in your correspondent's words, "steamed to death" my Mushrooms; and the degree of heat attained is therefore the only fact worth notice. Unless, however, the flue be covered to some depth with rubble, broken

bricks, &c., as advised by you in answer to "H," it is useless to expect the heat to get through properly. With regard to the vapour from the flues killing the plants, I have experienced the same mishap when requiring top heat and removing the earth from the flue for that purpose, and I attribute it to a very minute escape of coke gas. To obviate this, I intend to adopt your suggestion to "H," as regards a pipe leading from the broken bricks, &c., into the frames; but, instead of a pipe, I shall construct a small square tower of brick, which I shall cover with a thin sheet of iron. This I expect will allow the upper air to be warmed without the slightest escape of coke gas, as I have never found it rise through the earth in the frames.—  
LEX.

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

PROCEED with former directions as regards maturing and trenching. Gravel walks should come in for a share of attention in rolling, &c. Sifted coal ashes is an excellent material for the back walks, as it bears the winter traffic well, and is always pleasant to walk upon. A coating of such material may now be given if they are in a bad condition. *Asparagus*, if the heat of the beds should decline, a slight lioing may be added, but care must be taken that it does not heat violently. *Beans*, those advancing should have the surface soil stirred and the earth drawn over them. Keep the *Broccoli* free from dead leaves, as after frost they materially injure the plants by causing them to rot. *Celery*, take advantage of every favourable opportunity till frost occurs, of earthing-up the late crops, both for the purpose of blanching and protection. *Lettuce*, those in frames for present use to be kept dry and free from dead leaves. *Parsnips*, where they have not yet been taken up they should be left in no longer, as they are not in the slightest degree benefited by remaining in the ground, and should severe frost set in there will be a difficulty in getting them up. *Peas*, those which had been sown on a warm border, as advised, will now be peeping out of the ground, and should have the surface soil stirred about them, and a covering of decomposed leaf mould or any other light soil laid immediately over the rows; and also in the event of cutting winds prevailing, some branches of spruce fir or birch stuck in on the windward-side will be useful. *Turnips*, on the first appearance of severe frost it is advisable to get some under cover. They may be laid in sand after the tops are cut off.

### FLOWER GARDEN.

Where the tenderer kinds of *Roses* are found to require protection, this should be applied at once, or it may be soon too late to save the plants. Protection may be given by strewing a good thickness of fern or any other dry material amongst the stems of the plants. Those varieties which are budded upon the standards may be easily protected by tying on a few furze branches round the head, securing the whole with a strong stake to save it from being injured by the wintry winds. Those standards which, by the weakness of the shoots and the paucity of their blooms this season, are showing evident symptoms of decay, should have all the surface soil taken off down to the roots, and all the suckers removed, after which a thick coat of well-rotted dung should be laid about them and covered with a portion of the soil. This applies with equal force to those standards that are planted out on turf; in which cases, taking it for granted that the turf is not nearer to the stem than 18 inches, the soil should be removed as in the former case, and a good dressing of strong compost applied. If this be covered with flints or white pebbles the unsightly appearance of the soil upon the turf will be done away with. Valuable plants also, as variegated *Hollies*, &c., if not growing as freely as they should do, would be benefited by a liberal allowance of rotten manure or well-decayed leaf mould being applied as a top-dressing, covering it with a little fine soil, and working it into the ground around the ball, towards the extremities of the roots.

### FRUIT GARDEN.

Planting, hitherto deferred, should be immediately attended to. The roots of all newly-planted trees should be secured from the effects of severe weather by mulching. Fruit trees are injured by the accumulation of moss and lichen on their branches; where the hand cannot reach it, a dashing of lime will effect its destruction. Any of the more choice varieties of *Pears* which do not ripen properly should be removed to a warm dry room for a few days, which will be found to greatly improve them.

### STOVE.

Some of the early-ripened tall *Cacti* may now be introduced, either in the stove or the forcing-pit, and receive a liberal watering to commence with. If, however, the blossom-buds are not well matured it is of little use forcing them. Do not encourage any fresh growth among stove plants at this period; rather aim at that kind of routine management which will serve to consolidate the growth already made, and to develop the blossoms of the late-flowering things in a proper way. Great caution will be necessary to provide against drip.

### GREENHOUSE AND CONSERVATORY.

The ill effects of humidity and stagnant air in plant-houses should be guarded against, most particularly at this season. *Pelargoniums* to be kept rather cool and dry, giving whatever water may be necessary on the mornings of fine days, so that the superfluous moisture may have evaporated before the evening; avoiding the use of fire heat, except when necessary to prevent the temperature falling below 40°, or to dispel damp, when this cannot safely be done, by giving air. Herbaceous *Calceolarias* require similar treatment, except that they are very subject to the attacks of thrips unless afforded a moist atmosphere. They must, therefore, be narrowly watched for this enemy, and smoked lightly two or three evenings successively if this pest makes its appearance, keeping the atmosphere moist, but giving air on every favourable opportunity.

### FORCING-PIT.

Dutch bulbs should be largely used for forcing at this season. A good batch of *Roses* to be introduced, choosing the most promising plants of *Teas*, *Bourbons*, and *Hybrid Perpetuals*; *Rhododendrons*, *Azaleas*, *Persian Lilacs*, *Sweet Briars*, *Honey-suckles*, *Kalmias*, *Daphnes*, *Rhodoras*, &c. A sweet bottom heat of from 75° to 80° max., and a temperature from 60° to 65°. It may be necessary to state, that it is in vain to introduce anything unless properly set for bloom.

### PITS AND FRAMES.

Now while the weather is open give careful attention to the bedding plants, taking advantage of the favourable state of the weather to expose them freely to the air. W. KEANE.

## DOINGS OF THE LAST WEEK.

### KITCHEN GARDEN.

FIND that even with company our *Asparagus* comes quicker in this mild weather than we want, and wish we had taken up less, as even rich delicacies cease to be so whenever they are extra plentiful. Swept-over last earthen-up *Mushroom-bed*; as it was rather damp and wet on the surface, put a little straw on the surface, which will help to dry it before the *Mushrooms* appear, as, if the surface is too moist the *Mushrooms* are apt to damp-off, as mentioned by a correspondent. This bed is on a shelf, and the next succession will be below it; and as the dung for it there in preparation has thrown up some heat, that heat and the straw together will cause the extra moisture to disappear. The bed before this one has borne well, and the individual *Mushrooms* just too large and thick to be easily cooked; the strong stems were so crisp and sweet that, if cut up, we are sure none would have detected them from the best little bits of button *Mushrooms*. It has often grieved us to see delicate white buttons, not half an inch across, pared deep as if they were rough *Potatoes* and *Turnips*, and half of the delicious things thrown away, and this even more so with large *Mushrooms*. On the other hand, we have seen careful cooks save every morsel, even of the stems, and bring them in for use. In addition to looking after slugs, and what is much worse—rabbits, that have got into a fenced garden from leaving the gates of the pleasure ground open, the chief work here has been removing all the last of the pea-stakes, clearing the borders of leaves, and picking what few weeds appeared on the walks, brushing them well and rolling them firm, which will keep them better for walking on, whether wet or frost visits us.

### FRUIT GARDEN.

In addition to what was lately detailed, put in more *Strawberries* on a bed of leaves, not plunging them, but setting them on the surface, examining each plant before doing so. The object of this is just to give the plants a slow incitement to growth, and thus bring them on gradually before they are taken into the forcing-houses, and thus gain time, as it were, before fire heat is used in these houses. We had also struck some *Vines*

late last season, which were in smallish pots, and for a purpose respecting which we were disappointed in not being able to carry it out. The pots, like a correspondent's last week, were too small for fruiting Vines; but, as the young things had many of them nice buds, we gave them another shift, beating the soil quite hard about the ball, which was a little disengaged, so as to let the roots out, and then these pots were plunged into a bed of leaves with a fairish heat in them, and some old sashes placed over them, and air given unless in times of severe frost. The object in this case is quite different from what was stated last week with Vines placed on tiles and slates on a hotter bed. In this last case the pots were crammed with roots, and extra heat at the sides would have been prejudicial. In the present case our object is to increase root action, that the pots may be pretty well filled with fresh roots before the buds break. If these small plants should, nevertheless, show fruit, as many did last year, there will be material in the pots to support them; and if a few do not do so, nothing will be lost—for, if disposed, we can grow them afterwards on the single rod, or bush, or branched-stem system. Gathered about the last Figs for the season, leaving only a dish or two, though the leaves have all been removed. These Figs, though small owing to the dryness of the soil, were, nevertheless, owing to that dryness, very good and sweet in flavour. A few late Melons we have not used much; for, though the colour and the scent were pretty good, the flavour was so great a deal better than a Cucumber. Looked over late Grapes, which are now as much prized as early ones; and removed all speckled fruit from the fruit-store-room. Unfortunately, we find that we had gathered our Filberts early enough, as we like to see them plump and full. Found, however, it was merely a choice of evils; as, not to speak of squirrels which gamekeepers do look after, found the larger birds were carrying them off wholesale. Did a little pruning in fine days.

#### PLEASURE GROUNDS.

Removed the last of the summer-flowering plants, cutting-down Phloxes, Solidagos, to the ground. Cutting-down also stools of Fuchsias, using the shoots when well frosted for stakes; finding that even if the shoots of planted-out Fuchsias are saved, either by protection or the mildness of the winter, that they do not bloom so well next season as fresh shoots from the stool. Dug a little in slightly frosty mornings, but in general it was too sloppy for that. Most of the leaves of the deciduous trees having now fallen, had the lawn well swept, using a small broom with a long handle, similar to what we described for the daisy-knife, which enables a man sweeping right and left to clear about as much as two or three mowers' swathes, leaving rows to be swept-up with the usual short brooms. Then rolled the lawn, and after brushing the walks rolled them likewise, and for two reasons, besides making them comfortable in the meantime. The first is, that the firmer they are on the surface the less will rains penetrate, and the less will the walks be influenced by alternations of frost and thaw; and, secondly, as the surface of the walks is seldom disturbed by hoeing, digging, or otherwise, there is apt to be a little green mossy matter here and there on the gravel, and when thus smoothed-over on the surface, and a sudden sharp frost comes in a morning, a few scrubby brooms used with a little elbow-grease will remove the most of the green matter and not disturb the gravel at all. Such operations are necessary wherever neatness in pleasure grounds is an object; much, however, as we may admire the changes in the colour of leaves as they fade, there are few things in a garden more suggestive of melancholy feelings than wet decaying leaves on a walk or lawn. The smoother the surface of either the less will they be disposed to remain even when blown there.

#### PITS AND FRAMES.

This, for young plants in them, is the worst season of all the year, as the dull weather is apt to make the plants damp. The great preventives are—first, air back and front in all mild weather, shutting-up at night when the weather is a little doubtful, and especially if the moon rises after midnight, but giving no covering unless frost is expected. To make a compromise when it is feared there may be a little frost before morning; it may often be better to cover the glass, and leave a little air on—say half an inch at the top which, if frosty, may be taken away in the morning. It will take several degrees of frost to penetrate through a small opening for air, if the glass is covered. When the latter is uncovered, and air on likewise, a very few degrees will injure small tender plants. The second preventive is, using

the nimble fingers and the supple backs of boys to pick off all mouldy and decayed leaves as they appear; and of these there will be few in proportion to the coolness, air, and light given to the plants.

Old Geraniums (Scarlets) stuck like faggots into pots in a cold pit, have as yet had no water; but as the soil now appears dry, and on examination find new spongiolo-roots protruding, would give a little water, if we could depend on a few sunny days. If the present mild, dripping, muggy weather continues, will refrain from giving water, as the plants, having no leaves, will suffer less from dryness than from excess of moisture.

In conservatory, re-arranged plants, removing Chrysanthemums past their best. Cinerarias, that had a little thrips, set in a frame, and placed a bushel of laurel leaves in front of them, which settled them. Potted-off some of the scarcer Geraniums; top-dressed Orchids, and stove plants; cut-off the most of the leaves of fine-leaved Begonias, and set them thick under Fig trees to dry, and be cool until spring. Violets, bulbs, and forcing shrubs will require all the care several times alluded to, though of late we have done little in that way in comparison to what we used to do. Plants, in general, much as before, timing watering to the state of the plants and the weather.—R. F.

#### TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

ADVERTISEMENTS.—A correspondent, "J. R. W.," complains, and justly complains, that "Dunn's Gardener's Pencils," and the "Bijon Drainer," are advertised as "to be had of all seedsmen, &c.;" and that, having inquired of four or five seedsmen in Liverpool, they told him that they did not keep either, and that "it is the usual mode of advertising." It is quite true that it would be worth while for seedsmen to keep those articles; but it would be more to the interest of these advertisers to appoint an agent in each principal town, so that the public need not be balked and troubled in the way complained of.

BULBS VEGETATING STRONGLY (*Subscriber since 1856*).—All those spring-flowering bulbs which we put in the autumn for forcing, and which we plunge or cover till the pots are filled with roots, need not flower one day the sooner for being so treated, unless we wish it, and push them on accordingly. You have done yours very well indeed, and they are now in the very best condition for the time; and as you do not wish them to come in early, take off all the loose leaves you put over them and let them stand under the two inches deep of ashes only, and they will remain all most as they now are for the next two months—or most of them will. No you are quite safe yet; but if hard frost set in put the tree leaves over them again, and again take them off in fine weather as long as you mean to keep back the bulbs.

ZYGOPETALON MACKAYI (*W. C. P. Glasgow*).—Your plant is the true *Zygopetalon Mackayi*, the most easy to grow and to bloom of all the Orchids, and always blooms, or ought to bloom, at the end of the autumn, and grows on slowly all the winter.

PHALANOPES (*Idem*).—No one knows how big *Phalanopes* grow. The first plant that was sold of it, for one hundred guineas, had only one leaf and one-half of a young leaf coming and one spike of bloom. We had that plant in our hands soon after it was bought. We have seen them with one leaf and with one and twenty leaves; but Mr. Fortune bought a plant of it with probably hundreds of leaves, and it took two natives to carry it on a pole between them, as he says in one of his books of eastern travels.

CAMELLIA BUDS FALLING (*Timothy*).—We think it very likely that, if your plants are well drained, the balls of the large plants have got dry in the centre, as the smaller plants do not shed their blossom-buds.

ROMAN CANDLE (*J. Smith*).—You say your plant is so called, and that it is "like a dip candle with a tuft of leaves on the top." We are not sure of the plant. Is it a succulent? We think we have heard the *Cacalia utricularata* so named, and that has a little resemblance to your description. Very likely we might know something of it if we saw a piece of it.

STEPHANOTIS FLORIBONDA NOT BLOOMING (*Bellvue Park*).—Supposing the walled-in pit is well drained, pick away with a pointed stick and fingers a good portion of the old soil and replace it with fibry loam and old cow-dung, and a quart of small broken bones. Give little water in winter, but plenty in the summer, and encourage the stems to grow down under the glass.

PELARGONIUMS AND FUCHSIAS (*Beginner, J. C.*).—The six *Pelargoniums* are all good and so are the six *Fuchsias*, and any others from the same families might not please you so well as these; therefore we shall not alter your own lists.

**DOUBLE WHITE PRIMULA AND CAPE BOLBS** (*Young Beginner*).—Keep the bulbs as cool as Calceolarias for another week, when we purpose to give a detailed account of the yearly management for them and for the Primulas.

**INTELLECTUAL OBSERVER** (*F. B.*).—With postage 1s. 4d. Or you can procure it through any bookseller. It is a periodical.

**GRAPE JOGGING** (*G. J. O.*).—The subject is now ventilated, but we think will not be settled unless an authority like the Fruit Committee of the Royal Horticultural Society will promulgate a code of merit.

**COCA-NUT FIBRE DUST** (*K. H.*).—Your gardener having dressed all the flower and kitchen garden heavily with the refuse of the cocoa-nut fibre, his "madness" is a bold attempt to keep a good comfortable place, and to shine in it to the satisfaction of his employers by improving in all the departments, and before this time next year you will be the first to propose another heavy dressing to some of the parts, if not to the whole. Mr. Beaton informs us that in his neighbourhood many are all but mad on the cocoa-nut fibre dust, but none of them use the short refuse fibre; that they all put on heavy dressings of it; that the Rev. E. Phillips is now making Vine-borders with it, flower beds, also roseries, and a complete renovation of his whole grounds and plantings, in order to introduce this great improvement, which he, the said Rev. E. Phillips, characterises as "the nervous system for soils."

**CYCLAMEN SEEDLINGS** (*T.*).—As you "always lose your Cyclamen seedlings while in their first rest," turn over a new leaf and never let them rest at all till they have bloomed, as we recorded not long since as being the practice of the Messrs. Henderson and Carter & Co. The only book "profusely illustrated in colours of hardy and half hardy plants, with reliable cultural notes," is Sweet's "British Flower Garden." There is something wrong in your account of the Cyclamen seedlings putting up two leaves at the first start. Are all your seedlings as you say? If so, pray send us one or two in a pill-box. We sent about your *Farfugium* Cyclamen to Mr. Beaton, and you have his notes on it in another page.

**NELSON APPLES** (*C. B. A., Staffordshire*).—This, usually called Nelson's Codlin, is a very excellent Apple for kitchen use and even for dessert. It is in season from September to January.

**LIME WATER** (*D. Scotchman*).—A peck of freshly-slacked lime put into 40 gallons of cold water. The water may be used after they have been mixed for an hour and it has become clear.

**WEED, SEED, AND ANT KILLER** (*J. B.*).—The apparatus described at p. 242 of Vol. XIII is an American invention, but we have no further information concerning it. If any of our readers have tried it, we shall be obliged by information as to its success or failure.

**FERNS FOR A GLASS CASE** (*H. W. Down*).—Supposing you have three rows of Ferns, plant in the middle row the following, or a selection from them:—*Adiantum pedatum*, *A. brasiliense*, *Onychium lucidum*, *Adiantum formosum*, *Davallia canariensis*, and *Doodia aspera*. On one side of that row *Doodia media*, *Platyloma rotundifolia*, *Adiantum capillus-Veneris*, *Lycopodium stoloniferum*, and *Pteris bicolor*. On the other side *Adiantum hirsutum*, *Pteris cretica*, *Asplenium planicaule*, *Lycopodium variable*, *Allosorus crispus*, and *Cystopteris fragilis*. Give air freely every day; drain thoroughly, yet keep the air and soil moderately moist. Temperature not lower than 40° at night nor higher than 65° by day. Do not expose to sunshine. We keep the sides of our Fern case open partly all day.

**HEATING A SMALL PROPAGATING-HOUSE** (*A. B.*).—We think your safest plan would be a waterproofed box in the greenhouse supplied with hot water every night, or when wanted. Your next best would be a small brick Arnott's stove in the chamber of the propagating place, arranged as described several weeks ago. The next best, and best of all so far as the cold "pit" is concerned, would be to have a small furnace and a small brick flue all round the chamber of the propagating part joining the greenhouse chimney; but the flue so made that a damper should be inserted or taken out at pleasure, so that the heated air should pass along the cold pit and out at a chimney at the further end when desirable. The heat for the furnace and the flue kept round the chamber for a time would give heat to last long enough until you could shut it off from the pit. The heat in the pit will enable you to give more air. After getting into the pit, earthenware pipes, 9 inches in diameter, will do; but Portland cement would do better.

**BEGONIA FUCHSIoidES AND STREPTOCARPUS RHEZII CULTURE** (*S. H. L. C.*).—*Begonia fuchsioides*.—Cuttings put-in in February, potted when struck, grown freely and potted as soon as the pots are full of roots, all summer, until August, and all the sun given in September, and water lessened in the end of September and October, will give nice flowering plants for winter in a temperature of from 55° to 60°, and rarely 65° at night. The soil should be sandy peat, loam, and a little sweet cawdung or leaf mould. Your two-year-old plants in 32-pots we should think have been too stunted, or grown too much in the shade. You may get them to bloom yet; but if not, either take cuttings next spring, or repeat your plants, first into 16's, and then into 12's. Give plenty of light from August, and lessen water from September, so that the plants do not flag, and we are sure you will have plenty of bloom next winter and spring. *Streptocarpus Rhezii*.—Seeds sown in February in a hotbed, seedlings pricked-off when they can be handled and then potted, first in 60's and then in 40's, will bloom well the first autumn and winter, and almost constantly if more pot room is given them. Afterwards the plants may be divided, or repotted, like any other herbaceous plant; light, rich, sandy loam suits it—as two parts of loam, one of fine old dried leaf mould, and nearly one of silver sand. The plants get shabby if they are long kept below 45° and flourish better in a temperature from 50° to 55°. A regular stove heat is rather too much for them. The other plants we cannot make out. You can have the *Cottage Gardener's Dictionary* free by post for 5s. 8d.

**PLANTING RHODODENDRONS** (*A. B., Westmoreland*).—You are running a very great risk in planting a large piece of newly-trenched common soil with "the best kinds of scarlet Rhododendrons," which you say you want cheap; but ten to one, if you have any notion of the prices. They are from 7s. 6d. to 10s. 6d. a-piece, and you will not get them one farthing cheaper. Brilliant is one of the best of them, then Prince Imperial, Charlotte Bronte, Sunset, The Colonel, Sultan, Lucifer, Robert Burns, Marmion, Lago, Hildebrand, Blandytanum (one of the best and cheapest of them), and Erectum. If you buy these by the score you might probably get them at from £3 10s. to £5 per dozen, and the best Hollyhocks are in "D. Deal's" list of first-class sorts a month back. Public journalists would act most unfairly if they were to recommend one tradesman in preference to another. Any "house" in our advertising columns can supply any plant or seed that is on sale; as, if the firm should not have it, the firm knows best where to procure it.

**PLANTING FLOWER-PATTERNS** (*Kate*).—Your three ways of planting would be almost equally effective, but they thus stand in our estimation:—No. 3 good; No. 1 better; and No. 2 best.

**PROPAGATING CINERARIA MARITIMA** (*W. W.*).—The spring is the best time to increase *Cineraria maritima* in a hotbed, the cuttings to be made of the smallest side shoots, about 3 or 4 inches long, and to be put in one row only round the sides of a No. 48-pot, in one-half sand and one-half any light soil, with a thin covering of sand all over the top of the pot—that is, to keep in the moisture; and keep the place round the cuttings as free from damp and dirt as possible. Your flower is from a *Valloia purpurea*, much blanched for want of more light and air.

**RED CURRANTS FAILING** (*R. J. B.*).—It is difficult to account for your Red Currants failing as you describe at the time of ripening. We have often enough had them what is called blighted—i.e., a considerable portion of the berries in each bunch either do not set perfectly, or fall-off immediately afterwards, the remainder swelling-off the full size. Give manure, and by pruning a little harder, as we think your failure at the time of ripening arises from the soil or plants becoming exhausted and unable to perfect the fruit. Generally speaking, the Red Currant likes a deep, rich, garden soil, not too retentive of water, and at the same time not too dry. Mulching will doubtless do good; but we would advise manure during the winter, and a more than ordinary thinning of the shoots. Observe in digging not to cut the roots. A very slight digging with the fork ought to be given, as we are far from certain that your present failure does not arise from the mutilation of the roots, and this would account for it at once.

**COMFORTABLE COTTAGES** (*A Subscriber*).—We congratulate you on your purchase and purpose. You can have C. V. Bernard's book entitled "Healthy Moral Homes," if you enclose 3s. 4d. in postage stamps to our office. It gives plans and estimates for the construction of good cottages for from £50 to £150, with such full details that you cannot fail to please yourself.

**FLOWERS MENTIONED BY SHAKESPEARE** (*W. W.*).—There is a volume upon this theme, but we forget the names both of the book and of the author. The "Gardener's Magazine of Botany" died ten years since. We presume from the site selected that there will be a garden attached to the Paris Crystal Palace.

**PRUNING AND TRAINING PLUM TREES** (*A Beginner*).—If your maiden trees are against a wall, we would say, Do not cut them in much if they are only recently planted, but just tip them; and in spring, when the buds break, pick-off all the top ones, one or two a-day, so as only to reserve the lower ones, and by-and-by the shoot will die, and may be cut-off a little above the highest young shoot left on. If, however, your trees have stood a year where they now are, they may be cut-in to about a foot, or less if weakly. A careful spurting is better than laying-in such large quantities of young wood each year, and is attended with less trouble, looks better, and bears quite as well. If your wall is above 8 feet high you may train them fan-shaped; if lower, then horizontally. The Green Gage is not so vigorous a grower as some of the others, and ought to have the best position. You will see more particulars about treating such trees in our back Numbers, and very likely further instructions will appear in future ones.

**WINTER-PRUNING YOUNG PEACH, PLUM, AND CHERRY TREES** (*A Lover of Fruits*).—Your young trees, consisting of five shoots each, may be cut-in thus:—The bottom two laid horizontally and left longest; the next two, trained diagonally at an elevation of about 30°, may be 3 inches shorter than the bottom shoots, and the central shoot of all may be cut-in to about 8 inches or about half the length of the middle shoots. This may be done at once if the trees be healthy, and the buds all likely to grow; but if the trees have been infested with mildew, or otherwise diseased, it would be better not to cut them until the next year. But be careful in noting the swelling and bursting of the wood-buds, and pinch the end ones all out by one at a time, beginning at the tip and working backwards—say one bud a-day. By doing this the end of the shoot dies, and may be cut-off when all appearance of life has left it. This practice requires attention, and the operation must not be all done at once. Be careful to destroy every appearance of insect in the early growth of next year, and it is likely you will have nice trees by the end of it, attending to other instructions that will be given from time to time on such matters.

**NAMES OF FRUITS** (*P. Lang*).—1, Gilgizi; 2, Catillac; 3, Marie Louise; 4, Beurtic Rance; 5, Easter Beurrd; 6, Glou Morecan; 8, Too decayed. The large Apples are Blenheim Orange, and the small Apples Yellow Ingestrie. The numbers were rubbed off.

**NAMES OF PLANTS** (*F. B. A.*).—1, 2, 3, unnameable scraps of Conifers—1 and 2, apparently *Thuja*; 3, a *Juniper*; 4, *Berberis Darwinii*. (*H. D.*)—*Lastrea tenericulis*, not *paludosa*. (*G. P. S.*)—No one can name such imperfect scraps. No. 1 looks like a *Cystopteris*, but there is no evidence; 2 is *Asplenium lanceolatum*; 3 is some deformed growth of *Polystichum angulare*. (*Bishop*).—1, not recognized; 2, one of the *Mitre Aloes*, and apparently *A. distans*. (*E. G.*)—Apparently *Atriplex haelimus*.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### THE CRYSTAL PALACE POULTRY EXHIBITION.

THE Exhibition of Poultry, held in December at the Crystal Palace, has always proved itself to be one of the best collections of poultry brought before the public during the season; and, consequently, the attention of those amateurs desirous of improving their breeding stock, or of others requiring general information relative to poultry-culture, has been especially directed to this annual meeting. As a whole, the Show just concluded holds quite as honourable a position in public estimation as the best of those preceding it.

As the entries were heavy—viz., 915 pens of Poultry, 227 pens of Pigeons, and about 120 pens of Rabbits, it was obvious the

office of arbitrator would not in any case prove a sinecure, more particularly as regarded the well-filled classes of poultry. To meet this contingency Messrs. Andrews, Baily, and Hewitt were the selected officials; but, most unfortunately, at the last moment the first-named gentleman found it impossible to be present; and, therefore, the whole onus of judging so large a collection rested with Messrs. Baily and Hewitt alone. In no wise depressed by mishap, but encouraged by a day of brilliant sunshine, these gentlemen took the matter at once spiritedly in hand, finishing their labours long before daylight disappeared. When our readers reflect, that at the Birmingham Show somewhat above three hundred pens of Game fowls are judged by other parties specially appointed for these classes, it must be obvious, when, as in this instance, the Game fowls are added to the category of arbitrations, the labour must be greatly enhanced, more particularly as Game fowls require a greater amount of time to arbitrate upon; as, to do justice, the "handling" of all the best of the specimens exhibited is indispensable.

The *Game* classes at the Crystal Palace Show proved themselves on examination to be unusually praiseworthy.

In the *Buff Cochins*, which headed the catalogue, the entry was a good one, and excited a great deal of attention, the birds being mostly of high character. A remark may be made as to Mr. Bates's first-prize pen, which is also to a great extent applicable to others. It was surprising to see how much they had retrograded in appearance since the week previous when competing at Birmingham.

In the *Buff Chickens*, Mr. Kelleway's pen was remarkably good; but we have oftentimes seen birds throughout this class shown in better trim at the winter Crystal Palace Shows.

As a whole we were quite disappointed in the adult *Partridge-coloured Cochins*; in fact, the Judges must have been of like opinion, as a prize was withheld altogether. The *Chickens* of this variety were much superior.

The *White Cochins* were better than customary. We noticed particularly some chickens that will most probably figure highly in the prize lists of next season.

The *Brahma* classes were as perfect throughout as we have yet seen.

The great feature of the Show was the *Dorkings*; and here Lady Holmesdale took not only precedence, but left scarcely a prize unappropriated otherwise than to her extensive yards. All her ladyship's birds were shown in extraordinary condition; but it occurred to us that, if less fattened, they would have been more useful as store fowls.

The *White Dorkings* mustered better than on any previous occasion.

The class for *Dorking Cocks* was quite as good as have ever been shown at this Meeting.

In the *Spanish*, it struck us that the birds were not so well recovered from their moult as we anticipated; but the quality of the principal portion of them was of the highest character.

In the *Game* fowls were to be seen *Piles* far beyond accustomed merit, the *Brown Reds* having a superiority over the *Black-breasted*, and the *White* ones being decidedly an improvement on those of former years.

From some cause or other, the *Hamburgs* were not so good as we had hoped for; indeed, this was one of the weakest points in the Show. Perhaps it may have arisen from a large number of our best breeders having reserved their best birds for the Darlington Show, which happened simultaneously, a laudable desire to win at their own doors being a prevailing sentiment. Taken in this view, as the north is the stronghold of these breeds, the result seems not to be wondered at.

The *Poland* classes were perfect, every breed being equally creditable; and we rejoice to find these valuable varieties becoming more generally prized, as few kinds of poultry lay better, nor can any be more pleasurable adjuncts to a villa residence.

The *Geese* and *Turkeys* were prodigies of breeding and management; but the *Ducks* were certainly not so favourable in the scale as we have repeatedly met with.

The *Sebright* and the *Game Bantams* were the best varieties of these "little pets;" but some most extraordinary *Japanese*, *Black Silkies*, and *Friesland Bantams* are worthy of favourable mention also.

The *Ornamental Water Fowls* and the extensive class of various breeds of *Pheasants* were not without many admirers, and added very materially to the attractiveness of the Meeting.

We must not let this opportunity slip of speaking in the highest terms of the general management of the Show on this

occasion. Through the indefatigable energy of the Secretary, Mr. Houghton, everything was done well and in order; the catalogues were ready at the opening of the Show, and every card connected with the prize list was properly affixed. As this attention was so highly appreciated, we hope for its continuance in future years.

**COCHIN-CHINA (Cinnamon and Buff).**—First and Second, H. Bates, Birmingham. Third, E. Musgrave, Aughton, near Ormskirk. Commended, Mrs. H. Fookes, Blandford. *Chickens*.—First, J. Kelleway, Isle of Wight. Second, G. Johnson, Surrey. Third, Rev. G. Gilbert, Norwich.

**COCHIN-CHINA (Brown and Partridge-feathered).**—First, T. Cartwright, Oswestry. Second, B. J. Ford, Exeter. Third, withfield. *Chickens*.—First, T. Stretch, Ormskirk. Second, R. Adams, Birmingham. Third, E. Tudman, Whitechurch, Salop.

**COCHIN-CHINA (White).**—First, Master G. Chase, Birmingham. Second, W. Dawson, Hopton. *Chickens*.—First, Master G. Chase. Second, G. Lamb, Wolverhampton. Highly Commended, G. Lamb, Couisced, Master G. Chase.

**COCHIN-CHINA COCKS (Coloured and White).**—First, E. Tudman, Whitechurch, Salop. Second, H. Ransom, Ipswich. Highly Commended, J. W. Kelleway, Isle of Wight. Commended, Mrs. H. Fookes.

**BRABMA POOTRA.**—First, C. Priest, Muntham Court, Worthing. Second, R. Teabay, Fulwood. Commended, R. Teabay. *Chickens*.—First, C. Priest, Second, R. Teabay. Highly Commended, J. K. Fowler, Aylesbury; J. Pares, Cherisey. Commended, G. Lotham, Slough; J. Wright, Suffolk. *Cocks*.—First, J. Wright, Suffolk. Second, J. Hinton, Bath. Highly Commended, J. K. Fowler, Aylesbury. Commended, R. Teabay, Fulwood.

**DORKING (Coloured).**—First and Second, Viscountess Holmesdale, Linton Park, Staplehurst. Third, H. Lewly, Sussex. Fourth, A. Potts, Chester. Highly Commended, Hon. W. W. Vernon, Staffordshire; H. Beal, Slough; J. Frost, Parham; S. Griggs, Essex; K. Warner, Brooifield. Commended, H. Lingwood, Suffolk; C. Smith, Salisbury.

**DORKING HENS.**—First, Viscountess Holmesdale, Staplehurst. Second, Mrs. Craigie, Chigwell, Essex. Highly Commended, T. S. Brown, Chard, Somerset. Commended, Lady M. Macdonald, Liphook; Sir J. Paxton, M.P.; Rev. M. Amphlett, Church Leuch Rectory, near Evesham; W. Brown, Northampton; E. H. Garrard, Worcestershire. *Chickens*.—First and Second, Viscountess Holmesdale, Linton Park. Third, C. H. Wakefield, Malvern Wells. Fourth, Hon. W. W. Vernon, Staffordshire. Highly Commended, J. Frost, Parham; G. Griggs, Essex; H. Lingwood, Suffolk; Mrs. St. John, Oakley. Commended, Lady M. Macdonald; Rev. M. Amphlett; G. Griggs; H. Lingwood.

**DORKING PULLETS.**—First, C. Priest, Muntham Court, Worthing. Second, Viscountess Holmesdale, Linton Park. Highly Commended, Sir J. Paxton, M.P., Sdenham; E. H. Garrard, Worcestershire; Miss Milne, Kelso, N.B.; C. H. Wakefield, Malvern Wells. Commended, J. Simmons; T. Tatham, Northampton.

**DORKING (White).**—First, Mrs. Beardmore, Fareham, Hants. Second, J. Robinson, Vale House, near Garstang. Highly Commended, Mrs. Beardmore; H. Lingwood, Suffolk. *Chickens*.—First, Miss E. Hodson, Bridge-water. Second, Lady M. Legge, Dorking, Surrey. Highly Commended, H. Lingwood; J. Robinson, Garstang.

**DORKING COCKS (Coloured and White).**—First, Viscountess Holmesdale, Linton Park. Second, T. L. Brown, Chard, Somerset. Third, T. Tatham, Northampton. Highly Commended, Viscountess Holmesdale; Major W. S. Altham, Somerset; T. L. Brown; W. Copple, Prescott; C. Priest, Worthing; T. Tatham. Commended, Lady M. Macdonald, Liphook; T. Tatham.

**SPANISH.**—First, J. Martin, Claines, Worcester. Second, J. K. Fowler, Aylesbury. Third, R. Wright, Highgate. Fourth, T. L. Brown, Somerset. Commended, R. Teabay, Preston. *Chickens*.—First and Third, J. R. Rodbard, Wrington, Bristol. Second, R. Teabay. Fourth, J. K. Fowler, Aylesbury. Highly Commended, J. Barry, Wadsworth Road; H. Dawson, Camberwell; H. Lane, Bristol; R. B. Postans, Essex; J. Smith. Commended, J. Barry.

**SPANISH HENS AND PULLETS.**—First, J. Martin, Claines, Worcester. Second, Mrs. Craigie, Chigwell, Essex. Highly Commended, C. Cayford, Northampton; J. K. Fowler, Aylesbury; J. W. Smith, Oundle. Commended, W. Parrott, Aylesbury.

**SPANISH COCK.**—First, J. R. Rodbard, Wrington, Bristol. Second, H. Lane, Bristol. Third, A. Heath, Wilts. Highly Commended, W. Parrott, Aylesbury; J. W. Smith, Oundle. Commended, J. K. Fowler, Aylesbury; A. Heath; R. B. Postans, Essex; T. P. Wood, jun., Chesterfield; R. Wright, Highgate.

**GAME (White and Piles).**—First, J. Fletcher, Stoneclough. Second, A. Gny, Grantham. Third, H. Baker, Worcester. Highly Commended, S. Matthew, Stowmarket. Commended, R. R. Clayton, Slough. *Chickens*.—First, J. Wilders, jun., Grantham. Second, Rev. G. S. Cruwys, Devon. Third, A. Ewen, Melton Mowbray. Highly Commended, H. Baker, Worcester. Commended, J. Fletcher, Stoneclough; Messrs. Phillips & Wiuwood, Worcester.

**GAME (Black-breasted Reds).**—First, J. Hindson, Liverpool. Second, Rev. F. Watson, Woodbridge, Suffolk. Third, E. Archer, Malvern. Highly Commended, H. Lee, Isle of Wight; A. H. Philpott. Commended, J. Firth, Halifax. *Chickens*.—First, Hon. W. W. Vernon, Staffordshire. Second, S. Matthew, Stowmarket. Third, E. Burton, Cornwall. Highly Commended, Rev. G. S. Cruwys, Devon; W. T. Everard, Ashby-de-la-Zouch; T. Moss, Ponton-le-Fyde. Commended, H. Heffer, Suffolk; W. Rogers, Woodbridge, Suffolk.

**GAME (BROWN-BREASTED AND OTHER REDS EXCEPT BLACK-BREASTED).**—First, Rev. F. Watson, Woodbridge, Suffolk. Second, E. Archer, Malvern. Third, V. Sandford, Plymouth. Highly Commended, E. Burton, Cornwall; V. Sandford. Commended, J. Firth, Halifax. *Chickens*.—First, E. Archer. Second, T. Moss, Ponton-le-Fyde. Third, B. Vaughan, Salop. Highly Commended, A. Heath, Calne, Wilts. Commended, R. Swift, Southwell, Notts.

**GAME (Duckwings and other Greys and Blues).**—First, G. W. Langdale, Beverley. Second, S. Matthew, Stowmarket. Third, J. Bradwell, Southwell, Notts. *Chickens*.—First, Hon. W. W. Vernon, Staffordshire. Second, R. Goodwyn, Suffolk. Third, W. Burgess, Dorset. Highly Commended, Hon. W. W. Vernon; E. Burton, Cornwall. Commended, W. Dawson, Selly Oak; H. Griffiths, Worcester; V. Sandford, Plymouth.

**GAME (Black and any other variety).**—First, J. Fletcher, Manchester

Second, J. Winn, Coventry. Highly Commended, T. Burman, Hookley Heath. *Chickens*.—First, J. Fletcher. Second, W. Dawson, Selly Oak.

**GAME COCKS.**—First, Hon. W. W. Vernon, Staffordshire. Second, J. S. Butler, Poulton-le-Fylde. Third, S. Matthew, Stowmarket. Highly Commended, J. Fletcher, Manchester; G. Wilders, Graftonham. Commended, E. Archer, Malvern; J. Firth, Halfax.

**HAMBURGH (Gold-pencilled).**—First, W. Cannan, Bradford. Second, N. Barter, Plymouth. Third, W. H. Field. *Chickens*.—First and Third, A. Nuttall, Manchester. Second, A. Houghton, Melton Mowbray. Commended, R. R. Clayton, Slough.

**HAMBURGH (Silver-pencilled).**—First, Rev. T. H. Fellowes, Norfolk. Second, J. Martin, Claines, Worcester. Third, T. H. Turner, Sheffield. *Chickens*.—First, withheld. Second, C. Moore, Poulton-le-Fylde. Third, J. Martin.

**HAMBURGH COCKS (Gold or Silver-pencilled).**—First, G. Botham, Wexham Court, Slough. Second, T. Boniface, Sussex. Highly Commended, Mrs. Pattison, Maldon, Essex. Commended, T. Bowick, Kenilworth.

**HAMBURGH (Gold-spangled).**—First, I. Davies, Birmingham. Second, H. Carter, Holmfirth, Yorkshire. Third, S. H. Hyde, Ashton-under-Lyne. Commended, W. Cannan, Bradford. *Chickens*.—First, S. H. Hyde. Second, Rev. T. L. Fellowes, Norfolk. Third, G. Brook, Huddersfield. Commended, I. Davis.

**HAMBURGH (Silver-spangled).**—First, W. Cannan, Bradford. Second, J. Dixon, Bradford. Third, H. Carter, Holmfirth, Yorkshire. *Chickens*.—First, T. L. Brown, Chard, Somerset. Second, E. Collinge, Middleton, near Manchester. Third, J. Dixon, Bradford. Commended, Viscountess Holmesdale, Linton Park.

**HAMBURGH COCKS (Gold or Silver-spangled).**—First, Mrs. Pattison, Maldon, Essex. Second, Mrs. Beardmore, Fareham, Hants.

**POLISH (Black with White Crests).**—First and Third, T. P. Edwards, Lyndhurst, Hants. Second, H. Carter, Holmfirth, Yorkshire. Highly Commended, J. Dixon, Bradford; T. P. Edwards. Commended, G. Ray, Lyndhurst, Hants.

**POLISH (Gold).**—First, J. Dixon, Bradford. Second and Third, Mrs. Pettat, Overton Hampshire

**POLISH (Silver).**—First, Mrs. Blay, Worcester. Second, J. Heath, Nantwich, Cheshire. Third, G. C. Adkins, Birmingham. Highly Commended, G. C. Adkins; J. Dixon, Bradford. Commended, P. Hardy, Bradford.

**POLISH COCKS.**—First and Second, G. C. Adkins, Birmingham. Commended, G. C. Adkins.

**MALAY.**—First, N. Sykes, jun., Mile End. Second, J. Rumsey, High Street, Shadwell. Commended, Miss C. H. Ballance, Taunton. *Chickens*.—First, N. Sykes, jun. Second, W. Hill, Bethnal Green. Highly Commended, J. Rumsey.

**ANY OTHER DISTINCT BREED.**—First, S. Waters, Woodbridge Road, Ipswich. Second, P. P. Cother, Salisbury. Third, E. Collinge, Manchester. Fourth, Mrs. Blay, Worcester. Highly Commended, E. Pigcon, Lymington; E. Hutton, Pudsey, near Leeds; Mrs. Prescott, Southampton; W. Manfield, jun., Dorchester. Commended, C. Baker, Chelsea; C. Boquet, Paris.

**BANTAMS (Gold-laced).**—First, M. Leno, jun., Dunstable. Second, E. Jones, Clifton, Bristol. Commended, Rev. G. S. Cruwys, Devon.

**BANTAMS (Silver-laced).**—First, Rev. G. S. Cruwys, Devon. Second, E. Jones, Clifton, Bristol. Highly Commended, M. Leno, Dunstable. Commended, T. H. D. Bayly, Biggleswade, Beds.

**BANTAMS (White, Clean Legs).**—First, T. H. D. Bayly, Biggleswade, Beds. Second, Mrs. F. Tearle, Kittering. Highly Commended, J. Rumsey, Shadwell. Commended, Rev. G. S. Cruwys, Devon; H. Loe, Isle of Wight.

**BANTAMS (Black, Clean Legs).**—First, E. Hutton, Pudsey, near Leeds. Second, R. Brotherhood, jun., Almondsbury. Highly Commended, Miss J. Hodson, Bridgewater. Commended, S. Ridley, Clayton, Sussex.

**BANTAMS (Game).**—First, J. W. Kelleway, Isle of Wight. Second, T. H. D. Bayly, Biggleswade, Beds. Third, M. Turner, Preston. Highly Commended, W. S. Forrest, Greenhithe, Kent; J. W. Kelleway; R. B. Postans, Essex; V. Sandford, Plymouth. Commended, H. Bates, Birmingham; M. Leno, jun., Dunstable.

**BANTAMS.**—First, Mrs. H. Fookes, Whitechurch, Blandford. Second, Rev. P. W. Storey, Daventry. Highly Commended, G. Daft, Southwell, Notts. Commended, Capt. F. Marten, St. Albans; W. Brown, Northampton.

**BANTAM COCKS.**—First, J. W. Kelleway, Isle of Wight. Second, W. S. Forrest, Greenhithe, Kent. Highly Commended, Capt. F. Marten, St. Albans; T. H. D. Bayly, Biggleswade; T. Moss, Poulton-le-Fylde. Commended, R. B. Postans, Essex.

**GESE (White).**—First, W. Manfield, jun., Dorchester. Second, G. Daft, Southwell, Notts. Highly Commended, Mrs. E. Herbert, Worcester; W. Manfield, jun.

**GESE (Grey and Mottled).**—First and Second, J. K. Fowler, Aylesbury. Highly Commended, W. Peters, Devonshire.

**DUCKS (Aylesbury).**—First and Third, J. K. Fowler, Aylesbury. Second, J. Harris, Brighton. Highly Commended, Mrs. G. H. Cook, Cheshire; J. K. Fowler; Mrs. Pattison, Essex; E. Shaw, Oswestry.

**DUCKS (Rouen).**—First and Second, J. K. Fowler, Aylesbury. Third, C. Priest, Worthing. Highly Commended, Capt. Barthropp, Wickham Market; Rev. T. L. Fellowes, Norfolk; J. H. Braikenridge, Bristol; W. H. Dennison; Mrs. H. Fookes.

**DUCKS (Black).**—First, T. Tynce, Halstead, Essex. Second, J. W. Kelleway, Isle of Wight. Third, J. K. Fowler, Aylesbury. Highly Commended, Mrs. E. Herbert, Worcester; E. Phillips, A. Smart, Blackheath Park; W. Syson, D-bach; Mrs. Wolferstan, Tamworth.

**DUCKS (Any other variety).**—First, A. S. Yates, Aylesford, Hants. Second, T. H. D. Bayly, Biggleswade. Third, Mrs. Wolferstan, Tamworth. Highly Commended, C. Baker, Chelsea.

**ORNAMENTAL WATER FOWL.**—First, Second, and Third, C. Baker, Chelsea. **TURKEYS.**—First, J. Smith, Grantham. Second, Mrs. A. Guy, Grantham. Third, Mrs. H. Fookes, Blandford. **POULTS.**—First, J. Smith. Second, Rev. T. L. Fellowes, Norfolk. Third, W. Manfield, jun., Dorchester.

**PRESANTS (Gold and Silver).**—First, A. S. Yates, Aylesford, Hants. Second, Mrs. Welsh, Twickenham. Commended, Mrs. Pattison, Essex; J. Houghton, Melton Mowbray.

**PRESANTS (Any other variety).**—First, C. Baker, Chelsea. Second, C. Boquet, Paris. Commended, A. S. Yates, Aylesford, Hants; Mrs. C. Baker; M. Leno, jun., Dunstable.

#### PIGEONS.

**POWENS ON CROPPERS (Any colour).**—*Cock*.—First, T. H. Evans, Lambeth Walk. Second and Third, H. Fulton, Deptford. Very Highly Com-

mended, E. L. Corker, Croydon. Highly Commended, E. L. Corker; Mrs. Evans, Lambeth Walk. Commended, R. Fulton, Deptford. (An excellent class.) *Hens*.—First, E. L. Corker. Second, F. Elze, Bayswater. Third, T. H. Evans. Highly Commended, E. L. Corker; T. H. Evans; C. J. Samuels, Manchester. Commended, T. H. Evans. (A good class.)

**CARRIERS.—Cocks (Black and Dun).**—First, E. L. Corker, Croydon. Second, F. Waller, Turnham Green. Third, P. Goss, Plymouth. Very Highly Commended, P. Goss. Highly Commended, P. Goss; J. F. Mortimer, Plymouth. Commended, Major F. C. Hassard, Hilsa, near Portsmouth; T. Colley, Sheffield. (A very meritorious class.) *Cocks (Any other colour).*—First, E. J. J. Holmes, Lewisham. Second, J. C. Ord, Piccadilly. *Hens (Black and Dun).*—First and Second, E. L. Corker. Third, P. Goss. Very Highly Commended, J. F. Mortimer. Commended, J. F. Mortimer. *Hens (Any other colour).*—First and Second, W. H. Elmonds, Westminster.

**DRAGONS.—Blue.**—Prize, G. F. Treataway, Paddington. *Any other colour.*—Prize, F. Esquilant, Oxford Street. Commended, Master E. Altham, Somerset.

**ALMOND TOMBERS.**—First, E. L. Corker, Croydon. Second withheld. Third, G. J. Harris, Wanwick.

**SHORT-FACED MOTTLES.**—First, E. L. Corker, Croydon. Second, F. Elze, Bayswater. Commended, J. Ford, London.

**SHORT-FACED BALDHEADS.**—First and Second, F. Esquilant, Oxford Street. **SHORT-FACED BEARNS.**—First, F. Esquilant, Oxford Street. Second, J. H. Eden, Hammersmith. Highly Commended, G. R. Ellenden, Greenwich. Commended, F. Elze, Bayswater.

**SHORT-FACED TOMBLERS (Self-colour).**—First, W. H. C. Oates, Newark, Notts. Second, F. Esquilant, Oxford Street.

**KITES, AGATES, DUNS, AND GRIZZLES.**—Prize, E. T. Archer, Norwood. Commended, F. Elze, Bayswater.

**JACOBIENS.**—First, F. Esquilant, Oxford Street. Second, H. Morris, Forest Hill, Kent.

**OWLS.—Blue or Silver.**—Prize, H. Morris, Forest Hill, Kent. Highly Commended, G. Fleming, Peckham. *Yellow or any other colour.*—Prize, F. Elze, Bayswater.

**NUNS.**—First, F. Elze, Bayswater. Second withheld. **TURBITS.**—First, G. Fleming, Peckham. Second, G. F. Nicholls, Cheltenham. Third, Major W. S. Altham, Somerset.

**PANTALS.—Black.**—Prize, J. W. Edge, Aston New Town, Birmingham. *White.*—Prize, J. W. Edge. *Blue.*—Prize, J. W. Edge.

**MAGPIES.**—First, E. M. Pierce, Taunton. Second, W. H. Beadon, Taunton. Third, F. Elze, Bayswater.

**TRUMPETERS.—Black Mottled.**—Prize, F. Elze, Bayswater. *White or any other Colour.*—Prize, R. Swift, Southwell, Notts. Highly Commended, Messrs. Guest & Coleman, Birmingham.

**SPANISH AND LEOPARD RUMTS.**—First, T. D. Green, Saffron Walden. Second, F. Key, Beverley. Highly Commended, J. E. Mason, Lincoln. (A good class.)

**FOR ANY NEW OR DESERVING VARIETY NOT BEFORE MENTIONED.**—First, A. L. Silvester, Birmingham. Second, A. Heath, Caine. Third, H. Morris, Forest Hill, Kent. Fourth, J. Simmons, Fareham. Very Highly Commended, Mrs. C. Baker, Chelsea (Californian Quails). Commended, C. Baker (Wonga Wonga).

#### RABBITS.

**LONGEST EARS.**—First, Second, and Highly Commended, Messrs. Guest and Coleman, Birmingham. Commended, J. J. Olley, Plumstead.

**BLACK AND WHITE.**—First, R. Cook, Denmark Hill, Camberwell, Second, C. Sellen, Surrey. Highly Commended, C. Sellen. Commended, C. Ashdowne, Brighton; R. Cook; J. Hale, Millbank; H. Hinds, Norwich; A. Stedman, Surrey.

**YELLOW AND WHITE.**—First, J. Hincks, jun., Birmingham. Second, J. Harris, jun., Kent. Highly Commended, J. Hincks, jun. Commended, C. Ashdowne, Brighton; A. H. Bunnett, Deptford.

**TORTOISESHELL.**—First, J. Sutton, Pembroke. Second, R. Cook, Camberwell. Commended, W. Griffin, Plumstead; Messrs. Guest & Coleman, Birmingham; J. Hale, Millbank; H. Hinds, jun., Norwich; T. T. Wose, Essex.

**BLUE AND WHITE.**—First, H. Hinds, jun., Norwich. Second, C. Sellen, Surrey. Highly Commended, Messrs. Guest & Coleman, Birmingham. Commended, J. B. Mason, Lincoln; C. Sellen.

**GREY AND WHITE.**—First, R. Cook, Camberwell. Second, A. Stedman, Oxford, Surrey. Highly Commended, G. Lewis, St. John's Wood. Commended, R. Cook; Miss H. Hawksley, Edgeware Road; C. King, St. John's Wood; E. Mapplebeck, Molesey.

**SELF COLOUR.**—First, G. Jones, Birmingham. Second, C. Sellen, Surrey. Commended, J. Daby, Brighton; W. Griffin, Plumstead; J. Hincks, jun., Birmingham; J. J. Olley, Plumstead.

**FOR WEIGHT.**—First, J. Harris, Brighton. Second, J. Daby, Brighton. Highly Commended, W. Hudson, Chesterfield.

**FOREIGN RABBITS.**—First, C. Sellen, Surrey. Second, Master I. de la Saux Simmonds, Winchester.

**JUDGES.**—*Poultry*, Messrs. Baily and Hewitt. *Pigeons*, Messrs. Bellamy and Cottle. *Rabbits*, Messrs. Fox, Housden, and Webster.

#### BANTAM CLASS AT THE CRYSTAL PALACE.

WITH regard to my remarks a few weeks ago about the division of the Game Bantam class at the Crystal Palace Show, I would point out, as further confirming what I then stated, that all three of the prizes were this week carried off in Class 54, by the Red birds, although there were some good Grey and Pile birds shown against them. The fact is, that, as with the larger Game fowls, the Reds must always, as a general rule, win when shown against any other colour, on account of their possessing a hardness of feather and smart tightness which the other colours do not possess in the same degree. That exhibitors of Game Bantams may fairly ask to have the class divided is evident, for no less than thirty-seven pens were shown at the

Palace this week in Class 54 alone, though classes 50 to 53 inclusive could only muster thirty pens between them. Again, Class 54 paid for entrance money £11 2s, and received £5 2s. for prizes; whilst the other classes I have mentioned paid altogether only £9 for entries, though they received for prizes £16.—P.

LEEDS POULTRY SHOW.

THE annual Show of fat cattle, sheep, pigs, poultry, &c., in connection with the Leeds Smithfield Association, took place in the Leeds Smithfield Cattle Market, on Tuesday, Wednesday, and Thursday last. The Exhibition was held under cover, the place being decorated with flowers, evergreens, banners, statuary, &c., and illuminated in a brilliant manner, producing a very pleasing effect. Notwithstanding unfavourable weather, on the first day there was a large attendance of visitors, and the Show throughout was a decided success.

The Poultry and Pigeons numbered 384 pens.

*Dorkings* formed the first class. Mr. Berwick's were good birds. In Mr. Dixon's highly commended pen the hens were slightly deficient in matching, yet we thought the birds should have obtained a higher position. *Black Spanish* were not particularly good. The first prize was awarded to chickens which we thought should have given place to Mr. Brown's adults. In *Cochins* Mr. Stead's first-prize Partridge were excellent. Good *Buffs* obtained second and third. *Black and Brown Red Game* competed together, the entries numbering thirty-two. Mr. T. J. Charlton's were very fine *Brown Red* chickens; the other prizes also being awarded to *Brown Reds*, while *Black Reds* received high commendation. *Duckwings* carried off the prizes in the class for "Game any other variety." *Gold-pencilled Hamburgs* formed a good class with close competition, the prize birds deserving their position. *Silver-pencilled Hamburgs* were also fairly represented. Mr. Dixon's was an excellent pen. *Gold-spangled Hamburgs* were numerous and good, Mr. N. Marlow's being especially so. *Silver-spangled Hamburgs* were an average lot, but we thought the third prize a mistake—in fact, the birds were deficient in every respect. In *Polands*, Miss E. Beldon's were capital *Silvers*. Good *Black Hamburgs* took first in "Any other variety," and *Brahmas* second. The prize *Black Bantams* were excellent. *White Bantams*, with the exception of the first-prize pen, were inferior. *Game Bantams* were good. Mr. Dixon showed a good pen of *Gold-laced* in "Any other variety of Bantams."

*Turkeys* and *Geese* were average classes.

*Ducks* were good. Mr. Kell's *Aylesburys* deserve especial notice.

There was a good show of *Pigeons*. Mr. Sylvester sent good *Dun Carriers*. In *Pouters*, Mr. Robson's *Whites* were once more successful. In *Almond Tumblers* we fancied Mr. Sylvester's second-prize pen should have been first. Mr. Cannan's *Blue Owls* were very good. *Jacobins* were an average lot, the first-prize pen being rather coarse in head and beak. In *Trumpeters* both prizes went to excellent *Blacks*. The first-prize pen being unusually good.

The following is the prize list:—

- DORKINGS**.—First and Second, H. W. B. Berwick, Helmsley. Third, G. Whitwell, vendall. Highly Commended, J. Dixon, Bradford. Commended, F. Key, Beverley.
- SPANISH**.—First, T. Greenwood, Dewsbury. Second, E. Brown, Sheffield. Third, D. Illingworth, Surley, Otley. Highly Commended, E. Smith, Middleton. M. Incester. Commended, Lady Hawke, Womersley Park.
- COCHIN-CINA**.—First, T. B. Stead, Leeds. Second and Third, H. and G. Newton, Leeds. Highly Commended, J. Bell, Thirsk. Commended, E. Smith.
- GAME** (Black Breasted and other Reds).—Cap and First, T. J. Charlton, Bradford. Second, J. Hodgson, Bowling. Third, T. H. Dodds, Ovensden. Highly Commended, W. Byles, Beverley; C. W. Brierly, Rochdale; J. Firth, Halifax; A. J. Dodds, Ovensden.
- GAME** (White and Piles).—First and Second, H. C. Mason, Drighlington. Third, H. Adams, Beverley.
- GAME** (Any other variety).—First, H. Adams, Beverley. Second, J. Hodgson, Bowling. Third, R. H. Jones, Badsworth Hill. Highly Commended, A. J. Dodds.
- HAMBURON** (Gold-pencilled).—First, H. Pickles, jun., Earby. Second, W. H. Dyson, Horton. Third, J. Firth, Halifax. Highly Commended, W. H. Dyson. Commended, R. Hemingway, Shelf.
- HAMBURON** (Silver-pencilled).—First, J. Dixon, Bradford. Second, J. Sunderland, Coley Hall. Third, W. Cannan, Bradford. Highly Commended, S. Fielding, Middleton. Commended, H. Pickles, jun.
- HAMBURON** (Gold-spangled).—First, N. Marler, Denton. Second, J. Ashcroft, Ashton. Third, G. D. Mann, Hunslet. Highly Commended, J. Dixon; T. Birdsall, Woodhouse Carr.
- HAMBURON** (Silver-spangled).—First, E. Smith. Second, J. Dixon. Third, M. Worsley, Meltham. Highly Commended, W. Cannan. Commended, J. Crookes, Meltham.

- POLAND** (Any variety).—First, Miss E. Beldon, Bradford. Second and Third, J. Dixon. Highly Commended, D. Illingworth.
- ANY OTHER VARIETY**.—First, S. Butterfield, Kettleby (Black Hamburg). Second, Lady Hawke. Third, J. Dixon. Prize, T. W. Hill, Heywood (Crisp Coar).
- FARMYARD CROSS**.—First, J. Bilton, Cottingham. Second, T. Jolly, Warby.
- BANTAMS** (Black).—First, E. Hutton, Pudsey. Second, R. M. Stark.
- BANTAMS** (White).—First, E. Holdsworth, Leeds. Second, A. and B. Farrar, Bramley.
- BANTAMS** (Game).—First and Second, J. Crookland, jun., Wakefield. Highly Commended, S. Brain, Potternewtown; T. Carr, Beotham.
- BANTAMS** (Any other).—First, J. Dixon, Bradford (Gold-laced). Second, R. M. Stark, Hull (Silver-laced).
- GUINEA FOWLS**.—First, Lady Hawke, Womersley Park. Second, J. Dixon. Third, Miss E. Beldon, Bradford.
- TURKEYS**.—First, Lady Hawke. Second, R. M. Stark. Third, J. Dixon.
- GESE**.—First, H. Bentley, Oulton. Second, H. Ambler, Halifax. Third, J. R. Jessop, Hull.
- DUCKS** (Aylesbury).—First, T. E. Kell, Wetherby. Second, T. W. Hill, Heywood. Third, J. Dixon, Bradford.
- DUCKS** (Rouen).—First and Second, J. Dixon. Third, W. R. Renton, Rife.
- DUCKS** (Any other).—First, T. W. Hill. Second, R. M. Stark. Third, J. Dixon.

- EXTRA POULTRY**.—First and Second, J. Dixon.
- PIGEONS**.—*Carriers*.—First, A. L. Sylvester, Birmingham. Second, S. Robson, Brotherton. *Pouters*.—First, S. Robson. Second, W. Cannan, Bradford. *Almond Tumblers*.—First, W. B. Van Haansbergen, Newcastle. Second, A. L. Sylvester. *Tumblers* (Any other).—First, J. W. Edge, Birmingham. Second, F. A. and W. J. Stead, Leeds. Highly Commended, W. Cannan; T. Birdsall, Woodhouse Carr. *Owls*.—First, F. Else, Buyswater. Second, W. Cannan. Highly Commended, J. W. Edge. Commended, W. B. Van Haansbergen. *Fantails*.—First, J. W. Edge. Second, F. Key, Beverley. Highly Commended, J. R. Jessop, Hull. *Barbs*.—First, T. Ellington, Woodmasey. Second, A. L. Sylvester. Commended, W. Cannan. *Turbits*.—First, J. W. Edge. Second, J. R. Jessop, Hull. *Jacobins*.—First, W. Carlton, Howden. Second, W. Cannan. *Trumpeters*.—First, T. J. Charlton, Bradford. Second, G. Sharp, Brotherton. Highly Commended, F. Key. *Nuns*.—First, J. W. Edge. Second, T. Birdsall. Highly Commended, F. Else. *Any other Variety*.—First, W. Cannan. Second, H. Yardley, Birminghams. Highly Commended, A. L. Sylvester.

JUDGES.—Mr. Thompson, Dewsbury; Mr. Smith, Halifax; and Mr. Jackson, York.

DARLINGTON EXHIBITION OF DOMESTIC POULTRY.

THE annual meetings of this Society have been for a number of years past considered the best of any held in the northern counties. Much of its present success is, without doubt, to be attributed to the unceasing care and universal courtesy of the Hon. Sec., Mr. Hodaon. Always at his post, and ever willing to advise with those who may experience any temporary difficulty in understanding the general arrangements of the Exhibition—everything goes on under his guidance with perfect order and regularity, the result being that Darlington stands second to none in the kingdom as to the efficiency of its management. Most luckily, on this occasion the railway company had just completed a very large and commodious building, to be used in future years as an engine-house for the locomotives.

The building was liberally placed this year at the service of the Darlington Exhibition. It is very rarely that so perfectly constructed an erection for the purpose can be seen anywhere, the ventilation being perfect; whilst being lighted, not only along the whole roof, but also along each side, the pens stood equally well for the most minute inspection. The pens used were those so well known as Turner's of Sheffield. The whole of the classes were well represented, the fact being universally the theme of congratulation among the poultry amateurs assembled, that it was verging on an impossibility to point out a really indifferent pen.

As customary, *Black Spanish* stood at the head of the collection. The competition was very severe; still Mr. Teebay, of Preston, held his own against all comers both in adults and also in chickens, Mr. Shorthose and Mr. Brown being no mean rivals.

The coloured *Dorkings* were of undeniable excellence, and formed one of the strongest features in the Exhibition; and, independently of the customary class, the extra prizes for pairs of hens and single cock birds brought together a far more extensive and praiseworthy collection than we can call to memory at any local show. Great improvement was also a feature of the *White Dorkings*.

The *Cochins* were represented by picked pens from all the principal yards of our Cochin-breeders; the four pens of *Buffs*, respectively belonging to Messrs. Bates, Shorthose, Tomlinson, and Stretch, being so good as to elicit the strongest expressions of admiration from all visitors. The *Partridge-coloured* ones were scarcely inferior; nor could we view without unfeigned

regret the fact that Mr. Stretch's old Partridge-coloured cock, for so many years past quite unexceptionable in feather, has now most unfortunately moulted "a mottle" on the breast, notwithstanding the hackle and saddle feathers still retain that extraordinary perfection of marking that has placed him hitherto far beyond his fellows. So will it ever be as age and infirmities creep on throughout all animated nature.

In *Game fowls* Mr. Harry Adams, of Beverley, monopolised the lion's share with birds that were shown in faultless condition. The fact is also pleasing to refer to, that the specimens shown by many other exhibitors were closely pressing in the rear. As the time of year would naturally lead to suppose, the Brown Reds stood quite in advance of the Black-breasted ones.

The greater proportion of the *Hamburgs* were very perfect, and showed that great attention must have been paid to the breeding of them.

The *Polands* are evidently quite looking-up, first-rate specimens of every variety abounding.

In the class for "Any distinct variety" were some capital *Brahmas*, and as good *Black Hamburgs* as could be desired.

The class for *Golden and Silver-laced Sebright Bantams* was not only well filled, but with birds of the most excellent character. To report that Mr. Harvey Dutton Bayly, of Biggleswade, took first honours cannot be deemed any reflection on the remainder, for even had that gentleman's yard remained unrepresented, the portion still exhibited would have proved far better than ordinary. The prize pen of *White Bantams*, the property of Mr. John Crossland, jun., were as good as we ever saw, and exhibited in the most praiseworthy condition; Mr. Dixon showing some capital birds in this class also. In the *Black Bantams* Mr. Crossland again stood ahead of all rivals with a capital pen; Mr. Cannan, of Bradford, taking second to him. We hold it a duty, as public journalists, though a most unpleasant one, to refer in terms of the highest reprehension in respect to the pen of *Black Bantams* shown at Darlington, and which at the recent Birmingham Meeting took first prize among a heavy class. At the Darlington Meeting they were "disqualified" by the Judge, Mr. Hewitt, and a card, "Disqualified, the Cock's Legs being Coloured," was affixed to the pen, exciting considerable attention. In proof beyond the possibility of cavil that it was so, the arbitrator carefully washed the right leg perfectly white, leaving the other as unnaturally blackened as when received at Darlington. Of course many jocular remarks ensued, and a most extensive exhibitor of poultry was heard to satirically remark, "Served him right; it's all very well till cotched at it," and other jibes of similar character prevailed. It is not open to question that to have recourse to such illegitimate means to secure undeserved success is a flagrant injustice to the honest exhibitor of poultry; and we quite agree that thus openly to expose them on the spot in every case, altogether irrespective of social position, where a keen sense of honour has failed to restrict them from so doing, will most probably, after a few such facts are elicited, act strongly on those whose minds contemplate similar deceptions. The *Game Bantam* class was a marvel; *Black Reds*, *Brown Reds*, *Duckwings*, *Birchen Greys*, *Blacks*, *Piles*, *Furnaces*, and several other breeds being in the class.

In *Geese* Mrs. Seamons "ruled the roost;" and in *Turkeys* of the present year Mr. Dixon, of Bradford, exhibited the most beautiful cockerel, in respect of size and plumage, imaginable.

The *Ducks* were superior, and a small collection of *Pigeons* contained specimens of the highest character.

**SPANISH.**—First, R. Teabary, Fulwood, Preston. Second, J. Shorthose, Newcastle-on-Tyne. Highly Commended, E. Brown, Sheffield. *Chickens.*—First, R. Teabary, Fulwood. Second, E. Brown. Third, S. Burn, Whitby. Commended, R. S. Branfoot, Sunderland; S. Corner, Sunderland.

**DORINGS (Coloured).**—First, Rev. J. F. Newton, Second, H. W. B. Berwick, Helmsley. Highly Commended, T. Braithwaite, Darlington; Rev. J. F. Newton; T. H. Barker, Hovingham.

**DORINGS (White).**—First, A. Hawe, Hull. Second, W. Grey. Commended, G. Pease, Darlington.

**DORING CHICKENS (Any variety).**—First, T. E. Kell, Wetherby. Second, Rev. J. F. Newton, Kirby. Third, H. W. B. Berwick, Helmsley. Highly Commended, Rev. J. F. Newton. Commended, J. White, Warlaby, Northallerton; G. Pease, Darlington; Rev. J. F. Newton; H. W. B. Berwick; T. H. Barker, Hovingham.

**COCHIN-CHINA (Cinnamon and Buff).**—First, H. Bates, Edghastoa, Birmingham. Second, J. Shorthose, Newcastle-on-Tyne. Highly Commended, H. Tomlinson, Birmingham. Commended, T. Stretch, Ormskirk.

**COCHIN-CHINA (Any other variety).**—First, J. Shorthose. Second, R. White, Sheffield. Highly Commended, T. Stretch, Ormskirk.

**COCHIN-CHINA CHICKENS (Any variety).**—First, T. Stretch, Ormskirk. Second, Rev. G. Gilbert, Claxton, Norwich. Third, H. Bates, Edghastoa. Highly Commended, H. Tomlinson, Birmingham; R. White, Sheffield. Commended, J. Shorthose, Newcastle-on-Tyne.

**GAME (Black-breasted and other Reds).**—First and Second, H. Adams,

Beverley. Highly Commended, A. Perkins, Darlington; W. Boyce, Beverley; D. Parsons, Lincashire.

**GAME (Duckwings, Greys, and Blues).**—First, H. Adams. Second, G. Hellewell, Sheffield. Commended, T. Cleminson, Darlington.

**GAME (Any other variety).**—First, H. Adams, Beverley. Second, G. S. Thompson, York.

**GAME CHICKENS (Black-breasted and other Reds).**—First, H. Adams. Second, H. M. Julian, Beverley. Highly Commended, C. J. Dodds, Halifax; G. Longbottom, Halifax.

**GAME CHICKENS (Duckwings, Greys, and Blues).**—First, J. Grocott, Haughton. Second, G. Hellewell, Walkley. Highly Commended, H. Adams, Beverley; A. Cattley, York; T. Cleminson, Darlington.

**GAME CHICKENS (Any other variety).**—First, H. Adams, Beverley. Second, J. Crossland, jun.

**HAMBURGH (Gold and Silver-pencilled).**—First, W. Cannan, Bradford. Second, J. Dixon, Bradford.

**HAMBURGH (Gold and Silver-spangled).**—First, H. W. B. Berwick, Helmsley. Second, J. Dixon, Bradford. Highly Commended, G. C. Whitwell, Kendal; W. Cannan, Bradford; Commended, H. W. B. Berwick.

**HAMBURGH CHICKENS (Golden-pencilled).**—First, S. Smith, Halifax. Second, J. Munn, Shawelough. Highly Commended, J. Munn. Commended, J. Dixon, Bradford; W. Cannan, Bradford.

**HAMBURGH CHICKENS (Silver-pencilled).**—First, R. and T. Longbottom, Bingley. Second, Froget & Harop, Sheffield.

**HAMBURGH CHICKENS (Golden-spangled).**—First, W. Cannan. Second, J. Dixon, Bradford.

**HAMBURGH CHICKENS (Silver-spangled).**—First, J. Dixon, Bradford. Second, W. Cannan, Bradford. Commended, T. Renshaw, Darlington.

**POLANDS (Black, with White Crests).**—First, H. Beldon, Bradford. Second, J. Dixon, Bradford.

**POLANDS (Any variety).**—First, H. Beldon, Bradford. Second, J. Dixon, Bradford. Highly Commended, J. Dixon. Commended, W. Newsome, Bingley.

**POLAND CHICKENS.**—First, W. Newsome, Bingley. Second, H. Beldon, Bradford. Third, J. Dixon, Bradford. Highly Commended, J. Dixon.

**ANY OTHER DISTINCT BREED.**—First, R. Teabary, Fulwood. Second, H. Adams, Beverley. Third, J. Dixon, Bradford. Commended, Mrs. M. Seamons, Aylesbury.

**BANTAMS (Gold and Silver-laced).**—First, T. H. D. Bayly, Biggleswade, Beds. Second, E. Yardly, Sheffield. Commended, Miss Elliot, Yarm.

**BANTAMS (White).**—First, J. Crossland, jun. Second, J. Dixon, Bradford. Highly Commended, T. H. D. Bayly, Biggleswade.

**BANTAMS (Black).**—First, J. Crossland, jun., Wakefield. Second, W. Cannan, Bradford. Highly Commended, A. Cattley, York.

**BANTAMS (Game).**—First, G. T. Allen, Sunderland. Second, W. Lawrenson, Preston. Third, J. Cragg, Kendal. Highly Commended, J. Crossland, jun.; W. R. Lane, Birmingham; T. H. D. Bayly, Biggleswade; G. Hellewell, Walkley. Commended, Hon. W. T. W. Fitzwilliam, Rotherham; W. R. Lane, Birmingham; H. Adams, Beverley; W. Newsome, Bingley; J. Munn, Shawelough; C. W. Briery, Rochdale; T. Wilson, Kendal; J. Stainsby, Sunderland; J. G. Pearson, Whitechurch.

**DUCKS (Aylesbury).**—First, G. Pease, Darlington. Second, J. Grocott, Tarporley. Highly Commended, Mrs. M. Seamons, Hartwell. Commended, N. Cawthorn, jun., Middlesborough.

**DUCKS (Rouen).**—First, J. Dixon, Bradford. Second, T. H. Barker.

**DUCKS (Any other variety).**—First, J. Dixon, Bradford. Second, J. R. Jessup, Hull. Highly Commended, T. H. D. Bayly, Ickwell House. Commended, Mrs. Braithwaite, Stokesley; W. Wooler, Darlington.

**DUCKLINGS (Any variety).**—First, J. Smith, Grantham. Second, D. Parsons, Cierdon. Third, J. Dixon, Bradford. Highly Commended, Mrs. Seamons. Commended, W. Grey, Northgate; Mrs. Milner; W. Wooler.

**GEESE.**—First, Mrs. Seamons. Second, G. Pease, Darlington. Highly Commended, J. Dixon, Bradford. Commended, Miss Sherwood, Yarm. *Geosings.*—First, Mrs. M. Seamons, Aylesbury. Second, Mrs. Sturdy, Greenhow. Highly Commended, Mrs. Milner, Thirsk.

**TURKEYS.**—First, Mrs. A. Gny, Grantham. Second, G. Pease, Darlington. Commended, J. Dixon, Bradford. *Poult.*—First, J. Dixon, Bradford. Second, J. Smith, Breder Hills. Highly Commended, Rev. T. L. Fellowes, Norfolk; T. Ward, Waidby.

**GENEA FOWL.**—Prize, G. Pease, Darlington.

**DORING PELLETS (Any variety).**—First, G. Mowbray, Bradford. Second, H. W. B. Berwick, Helmsley. Highly Commended, J. Bell, Thornton-le-Moor; J. White, Warlaby; Miss G. E. Palleine; H. W. B. Berwick.

**GAME PELLETS (Any variety).**—First, H. Adams, Beverley. Second, A. Perkins, Bellevue. Highly Commended, C. J. Dodds, Halifax; G. Pease. Commended, G. Mowbray.

**SINGLE DORING COCKS (Any variety).**—First, A. Perkins, Bellevue. Second, Rev. J. F. Newton, Kirby. Highly Commended, J. White, Warlaby; Miss G. E. Palleine, Crake Hall. Commended, T. Braithwaite, Darlington; Rev. J. F. Newton; H. W. B. Berwick, Helmsley.

**SWEEPSTAKES (Game Cocks).**—First, J. Firth, Halifax. Second, H. Adams, Beverley. Third, A. Perkins, Bellevue.

**SWEEPSTAKES (Game Cockerels).**—First, W. J. Cope, Barnsley. Second, G. W. Binns, Darlington. Third, H. M. Julian, Beverley.

**SWEEPSTAKES (Game Bantam Cocks).**—First, R. Wood, Stockton-on-Tees. Second, W. Lawrenson, Preston. Third, Lady Hawke, Womersley Park.

## PIGEONS.

**CARRIER COCK (Any colour).**—First and Second, J. W. Wooler. *Hen.*—First, J. W. Wooler, Sadberge Hall. Second, W. Cannan, Bradford.

**POWER COCK (Any colour).**—First, E. Brown, Sheffield. Second, W. Taylor, Sheffield. *Hen.*—First, W. Taylor. Second, W. Cannan, Bradford.

**ALMOND TUMBLERS.**—First, A. L. Sylvester, Birmingham.

**TUMBLERS (Any other variety).**—First, W. Cannan, Bradford. Second, A. L. Sylvester, Birmingham.

**FANTAILS.**—First, T. C. Taylor, Middlesborough. Second, W. Taylor, Sheffield.

**TRUMPETERS.**—First, J. J. Wilson. Second, W. Cannan, Bradford. Commended, R. Fawdon, Gateshead.

**BARNS.**—First, A. L. Sylvester, Birmingham. Second, T. Ellrington, Woodmansey.

**JACOBS.**—First, T. Ellrington. Second, F. Else, Bayswater, London.

**TURBITS.**—First, R. Fawdon, Gateshead. Second, T. C. Taylor, Middlesborough.

**OWLS.**—First, W. Cannon. Second, F. Else.  
**ANY OTHER NEW OR DISTINCT VARIETY.**—First, J. W. Wooler, Sadberge Hall, Spabians. Second, T. Rule, Gilesgate, Durham. Third, W. B. Van Hansbergen, Enfield Lodge. Fourth, H. Yardley.

**JUDGES.**—Poultry, Mr. Edward Hewitt, of Sparkbrook, Birmingham. Pigeons, Mr. T. W. Botcherby, of Darlington.

### FATTENING POULTRY.

I READ in No. 88, New Series, a reply to questions respecting the difficulty in fattening fowls, which, I have no doubt, all who have had the management of poultry have met with more or less. I have seen the attempts of others years ago, and the same results have taken place that your correspondents complain of; still they were not all failures, but the exceptions were effects that we did not then try to discover the cause of. Even in the early part of the present season I met with the same difficulties; but knowing there must be a cause for every effect I tried to discover it, but there was nothing to discover. The evil and its remedy have been stated in the poultry portion of the Journal times out of number; even in the above Number sufficient is said to insure a good supply of first-rate fowls for any table whatever. The fourth paragraph in the editorial article I consider sufficient to put any thinking person on the right track. But there are people that, because they cannot carry out the exact instructions laid down, get fainthearted, and, after one or two very bad attempts, give them up as impracticable; and yet those are the people that are always asking advice and always behind their neighbours.

Now, in searching for the cause of my failure I had to look over several volumes of the Journal, or COTTAGE GARDENER and Journal, and it was hardly to be supposed that I could find all I wanted in one or two papers, or in the exact words to suit my local circumstances; but there I found the ideas which I had to enlarge or contract, or twist and turn, to bring them to fit my present means, and I succeeded so far that the fowls gave satisfaction when placed on the dining-table. I do not aim at anything beyond a well-mented and fatted fowl, and that I obtain with very little trouble, otherwise it would not be done where there are so many other things to be attended to.

My fattening-pen, which at other times I make use of to put brooding-hens into, I found nearly ready-made. It is a small place between two walls, about 4 feet by 3 feet, with a slate covering; and I put round larch sticks for a bottom, about 15 inches from the ground; and the front and door are made of two inch strips of half-inch deal an inch apart. I made a box about a foot long, such as I use for cuttings, and that is fastened to the front, otherwise the fowls would stand on the edge of it and tip it over. I have another box a little smaller, in which I put their food. I place this food-box into the other and larger one, and the first thing after milking I give them their breakfast. By the time I have finished feeding the others and giving them water they have eaten as much as they want. I then take away what is left and throw it to the others. I feed them three times during the day; the first and last feed consisting of corn—oats one time and barley the next, and now and then a few crushed beans. The mid-day meal consists of any scraps I can get from the kitchen, mixed with barleymeal: this they always eat up clean. I give them fresh water daily, and always keep a box of the sweepings of the gravel walks in the pen, and it is surprising the quantity a fowl will eat. I endeavour to put in a fresh fowl every four days when there are two used weekly, as the fresh one put in stimulates the others to feed. I keep four or six in the pen according to circumstances. I generally allow them three weeks, but I have them in five weeks well fattened.

I have just used-up the old hens I commenced with last spring, and this is the way they were managed. After being killed, picked, and drawn, they are hung-up in the larder for several days, then boiled; the next day the skin is taken off and they are cut up into joints. With a portion of the breast of mutton stewed in the usual way according to taste, no dish of stew could be better, and there is no difficulty about making it.—THE DOCTOR'S BOX.

### WILD DUCKS.

CAN any of your various correspondents inform me how to rear a few Wild Ducks along with tame ones, subjected to the same treatment as the latter? I have more than one lost a promising part of a brood which was composed of both kinds,

the tame ones all living, and the wild ones perishing. I have been told that placing them in the full sun as young Pheasants are done, is beneficial; but then the old hen's opinion has to be asked on this point, and if she spit out her displeasure, what then? I believe this is a question more for gamekeepers and others that way than the patrons of fancy poultry; but I am not particular from whom the answer comes, so that it is to the purpose.—J. R.

### THE PORTSEA CANARY SHOW.

THIS Show took place at Commissioners' Hall, Landport, Portsea, on Tuesday, November 26th. There were a great number of birds, and from the most celebrated breeders in England. In the Norwich classes, Mr. Walter, of Winchester, took the lead, having some very fine specimens. In the Belgian classes were observed a cage of ten, called a collection, for which the highest prize was given, and most deservedly won by Mr. T. Moore, of Fareham, he having, as the Judge remarked, ten of the best altogether that had ever come under his observation. The colours were almost brilliant, and some even of the deepest orange, and together with the points so much sought for by the fanciers, and there was the greatest satisfaction given in awarding the prizes. The first prize in the sweepstakes was awarded to a very good bird belonging to Mr. Triggs, of Landport. In the Mealy classes the first prize fell to Mr. T. Moore; his bird was a perfect specimen of Belgian birds. The Show gave general satisfaction.

In the British birds the Blackbirds were excellent; Mr. J. Nicholson's attracted some attention. A novel sight also appeared in a White Blackbird. Too much cannot be said in praise of the Secretary, Mr. Baker, who was assisted by Mr. Triggs in getting up the Show. The room was very tastefully decorated with flowers, and at the end were a few pairs of first-rate Carriers and Powder Pigeons, lent by Major Haasard, of Hilsca, which added much interest to the Show.—G. GALE.

### SPARROW MURDER.

THE following appeared in the *Times* of Friday last:—

“CRAWLEY SPARROW CLUB.”

“The annual dinner took place at the George Inn on Wednesday last. The first prize was awarded to Mr. J. Redford, Worth, having destroyed within the year 1467. Mr. Heavaman took the second, with 1448 destroyed. Mr. Stone third, with 982 affixed. Total destroyed, 11,944. Old birds, 8663; young ditto, 722; eggs 2559. Yours obediently—A REAL FRIEND TO THE FARMER.”

### PIGS INJURED BY SALT.

SALT is very injurious to pigs, but I never knew it kill them, but it gives them diarrhoea dreadfully, which soon would kill them if the salt were continued to be given. I have seen pigs in a dreadful condition from potatoes salted down as Mr. Pearson's were, and the same fate would have happened to my employer's pigs this year if I had not prevented the man that feeds them doing the same thing. The injurious action of salt is, I am sorry to say, not generally known, as I have seen a great many pigs suffering from it, and their owners did not know what was the cause.

**CURE FOR DIARRHOEA IN PIGS.**—Get a lot of scraps, the same that some people boil for young Ducks, from a leather-parer; boil them up into a jelly, and if the pigs will not eat it drench them with it.—WORCESTER.

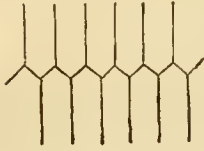
[We shall publish next week a letter denying that salt is injurious.—EDS.]

### SWISS BEE-APPARATUS IN THE INTERNATIONAL EXHIBITION.

I DO not remember having seen in THE JOURNAL OF HORTICULTURE any notice of the “apparatus for assisting the bees in constructing their combs,” as the exhibitor styles it, at the Great Exhibition. It is to be found in the Swiss department, on the side of the northern gallery next the nave, and within a few yards of the western dome. It appears to me quite novel; and, as it may be so to others also, I append a description. I should likewise be glad to know if any of your readers have ever put similar contrivances into practice, and with what result. I

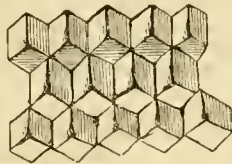
only regret that I did not draw the attention of "A DEVONSHIRE BEE-KEEPER" to it when he was in town, as it bears considerably on his own inventions, and he would probably be able to say something on its use.

One of the articles is a small metallic roller very similar in size and construction to the boxwood roller butter-prints in common use in many dairies. This is indented upon its edge, so that when passed along a wooden bar (similar in size to the Woodbury-bar), which has been previously coated with wax on one side, it leaves slight raised projections, which form the commencement of the walls of the first cells. I should think this would be a very useful plan for causing the bees to work



the bars regularly, as I have once this year found Woodbury-bars commenced on the wrong side, notwithstanding the small space between them and the crown-board, and guide-combs being affixed below.

The other matters are plates apparently of type metal, and very similar in form to printers' stereotype plates, indented in a hexagonal cellular manner, like the bottoms of the cells in a comb without the walls, and made so as to exactly fit the surfaces of each other. A layer of wax being introduced between them, and a pressure applied, it becomes, so to speak, embossed with cell bottoms. The specimens exhibited are as regular and show as great an economy of



material as if executed by the bees themselves. There are two pairs of these plates indented, of sizes respectively for common and drone cells. As the foundation of every cell in the hive could be laid in this way, and the drone-cells arranged exactly as the apiarian desires, one would think this contrivance must immensely facilitate the labours of the bees. There is something in the way of description, but I am not sufficient of a linguist to decipher it. The question of practical utility would appear somewhat doubtful. The necessary fragility of so large and thin a plate of wax would almost suggest a negative.—G. F. B., Colney Hatch.

[These artificial combs have recently been tried in England, and are found to answer perfectly. We believe Messrs. Neighbour & Sons intend to manufacture them.]

### "DZIERZON RECONVERTED!"

In the article which I inserted in a recent Number of THE JOURNAL OF HORTICULTURE, "Dzierzon on the Bee-year 1862," I made a passing reference to that distinguished apiarian as the original promulgator of the theory of parthenogenesis in the honey bee; and also to the fact that he had afterwards been so perplexed, apparently by unforeseen difficulties and new unsolvable mysteries, as to make him doubt the correctness of his own theory, and to have recourse for an explanation to the antiquated hypothesis of the action of an *aura seminalis*.

In addition to the quotation made by Mr. Woodbury from Von Siebold's writings as to Dzierzon becoming a doubter of his own theory, I quote the following as Dzierzon's own words on the subject:—"Continued observations," he writes, "of the hybrid hives also must be no less adapted to raise the veil, more and more to penetrate into the obscurity, and finally bring the mysterious truth to light. If the drone egg does not require fertilisation, Italian mothers must always produce Italian drones, and German mothers German drones, even when they have been fertilised by drones of the other race. The Silesian Bee-friend (meaning himself) possesses hybrid hives of both kinds, and did not permit any want of observations so far as the limited time enabled him to make them, but he met with new unsolvable riddles. The Italian hybrid mothers have throughout completely confirmed the supposition, and produced the most beautiful Italian drones, one almost more beautiful than the genuine stocks—the maternal stock itself. Of two German hybrid hives one also produced only the ordinary black drones, the other the same; but unexpectedly amongst these a few appeared which glittered like gold, and were yellower than any single bee even in the genuine Italian hives. It certainly was possible that even

here a beautiful Italian amongst the workers, of which a portion had the colour of the indigenous bees, and another portion that of the Italians, might have laid some eggs, from which the few yellow drones might have been produced. Nevertheless, the Silesian Bee-friend is not particularly inclined to explain the phenomenon in this way, so as not to expose himself to the suspicion that only a predilection for his hypothesis led him to have recourse to this explanation, as, in point of fact, the deposition of eggs by worker bees when a queen is present is an exceptional occurrence of the rarest kind."

Then follows the explanation of the problematical action of an *aura seminalis*.

It will be seen, then, from Dzierzon's own words, and from Von Siebold's writings, as quoted by Mr. Woodbury in the last Number of this Journal, the grounds of my so-called "mistaken notions."

I find, however, from the extracts furnished from more recent writings in 1861, of which I was ignorant, that Dzierzon is reconverted, as Professor Siebold, his great friend and defender, predicted and hoped he would be long ago.

It certainly did strike me as strange, though perfectly allowable under the circumstances narrated by me, that Dzierzon, after fighting-down all opposition against his theory, should himself stand out afterwards, isolated as it were from his friends, as a sceptic; but it never occurred to me for a moment that, after having so taken up his position, no doubt from mature consideration, he should again be found to have changed sides. Such unusual transitions of opinion, whether to be found in the politician or the naturalist, must entail upon the parties concerned, to say the least of it, not a little inconvenience; and they must bear the brunt of having their opinions occasionally not only less valued, but their ultimate and more mature views, it may be, necessarily liable to misconception and misrepresentation.

I, and other apiarians who have not had access to the pages of the German "Bee Journal," must, however, feel obliged to Mr. Woodbury for making known the fact, which seems undoubted, that Dzierzon is "himself again."

Dzierzon, therefore, being now reconverted, and all Germany at one as to the truth of parthenogenesis, apiarians may be expected henceforward to have a period of hitherto-inexperienced and unfeared repose; for this theory, according to its author's latest views, "explains the phenomena of the bee-hive as perfectly as the Copernican hypothesis the phenomena of the heavens," and by it "all the mysteries which we have hitherto vainly endeavoured to unriddle are completely solved." The allusion to the Copernican or planetary system of the heavens reminds me of the story told of the great astronomer Galileo, of whom it is recorded that when the Inquisition at Rome made him abjure on the open Gospels his belief in the fundamental truths of that system of which he was so distinguished a supporter, he, rising from his knees after this mock solemnity, whispered to a friend standing by in reference to the motion of the earth these emphatic words, "It moves for all that!" So Dzierzon, it would appear, after a temporary but unconstrained and voluntary recantation, or recording of his doubts of parthenogenesis, can yet say, not in subdued whisperings to friends merely, but boldly and publicly to the community at large, "It is true for all that."

—J. LOWE.

[Here the subject must cease from discussion in our pages, for to debate it fully requires details not suited for the columns of a Journal which, a friend significantly remarks in a letter, and for which we thank him, "hitherto has laid on his drawing-room table."—EDS.]

### OUR LETTER BOX.

DRAKE'S FOOT (*A Constant Subscriber*).—We regret that you will again be disappointed, for we have no such inquiry on hand, and do not remember it. Write again the particulars.

CONSUMPTION IN PIGEONS (*J. T. T.*).—The Carrier with diseased lungs filled with purulent matter died obviously from consumption. As your diet is unexceptionable and the birds fly, the disease must have been due probably to hereditary predisposition. Many of the high-bred birds have a tendency to tubercles which may be developed in their young; no medicine would avail in such a case. The Hyacinth was treated properly by opening the tumour. Is your loft kept sufficiently clean, or have your birds to pick up their food from the dung on the floor? Without cleanliness no birds can be healthy. Have they clean water to drink, and is there any ventilation at night?

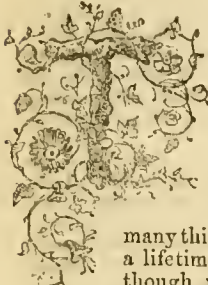
CANARY MANAGEMENT (*W. J., Yarmouth*).—We know of no good separate work on the subject; but it is very fully given in a work we have now in the press, entitled "The Singing-Bird Manual," which will be published early in next year.

WEEKLY CALENDAR.

Day of M <sup>th</sup>	Day of Week.	DECEMBER 23—29, 1862.	WEATHER NEAR LONDON IN 1861.					Sun Rises.	Sun Sets.	Moon Rises and Sets.	Moon's Agc.	Clock after Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.							
23	Tu	Polygalas.	30.270—30.250	degrees. 45—33	N.E.	—	m. h. 7 af 8	m. h. 52 af 3	m. h. 13 7	2	m. s. 0 40	357	
24	W	Heisterias.	30.285—30.176	45—30	E.	—	7 8	52 3	36 8	3	0 10	358	
25	Th	CHRISTMAS DAY.	30.169—30.092	44—18	N.E.	—	8 8	53 3	53 9	4	bef. 20	359	
26	F	St. STEPHEN.	30.300—30.200	35—20	N.E.	—	8 8	54 3	11 11	5	0 50	360	
27	S	St. JOHN THE EVANGELIST.	30.499—30.433	40—25	N.E.	—	8 8	54 3	morn.	7)	1 29	361	
28	SUN	1 SUN. AFT. CHRISMAS. INNOCENTS.	30.454—30.409	39—30	E.	—	9 8	55 3	24 0	7	1 50	362	
29	M	Salvias.	30.414—30.327	31—22	N.E.	—	9 8	56 3	35 1	8	2 19	363	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 43.0° and 30.6° respectively. The greatest heat, 58°, occurred on the 28th, in 1855; and the lowest cold, 1° below zero, on the 28th, in 1860. During the period 149 days were fine, and on 96 rain fell.

THE HOLLY.



THE festive season which this Number of THE JOURNAL OF HORTICULTURE ushers in brings with it an emblem of times long since passed away; but the relic left us promises to survive many centuries yet to come, for it has a deeper hold of our national affections than the vapour-like fashions of many things which change many times during a lifetime. But the tree of which I speak, though not often placed in the front rank of the parterre or shrubby favourites, has

nevertheless retained a creditable position everywhere, and at this particular season stands prominently forward as the most conspicuous ornament either our artificial shrubberies or our natural woods afford. Had Dame Nature placed this singularly beautiful tree amongst those, to procure which our ships are freighted to the antipodes, it is not unlikely but it would have stood higher in the estimation of those who profess to guide public opinion in matters of good taste; but scattering itself more or less profusely over the length and breadth of the land, its commonness has occasioned it an amount of neglect anything but creditable to us.

Fortunately, however, for us, in this case as well as in many others, there are amongst us many whose education has not been so completely artificial as to exclude the love of national beauties of home growth. The ecstasies with which oriental writers extol the productions of warmer climates might be met with a similar echo, if the talent were forthcoming, from those who behold what our own sea-girt island possesses; and that we shall speedily see full justice done to the merits of our native trees and shrubs is the more likely, since the beauty of our indigenous Ferns is now acknowledged, and there are forms amongst them not exceeded by those from any other country.

This being admitted, I have the hope that the merits of other things will be allowed also; and to send to the antipodes for what is at our back door will, I hope, be no longer a reproach to us; nor yet that somewhat cruel and paradoxical proverb, reflecting so wantonly on the idea of the fair sex saying something about things must be dear-bought and far-fetched, and ending with other naughty words. It is, however, impolitic our laying this charge against our fair patrons when we are open to so many taunts of the same and worse kinds ourselves. Under the favour, therefore, of a truce, let us see what can be done to do honour to such of our neglected ornaments at home as have hitherto been kept in the background, and amongst these the beautiful plants whose limbs and other members are alike the ornament of places of worship and recreation, the cottage and the palace, the butcher's shop and the ball-room; while the tree itself, nestling for protection under the monarch of

the forest, stands out perhaps the more conspicuously by the rich colours it presents to us amidst the withered mass of decay by which it is surrounded. On the other hand, we see it occasionally crowning the brow of some eminence, but more often clustered in groups by the sides of some rocky glen. Occasionally it is also in exposed places, subject to the attacks of cattle; and in such spots it presents a feature in its growth which has elicited the following exquisite lines from the gifted but unfortunate poet Southey:—

"O reader! hast thou ever stood to see  
The Holly tree?  
The eye that contemplates it well perceives  
Its glossy leaves,  
Ordered by an Intelligence so wise  
As might confound the atheist's sophistries.

"Below a circling fence its leaves are seen  
Wrinkled and keen.  
No grazing cattle through their prickly round  
Can reach to wound;  
But as they grow where nothing is to fear,  
Smooth and unarmed the pointless leaves appear."

As it is superfluous to add anything to the above, it is also difficult to conjecture at what precise period the Holly came into use to decorate our dwelling-houses and churches during Christmas. Some have affirmed it to be the remains of a custom of the Druids, who used the Holly to deck their abodes at this inclement season, in order that the sylvan spirits they worshipped might remain with them until the return of milder weather called them forth to their mystic woods and forests.

Whether this be so or not is needless here to reason upon. Evidences are neither few nor unimportant of a pagan custom having worked itself into one of Christianity, and nothing could more forcibly present itself to those original children of the forest as calculated to captivate the good will of the mystic deities of their religion than the most showy specimens of the vegetation they possessed; and might we ask, What country produces anything more remarkable than the Mistletoe, or more beautiful than the Holly?

The researches of botanists and of enterprising plant-collectors, sent to explore near and distant regions, have not yet, to my mind, produced anything more truly beautiful than the Holly. Its dense green foliage, that no weather seems to affect, is of the brightest hue; while in contrast with these are the masses of fruit of the most brilliant coral. Compare these qualities with any shrub we now possess, and our Laurels, Alaternuses, Rhododendrons, Boxes, Spiræas, Ligustrums, and the whole host of foreign productions fall to the rear. Neither is the gay apparel the Holly now appears in one of short duration. The berries hang on for many months but little impaired, while at no period of its growth does it ever appear unsightly; neither do its young shoots ever present that delicate succulent look that some young growths of evergreens do. True to its character, it is the monarch of shrubs, none equalling it for height and bulk of stem; and if some of the gayest of the Rhododendrons claim attention for the beauty of their flowers, they cannot boast of so long-continued and well-sustained

verdure. Even in the mutilated form in which its fragments appear in our dwelling-houses and elsewhere at this season, its leathery leaves carry it through a longer period than any other shrub. Sufficient, however, having been said on its merits as a home ornament, let us see in what way its advantages are used outside.

There are few people connected with rural affairs but can point to some place where the Holly is found luxuriating in the wild profusion of the home it has selected for itself, seeding and reproducing itself, and in many instances attaining the dimensions of a moderate-sized timber tree, unassisted, or, I ought to say, uninjured by axe or spade. In some native woods when the general fall of the timber takes place the Holly is not unusually spared, when such fine specimens are produced. It is seldom, however, that any quantity of fine trees are to be met with in woods of this description within a circuit of twenty miles or more of London. The great temptation there is for trampers and others cutting it to supply the great London demand for this article at Christmas, is fatal to the well-being of trees within the reach of such marauders. Even the pet tree in the dressed grounds is not always safe from depredation; and some parties, to save their trees from injury, take the precaution to pick off the berries in November.

The Holly, however, like everything else, has its favourite place of abode, and it is not found in all spots alike vigorous; and, contrary to the condition of most forest trees, I have never seen it so fairly at home in the south of England as I have seen it in the north. At Gilside, in the county of Durham, I have seen some very fine trees of it, the stems of which had assumed the dimensions of several cubic feet of timber—and these not solitary examples, but plentiful. The soil was a light-coloured hazel loam resting on a sandstone shatter, the soil itself being very stony. It was not a damp soil, and yet it could not be called a dry light one; the hilly condition of most of the sites precluded stagnant water affecting the trees. I believe, however, the understratum possessed iron, and for a certainty it did coal, but that at too great a depth to affect the surface.

Most of the places where I have met with the Holly in a wild state have been in such positions, the other woods being generally Oak, and, not often, Beech. In some of the natural woods in Kent Holly is met with but sparingly. Generally these places are too dry for it, or the barbarous practice of cutting it every now and then for the sake of the boughs with berries on has checked it very much; and it is provoking to see a fine promising young tree, tall and uniformly grown, cut for some waggoner's whip-handle. This and similar misfortunes have tended to keep the growth of the Holly down in many places; while in former times its bark was sought after for birdlime, and country carpenters, aspiring to some fancy piece of cabinet work, sought after a piece of Holly to make veneers, or rather stringing, of a pale or nearly white colour. I believe some other woods are used for this work now. It has, however, been often used for the teeth of corn-mill machinery, where wooden teeth alternately with iron ones are used, its hardness rendering it very suitable for that purpose. Many other duties it is often called on to fulfil; but whether it is adapted to wood-engraving in conjunction with Box I am not aware; for the latter purpose I should think it scarcely equal to the White Thorn, but no doubt all have been tried.

It is, however, more as an ornamental tree that I now write about it; and as a single tree on the lawn, or one amongst others in the shrubbery, a Holly is rarely out of place. It is, perhaps, more difficult to transplant than many other trees, and I confess not having been always successful with it; but I am told by one, who has moved several with great success, that May is the best time, and next to that early in September. Much, however, depends on the condition of the plants to be moved; to attack a plant that has been installed at its present place of abode twenty years or more cannot possibly succeed without some little loss one way or the other, and of course the more so if done at the wrong period. It is, therefore, in most cases advisable to inquire if the plants have been moved some short period before they are purchased, as a little lack of vigour may be not only excusable but highly recommendable, as being more likely to prosper in their new situation than more robust specimens.

On the varieties of Holly it is not my intention to enter, as this article is dedicated to the common one; there are, however, many varieties of great beauty, and some of them of singular

growth, but the ordinary one is the most useful of all, and when wanted for a hedge it is unquestionably the best. This subject will be treated of in a future article, so that it need not be entered into here; and while our readers are admiring the twigs of this tree, which, with their rich coral-looking berries, ornament the market-stalls and windows of all that can obtain it at this season, let them make a resolve each in their respective station to do all they can to increase the number of trees of this emblem of festivity, which, in addition to the interest attached to it as such, is unquestionably one of the most ornamental if not the very finest trees we possess.

J. ROBSON.

## THE TREE CARNATION.

THE question of a lover of Carnations as to the mishap that has befallen his new, and, to say the truth, somewhat expensive lot of tree Carnations, suggests, in replying to it, a few observations on this interesting class of winter-blooming plants. A collection of them exhibited by Messrs. E. G. Henderson & Co., at the Royal Horticultural Society, showed that to designate them by this term was not a myth; and that, whether for the brilliancy of their colour or the delicacy of their perfume, they form an exceedingly valuable addition to the autumn and winter-flowering plants which we already possess.

We are indebted for them, as for a vast number of our improvements in floriculture, to our continental friends. I do, indeed, remember many years ago "when I was young," that a very earnest florist in Dublin used to have his tree Carnations; but then they were only the ordinary florists' varieties treated as perennials, much in the same way as we make tree Mignonnettes out of the annual herbaceous plants, whereas the tree Carnations now grown are evidently quite distinct from them; and although the French growers have sent over varieties which, from their dwarf habit, are little better than the older florists' varieties, yet Messrs. Henderson & Co. have been wise enough to reject them, and to retain only those which, from their height and general character, are deserving of the name. At first, as in the case of Fancy Pansies, the flowers introduced were but little better than Ragged Jacks, with no outline or form of any pretensions. But perseverance and skill have, to a great extent, remedied this, and many of the newly-introduced sorts are quite equal to what florists' Carnations, as a general rule, were some twenty years ago; and this has been obtained without detracting in any way from their brilliancy of colour—one of the newer sorts, Perfection, being really a very excellently-shaped flower with good petals.

The cultivation required to have the tree Carnation in perfection must be, of course, different from that ordinarily pursued with the florists' varieties. They ought not to be allowed to flower the first year; but when the plants are received from the nursery they should be at once, if well rooted, placed in the blooming-pots. These should be about 6 inches or 8 inches in diameter. The tops should be pinched-off in order to encourage them to throw-out shoots; but, at the same time, no shoots should be allowed to come out low down the stem, the growth being encouraged on the head of the plant, while no flower-stems should be allowed to rise. They may be placed during the spring and summer months in a cool and airy situation, and when they have obtained their growth may be placed out of doors, but sheltered from very heavy rains, which are always injurious to plants in pots: they will then form their flower-stems and bloom-buds. Water should be carefully applied, the plants never being allowed to flag; and then, when there is appearance of frost—say in October, they should be brought into the house.

The soil in which they delight is a rich and friable one, but not too much manured, as this is apt to cause the colour to run. Loam about one-half, leaf mould and old manure one-fourth each, with the addition of some sand, form a very excellent mixture, in which they will be sure to thrive.

It will be seen, I think, from these few remarks, how it is that your correspondent has failed. He received the plants with flower-buds on them. Now, if they were young plants, he would have done well to have left them where they were, nipped-off the buds, and waited patiently until the spring before he reported them; if they were older plants, it was sheer madness to have treated them in this way. No one could ever take a plant of that nature, and, just before its flowers were opening, when all the vigour of the plant was directed towards that end

reput it—set it to work making roots, without doing injury. The probability is that he will lose most of his plants. The soil gets soddened, because, at this season they will not make much root, and for the same reason the buds will drop off. I think his best plan—and without seeing one can hardly prescribe for a patient—is to put them back into smaller pots, pinch-off the buds, keep them rather dry, and then in the spring give them a fresh start.

It is to Messrs. E. G. Henderson & Son that the credit is due of forcing this flower on the attention of the public, and they are each year adding to their lists of new varieties. From their catalogue I have selected the following varieties, combining great diversity of colouring with delicate and curious markings.

Abbé Beulard, salmon rose, flamed and flaked slate colour.	L'hermine, pure white.
Alphonse Karr, eluret ground, striped and suffused with purple.	Madame Adèle Calmels, flesh, tinged violet.
Aramis, yellow ground, striped with cherry.	Mirabeau, dazzling red.
Ariadne, delicate rose, with purple and crimson flake.	Oscar, clear yellow, marbled rose, striped with cherry.
Beauty, pure white, with rosy pink narrow stripe and edge.	Perfection, white ground, with bizarre flakes of purple and crimson.
Christian, violet purple.	Queen of Whites, beautiful self white, fine form.
Flambeau, pale yellow; towards the base flamed scarlet, striped with crimson.	Raquelaire, yellow, striped with shaded crimson.
Garibaldi, rich fawn yellow, with heavy red edge.	Seigneur de la Malmaison, flesh; good form.
Joséphine Debray, orange salmon, slightly suffused with slate colour.	Targioni, deep violet purple.
Louis Napoleon, large, white, flamed with bright rose.	Ulysse, salmon ground, flamed and striped with shaded purple.
	Vandyke, rosy white, flaked cherry.
	Virgile, bright yellow ground, flamed and tipped with cherry.

—D., Deal.

### NEW BOOK.

*Flower and Fruit Decoration.* By T. C. March. With Many Coloured Illustrations, &c. London: Harrison, 59, Pall Mall.

THIS is, indeed, a very charming book—a book which the force of circumstances, as the elder Napoleon would say, rendered inevitable, and the third original book which has appeared on a branch of our calling since I put my foot on the first step of the ladder. The first great original was Dr. Herbert's "Amaryllidaceæ," in 1836; a few years later, "The Theory of Horticulture," by Dr. Lindley, the best book he ever wrote; and this book now by Mr. March, the winner of the blue ribbon in 1861 and 1862 at South Kensington, in the running for dining-room and drawing-room decoration with flowers, fruit, and "greens."

As an instance in illustration of the adage that some have achieved greatness while others had greatness thrust upon them, I may mention that gentlemen in arm-chairs in London have thrust upon the writer, against the grain, the agreeable duty of standing godfather to these three original and very different books. No matter how many gardeners there were who could have done the "Amaryllidaceæ" and the "Theory" as well as any other, I only know of four, or, perhaps, five gardeners who could do this decoration-book more ample justice than I can, and here is my voucher. I had a regular college training for this very branch, and my college professor was the first who was appointed to be one of the judges where our author won his spurs. He, too, must have been in good hands for training before he could make such an appearance. There is no man and there never was one who could learn all that by induction. Depend upon it the ladies have been at the bottom of it all, for it is a most difficult thing for a man to understand. I found it so, and, except in getting hold of the English tongue and in parsing the *Æneid*, I never met with so difficult a subject as the dining-room and drawing-room decoration from the flower garden; but as luck and long experience would have it, I succeeded so far that for the last seven or eight years before I left the college I was permitted to do it just as I thought best, and on the last best occasion I had the pleasure of conducting Dr. William Russell of *The Times*, and five other gentlemen representatives of the London press, round and round the labyrinth, just before the select company who were invited to meet the Prince Consort came down to dinner. But all that has reference to you only, and I mention it on purpose for you as a guarantee that I mean what I say, and that I know what I mean when I say that this is, indeed, a most charming book, an original book, a lady's book to the last page of it, and a book which lets the cat out of the bag entirely at last, at the end of eighteen long years.

It is not much over twenty years since the subject of this book has had a fair trial in England. It was the fancy of a

few ladies at first, and between them and their head gardeners all the compounding was done. Gardeners, as is well known, do not keep secrets, but there did not seem to be any demand for such secrets as this. You must recollect how often I stated the wonder that no one ever thought of exhibiting collections of fruit after the manner of setting the dessert, and that I had not seen any such collection which, if tested by the rules of that "institution," would not be without a pig with one ear somewhere round the table; but as to decorating the dinner table with flowers and "greens" only, the public never seemed to me to care one single straw about it, and the cat was in the bag the whole of this time. But as Mr. March had the temerity to let it out as soon as he himself got to the top of the ladder, I shall be Yorkshire too in the cause of my calling, and let out a lot of the kittens before I have done with him and his most beautifully illustrated book of drawing-room decoration.

The book is short and sweet, and to the point—108 pages; nine principal chapters, divided into sections according to the different branches which grow out of the principal leader of each chapter. Then there is a "list of ten large coloured engravings of flower and fruit arrangements published separately from this book, and recommended as working drawings in respect to the shape and colours most desirable for these decorations." Also, "thirty coloured diagrams intended to assist the judgment in the choice of colours," together with "thirteen coloured diagrams of ribbon-garden borders" for London gardens, which the author tells us, the cats use for their music-halls. Then there is a "list of bedding plants for the above ribbon-borders and rustic stands." The last pages contain a "reference to some of the principal nurseries round London." In addition to all this, almost every other page is illustrated with engravings explaining the right and the wrong way of doing-up the decorations, and several of the highest order of these decorations in a finished state are given, and these are beautifully painted, true to nature, and to this style of high-art decoration. The style of the author is plain table talk, just as any neighbour would tell another across the table how all this finery could be done at home, how to manage it after it was done, and, if they were Londoners and in London at the time, how and where to look about for the next lot of things to try their taste and skill upon; and if either their skill or their taste should happen to differ from those of the rest of the company round the table, there is no dogmatism; "all in this free country can indulge their liking;" for "the sense of colour differs with different people as the sense of taste and smell." (Page 15.)

The first chapter begins with "Glass as a Material for Displaying Flowers;" and another reading of it might be to say that plain, clear, crystal glass is as essential to the decoration with flowers as it is to the growth, and health, and beauty of those exotic plants which bear so many of their numbers, as it were, for this only purpose. Another branch of the first chapter is that "flowers should be grouped according to some design," and "it will not suffice to crowd in a quantity of different flowers with no relationship to each other except their bright colours." The italics are mine, in order to give me the opportunity to say how much I coincided with the Judges of 1861, who awarded the first prize to our author against a formidable and most profuse use of the exact opposite of every syllable so underlined. But under the fifth chapter I shall tell you another tale about these.

Chapter II. is on colour and contrast, and "it requires much tact and good taste to manage many colours" in a composition. There is not the value of a shade between the author and the old COTTAGE GARDENER on this the most important part of the chapter.

In the beginning of Chapter III. you also begin to see the pricked ears of a tortoise shell rising out of a green bag, with tassels of drooping flowers in a rosette of leaves hanging from each of the four corners. You begin to feel as you never felt the whole season; but you read on and on, and before you have done with Chapter III. you will know six times as much more of the secrets of the art of these decorations than I knew when I was eight and thirty years and seven months old, or when I entered that college where I took my degrees.

There is a slight difference here between the author and your humble servant in our mode of fixing the foundation for the furnishing; and unless the "plastic clay" in the centre of the *épergne* is necessary for the support of the glass rod there is not the slightest necessity for clay at all, even if the diameter of the base be a yard across, and the glass be as shallow as those

of the beautiful glass epergnes represented in this book. I never used glass rods, or glass attached to the stem of an epergne; but I made a thousand "tops" and "bottoms" quite as fast as those glasses, and some much wider than these, without ever using one particle of clay, but the stems had ring-sockets to screw on and off.

Sand is the grand material; and there is a better way of doing it, and a much easier process than is here described. The way I was taught to do it was to put so much common white sand—a peck or half a bushel at a time—into a horse pail, or a wooden tub, to pour in so much water as would float the sand and rise over it; to shake this mash two or three times, that all the particles of the sand should get wet; and then to strain off the water gently by turning the bucket or pail on one side, and let it remain so for some hours. That was done as soon in the day as a boy could be spared from his other morning work; or if the sand was mashed and drained two days or a whole week before it was wanted, it was none the worse. Then pack a soup-plate full of it, and in a cone as firm as you can beat it down; then thrust your walking-stick into this cone—say 5 inches deep, put your hat on the top of the stick, and try the nerves of your new groom of the chambers by requesting him to be so good as to carry it upstairs, and along the front corridor to the first turning to the left, and into your study or private sitting-room: you know the rest. Nevertheless, if you have timid young people about you, I can see very clearly that the clay bottom is a most excellent thing; but, as you must all read the book, it will not be amiss if you have two strings to the bow, and that is all that I mean by these precepts.

After the foundation comes the fixing, and here you have a branch of the subject which will not be much improved on to the end of this century to begin with. In this "free country" they may arrange the colours differently, but they will not be able to fix them better: and there are two diagrams here, the one for the bottom, the next the top—the bottom and the stem of an epergne all in one, and both are fixed in the right way on one side and in the wrong way on the opposite side; and if you believe me, if I had seen these two diagrams when I was eight and thirty and seven months old, each of them would have saved me the minding of the substance of a lecture once a-week for nine months of the next two years, and very like the saving of an hour now and then in the examination-room—the hottest room in the house, of course, when I could ill afford the time.

But the best part of this branch of the third chapter is this:—"Spargula pilifera will also replace moss very effectively"—that is to say, to cover the sand and clay before the fixing, and the "also" pertains to Ivy as "a good substitute" for moss, and better still, as I can vouch for. German Ivy is much better than moss in many instances, for it will root in an epergne in a few days, live on the damp sand and clay, or sand, a whole season, stand gas, climb up the glass stem, run round and round the edges of the top glass, and will fall down in pendants even from a height of 20 feet. They do all sorts of "winter greens" with it in Russia.

The next branch of this chapter is full of the most sterling instructions about the arrangements of all kinds and classes of flowers on a natural-system-like arrangement, with diagrams to show off the effects. This would be the best part of the book for the florist to study, Mr. Turner, of Slough, excepted; he has the eye for effect already, and yet I am not sure if he is not the very type of those who need it most. I have learned a good many turns from it myself, after seeing as much of it in practice as most men of my age.

The epergne at page 41 is very beautifully set; but I was never allowed to put a single flower in that style in all my practice; or if I did, I had to go to the front to be told never to depart from nature in giving a position to a flower. Nature has bunches of Grapes, bunches of flowers of Laburnum, and bunches of Glycine, or Wistaria (not branches) in the pendent form, but never a Lilac or a Delphinium, unless it were from the weight of the flowers. You will think it strange, perhaps, when I say a lady is set to the best advantage, in my eye, when mounted on a spirited palfrey, and a bunch of Grapes, or a score of them, is nothing "in my eye," unless it hangs free as on a Vine, or as on the epergne on page 42; and yet I was never allowed to put a single flower in the same dish with Grapes, or any kind of fruit; but more of that under the fifth chapter.

On page 41 occurs the first and the only wrong spelling of the name of a plant in the whole book. I refer to the good old

Zebra plant, the *Marsilea zebrina*, which has an extra *u* all through. The Maiden-hair Fern of the author, which Mr. Dunsford allows to cool before he parts with it from his hot-houses, is not that of books on botany. The Maiden-hair Fern is a native of the wildest parts of the Highlands of Scotland, of Scandinavia, and of similar places in many lands; but it will live in a greenhouse. *Adiantum cuneatum* is the one Mr. March means, and is the best of them all for that purpose; but with this exception, and one or two Covent Garden names, and the use of capitals in distinctive specific names, as *Cissus Discolor* for *discolor*, *Lycopodium Cæsius* for *cæsius*, there is not a single error in all the names, which is wonderful, seeing the first edition was got out in a hurry for Christmas presents, and it strikes me the whole edition will be out before Twelfth-night; and if so, I would vouch for it the second edition will be exhausted in wedding presents before Lent is in.

I would not wish to seem to press this book on the bulk of our great gardeners, for they have all their own different ways, or the ways of the families whom they serve; the ladies are sure to take it up, and to lead the fashion until the whole country is full of it.

The last part of this chapter is a résumé of what has been said and what to avoid; for there is nothing left to chance, and there is no dictation.

The fourth chapter opens with an array of most beautiful glass baskets with glass handles, of different shapes and sizes, with other engravings showing how they should be fixed, filled, and set off in the most artistic designs; also designs for "Fern cases and Mosses," and ends with the way Mr. March would preserve cut flowers and foliage for future use; and to this I would add a few words in addition to his very capital system.

The late Mr. Petersen, gardener to the King of Denmark, who made the decorations for the christening of the Princess Alexandra, told me in 1846 that charcoal water was the best thing to keep cut flowers and leaves in, and I have found it so ever since. About a quart measure of charcoal pounded into dust, thrown in a bucket of water for a couple of hours, and then strained-off clear, is all the work. About 3 inches deep of this clear charcoal water should be put into some wooden vessel—say the half of a nine-gallon cask, or some such thing—then half fill the tumbler-glasses with the same kind of water, put in the flower-stalks and leaves in separate kinds, and place the glasses in the wooden vessel, and have a couple of panes of glass to cover it, but not very tightly; and of all the means I ever saw that was the best for preserving cut flowers for future use or present ornament. But I think one of my men improved on it by double-sifting the powdered charcoal, so as to leave him a quantity of the size of Marrowfat Peas, and in that size to float the whole surface of the water in the wooden vessel with the charcoal, and the purifying influence of the whole, in the game larder, is sometimes wonderful; such things should not be long in the dark, or in a close or warm room. Our author is also alive to this purifying influence of charcoal.

Chapter V. If I had been the fortunate author of this book, this would have been my first chapter. Why it is not so I think I can guess; but as I may have to speak of the whole chapter some other day, I shall merely state the chapter is on the subject of "Where to Place Flower and Fruit Decorations," and that the author tells us on the next page, "it is not my intention to enter into the details of the dessert."

The sixth chapter is on the "purchase of flowers in London." A town guide, in fact, if people would but get up in time, like Mr. March, and keep the middle of the street to Covent Garden, to avoid the girls shaking the door-mate, and the pot boys who tease them into dust and fury not safe to encounter before the day is well aired. And then to be able to understand the market dialect about Jasmynes, Creeping Jennies, "scents" by the dozen, and "thumbs" by "the score," with Brady's "Clavis Calendaria," and a consequent supply of Holly, Leaks, Shamrocks, and Palms, on all the days of tutelary saints and other occasions distinguished by floral emblems, you must read this chapter from first to last, and the next with it, which contains most useful lists of all the flowers and foliage you can buy in Covent Garden from November to October, with their colours and shades for every month of the year, with references how to use some particular kinds, and not a single error in the names of that vast variety of plants, except that unlucky *u* in the corner of *Maranta*.

Chapter VIII. is prodigious in floral display—no less than "fifty different groups of flower or fruit recommended from

experience," and a sectional chapter for each distinct colour, all of which are wonderfully good selections.

The ninth chapter is on London gardens and conservatories, lead flats, and stone terraces, from which the Mignonette and Stocks, the Cherry Pies and the scented old-fashioned Geraniums, are twice as sweet as we have them in the country, or rather they seem to us, fresh from the country, to be so, because the London air is so much less refreshing than with us. But I shall have a chapter on these London gardens myself, if only to keep the author before us in making them more becoming than as "music-halls for the cats."

Then, there are thirteen beautifully-coloured engravings of plans of London gardens, and forty designs of coloured rustic baskets and vases to place upon the centre of the grass plots, and all this on our own plan and principle of ribbon-planting, our own plants to do it, and our own selections of plants for the very purpose; and, of course, I need not tell our readers that all this is just as we have had it, and that there is not a single error in all this designing. The wonder is, how a Londoner could pick and choose all the titbits, and let the "Good Gracious" lie on our hands.

Then, there are thirty exquisitely coloured engravings, "showing what colours will agree when three flower-groups are placed on one table, a single colour being used for each decoration." These are placed in threes across the page, as the three epergues are placed on the centre of the dinner table, or one epergne and the two flanks. Here the printers have made a desperate blunder in transposing two of the engravings on the first page, and two more on the third page. The top and bottom rows or threes are so mismanaged on both pages; and if you never understood the meaning of a pig with one ear, the explanation is here, safe enough; but, of course, it will only be in the first edition.

After these there are three pages and a half of very select lists of plants and colours for ribbon-borders, all as we have been selecting them for the last dozen years. But, of course, the author selected them himself from the public gardens, as we did; but he never saw our old friend, the blue variety of *Campanula carpatica*, when they had it at Kew, nor the white *carpatica* either. The author is a perfect Londoner in exactness in all these lists, and, therefore, one feels pleasure in drawing his attention to the minutest error. There is just one such on page 106, where he says *Amaranthus tricolor* was lately introduced by Mr. Veitch. *Amaranthus tricolor* was introduced long before Mr. Veitch was born. What he means is *A. melancholicus ruber*, quite a different plant from the tricolor race. He is very fond of our Black-eyed Susans, the annual *Thunbergias*, for the *Caladium* shape of their leaves in high decorations, and for their free-and-easy manners and long endurance in the music-halls aforesaid—a thing I never was aware of. Mrs. Captain Whitty, and Mr. Malleson, at Claremont, were the best managers of *Thunbergias* out of doors I have ever seen.

If I had been introduced to the author, I would have sent him a specimen of "the plant from Nazareth," which is equal for effect to any plant on his lists for the top part of an epergne, and should come in with his Hop-borders and pendants, and a row of tufts of *Briza major* in the middle distance.

But read the book, and we shall have plenty time to speak of auxiliaries to it.

D. BEATON.

### WINTER COVERING.

AMONGST the many introductions of late years, multiplying the accommodations of various kinds in almost all the departments of industry or luxury, there are none which seem to bear on the subject now treated of, or at all events we have nothing in a general way better at the end of 1862 than we had ten years ago; garden mats and the like being garden mats, &c., still. And though structures of timber and glass, or iron and glass, have undergone, or have been said to have undergone, many changes of fashion, and new and cheaper modes of erecting them have been said to be found out, the means of covering such of them to protect their contents from severe frost has not advanced in like manner. Bast and Indian matting, wooden shutters, and now and then an old carpet or piece of cocoa-fibre matting, may be seen doing this duty the same as they or like articles performed the same office thirty years ago; but nothing new has been put forth for the purpose. I cannot say but I am sorry at this, as there are many things of much less importance for which patents have been taken out; and they have been paraded forth with all the pomp of new and useful

inventions, while coverings for half-hardy plants have never been thought of: and it is, therefore, to stir-up the inventive powers of our manufacturing friends that I again call on them to furnish us with something suitable for the purpose—something that is stout, durable, waterproof, and reasonable in price. The article called tiffany is much too slight, and even a material that preceded it—a sort of felt under the odd name of frigidomo, was also too slight, and, I think, speedily fell into pieces. A cocoa-fibre matting is a more durable article; and from what I have seen of it endures the alternation of wet and drought better than most things, but it lets the rain through. Wooden shutters are, perhaps, the best thing, but they are not easily managed by one individual; and sometimes things require covering for which they are quite unsuited, as single trees, and the like. For a cold frame I do not know of anything more suitable; and I may mention, that for several winters I have kept great quantities of *Calceolarias* in cold pits with no other covering than wooden shutters when they required them—no glass. But everything is not so hardy as *Calceolarias*, so that a useful and portable covering is wanted, alike adapted to cover a cucumber-frame or a half-hardy tree; and at the same time it ought to be cheap and handy to deal with, and something that will drive thatched hurdles from the field, as well as quantities of loose litter thrown on like tedded hay every evening.

It is more my purpose in this article to ask for a useful article at the hands of some one well versed in manufacturing lore. Perhaps something in the oilcloth way, that would be pliable as well as strong—say a good canvas dressed in some way to turn the water, and finished with some other colour than black or green—say some light one, not white, which would not become so heated in a hot summer's day. I think much of the dressing matter hitherto used in giving a face to waterproof cloth injured its texture, and a speedy decay was the result. If something different could be employed that would strengthen rather than destroy the substance it was placed upon, it would be better, at the same time retaining pliability, and a prospect of not being affected by the weather, or as little as possible. To accomplish all these qualifications, we must give up what manufacturers have for some years regarded as their first aim—appearance. But when they are able to furnish us with a good heavy wrapper of this description, we will by no means find fault with its colour, and assuredly the quantity of coverings wanted each year being on the increase, it is to be hoped our expectations of something good will ere long be fulfilled. I do not want a substitute for glass in the shape of a transparent calico, or anything of that kind, but something that will supersede Russian mats, thatched hurdles, or wooden shutters, or the many other makeshifts we are obliged to use to keep out frost.—J. R.

### THE BARBADOES POTATO.

CAN any one give any information as to whether this species of Potato is still in existence?

About sixteen years since it used to be with us the best sort grown, both for size and quality, and, being the best cropper, it was nothing unusual to see the tubers a foot long, and to turn out a gallon to a plant. We used always to purchase about three hundred bushels annually for domestic purposes; a farmer in our neighbourhood growing them especially for us.

I have made inquiries at Covent Garden Market and of different individuals likely to give information, but no one knows anything of it.

Myatt's Seedling is about the best Potato with us, both as to cropping and quality; but the Barbadoes would make four of them. The Fluke is also excellent, but not an abundant cropper. If any one could give any information as to where this remarkable variety could be procured he would confer a great favour on—A CONSTANT READER.

### FLOWER SHOWS FOR THE POOR IN TOWNS.

THE season is now approaching when those who intend next summer to have flower shows for their poor people must set about making-up their schedules and perfecting their rules. I have no doubt that these most beneficial shows will be much more numerous next year, in consequence of the success of those already held, and the prominence which you have given the subject in your columns. As I had the pleasure of assisting

Mr. Parkes, the energetic originator and promoter of the flower shows which have been held in the parish of Bloomsbury, perhaps you will allow me shortly to give some of the results of my experience on the subject. On more than one occasion I discharged the very difficult and equally thankless task of judge, and on that subject I shall have a few words to say to any who may in future occupy that position at any of these shows. From the fact of my being judge I was, perhaps, better enabled to observe what kinds of plants are most generally cultivated by the class of persons for whom these shows are intended, and when they are first started I think it is most important that this should be known and kept in view.

Before the schedule of the prizes offered at the last Bloomsbury Flower Show was issued, there was some discussion as to what different plants should be allowed to compete. Judging from what I had seen in the previous year, and considering that we were still experimentalising, I advised that the competition should be confined to Geraniums, Fuchsias, and Annuals, the last-named being inserted as a trial; for I was anxious, if possible, to promote the cultivation of a class of plants which are so easily grown and so amply repay for the trouble expended on them.

Now, the result is worth the attention and consideration of those who intend to follow our example and will avail themselves of our experience. All the classes for Geraniums were well filled, and I think all the prizes in those classes were given away. The majority of the classes for Fuchsias were well filled; but in scarcely one class for Annuals were there as many plants shown as prizes offered. This entirely confirmed the experience I had derived from the show in the previous year—namely, that the poor will not at first, nor until they become more interested in these shows, purchase or grow any plants for the sake of exhibiting them, but will simply send any they may happen to have in their possession, and nine times out of ten those plants are Geraniums.

The question, then, and it is a difficult one, is how to induce the poor inhabitants of the narrow streets and alleys to believe that they can, with scarcely any expense or trouble, grow other plants besides Geraniums and Fuchsias, which will interest them more and repay them better for the pains they take with them.

At present I have been unable to think of any better plan than collecting together some evening as many poor people as possible, explaining to them the way to grow some of the most common hardy annuals, and sowing the seeds of one or two sorts in pots actually before their eyes. I have not done this as yet myself, but should be ready to do so if no better plan suggest itself to any of your readers who may be equally interested in the subject.

There is one great difficulty connected with the exhibitors, some way of overcoming which must be found. We made a rule that every exhibitor should have his plant or plants in his possession, and register them for exhibition, a certain number of weeks before the day of the show; but no steps were taken to insure exhibition of the identical plants registered. The result was that some of the exhibitors purchased plants shortly before the day and substituted them for the registered plants. This is a serious difficulty, and one that will, I am afraid, cause much trouble. Can any one suggest a way of overcoming it more effectual and less troublesome than marking every pot?

And now a few words of warning to the unfortunate man who may accept the office of judge—an office which I am by no means desirous of filling again! I cannot do better than recount my own experience. Immediately on entering the room where the plants have been arranged for my inspection, I am almost assailed by some lady who takes a most active part in the district-visiting of the parish. Before I know what I am about, she drags me to some plant which belongs to an exhibitor who is a *protégé* of hers, and begins expatiating on its various merits, and gives me directly to understand that it excels all the other plants; and, indirectly, that if I do not give it a prize she will have nothing more to say to me in future. This same process is, perhaps, repeated by the same or some other lady until I am nearly crazy, and when I have set them at defiance by failing to award prizes to the miserable specimens exhibited by their *protégés*, they undo much of the good which may be done by these competitions, by giving prizes of their own to their disappointed pets. In the evening, perhaps, the rector comes down to distribute the prizes, and is immediately seized upon by these zealous ladies, who strive to prove the unfairness of the awards. The only way he has of silencing them is, to announce that he intends in no way to interfere with the decisions of the Judge.

When flower shows have been once held in a parish they should, I think, be continued every year; or the interest of the poor will flag. For some reason unknown to me there was no flower show in Bloomsbury this year; and I am afraid "the good cause" has in consequence received a serious check, as many, relying on the promise that there should be a show, had provided themselves with plants and were disappointed.

There is only one more point to which I wish to draw attention, and that I also consider of importance: it is the inadvisability of having classes for mixed plants. At our last Bloomsbury Show one class for domestic servants was introduced, and (without my approval), they were allowed to exhibit any sort of plant. The consequence was, that I found it well nigh impossible to decide between the best plants of the different sorts which were exhibited, and some of them were very fine. I am, therefore, decidedly against classes for mixed plants, unless the prizes are offered for groups—as, for instance, for the best Fuchsia and Geranium together. It is my impression, however, that such a class would not be filled, and at the first show should not be thought of. I hope the importance of this subject will be deemed a sufficient excuse for my troubling you at such length.—WALTER H. BOSANQUET, 5, Torrington Place, London, W.C.

## SUBURBAN ROSE CULTURE.

(Concluded from page 719.)

HAVING decided upon the varieties to be cultivated, amateurs must recollect that good plants require no more space nor attention than bad, and that, therefore, no pains should be spared to obtain robust and well-grown subjects for experiment, without which all previous trouble and preparation will be in vain. To secure this, dearly-bought experience during my earlier attempts at Rose culture has convinced me of the absolute necessity of procuring plants direct from the first-rate nurseries only, where every improvement of culture is introduced, and from which the reputation of their proprietors forbids the dispatch of inferior trees. Besides, by so doing, the plants will suffer but one check by removal—an important consideration, and will sooner reach their ultimate position in the rosery. They will also be cheaper in price, as well as reliable in quality, to those who are content with old favourites of the highest merit. Of course, novelty must be paid for. This brings me to the "whereabouts."

All the eminent Rose firms, I believe, advertise their lists in this Journal; but for the information of the inexperienced, I shall name some of the most renowned as cultivators and exhibitors. For my own part, I obtain most kinds I require for carrying out my experiments from the Messrs. Fraser, Lea Bridge Road, and Messrs. W. Wood & Son, Woodlands Nursery, Maresfield, Sussex; not simply because their plants are fine, but because they endure removal well to the London suburbs, which is not always the case, however well trees may thrive at nurseries. I name this here because it has an important bearing on the object for which these papers have been written—viz., to encourage and popularise the taste for growing Roses in the neighbourhood of towns, particularly near the metropolis. Other celebrated Rose-nurseries are those of Messrs. W. Paul, Waltham Cross; Paul & Son, Cheshunt; Rivers & Son, Sawbridge-worth; J. Cranston, Hereford; Lane & Son, Berkhamstead; Cant, Colchester; Francis, Hertford; Smith, Worcester; Mitchell, Piltown. These various growers may not only be depended upon for supplying excellent plants, but for good advice also to those who seek it.

Directions for pruning, destroying insects, preparing manures, and a general routine of operations for cultivating the Rose, equally applicable to town or country, will be found in the pages of THE JOURNAL OF HORTICULTURE. To repeat them would be an unnecessary consumption of valuable space. There are a few hints, however, which it may be desirable to give.

Do not be afraid of plying the syringe and garden engine; but do not wet the foliage when the sun is on it. Liquid manure should be commenced with weak, and increased in strength gradually. When it is applied be careful it does not settle round the collar of the plant, as, by doing so, it rots the bark, and injures the diffusion of the sap. It is a good plan to have a slight hollow, in a circle, about a foot or so from the plant, in which the water may lodge and soak through within reach of the spongioses, which will better collect the nourishment thus bestowed. When mulching is applied, a handful or

two of charcoal dust first placed round the root will very much conduce to preventing mildew, and the tendency to damp-off, which affects young plants, particularly those upon their own roots. In Manettis the work must be at least an inch below the surface of the soil; but Briars and plants on their own roots must not be planted deeper than the collar.

Plant all *Roses* as soon as possible after they are received. If they are obtained very early, or very late, after having dug a hole the requisite size, pour in water, and mix the soil to the consistency of mortar, so that the roots may expand to their natural extent; then fill-in firmly with dry earth, and, if a standard, affix it securely to a stake.

Sufficient chloride of lime mixed with tepid water (to the colour of skim milk), will make an effectual wash for destroying blight and grub on *Roses*, if applied twice or thrice early in the season.

Let your beds and borders be well dressed every autumn with a coat of fresh loam and well-rotted manure, to be forked-in during the ensuing spring. Pigeon and charcoal dust, or wood ashes, form excellent manures for *Roses*. When *Roses* are planted out of pots in the spring, protect them for a time with some kind of covering, leaving it off by degrees.

Keep a watchful look-out for suckers, particularly those from the *Manetti*, and remove them as soon as they appear.

I do not know that I can add much more. Many little points of culture will suggest themselves to observant amateurs during their practice; and if these little papers should encourage any to undertake the delightful recreation of *Rose-growing*, or assist them in the enjoyment of the pleasures attending its pursuit, I shall feel amply repaid for the trouble of penning them.—W. D. PRIOR, *Homerton*.

### ORANGE-TREE CULTURE.

MR. RIVERS has been lately growing the *Tangerine* and other of the more hardy species of the *Orange* tribe on a large scale, for the purpose of fruiting in orchard-houses for the dessert. I have this last year tried several plants of the *Tangerine Orange* in the soil near the back wall of a cool vinery, sheltering them with mats during severe weather, and I have reason to think they will turn out productive. They were removed from the pots last spring into a compost of peat, loam, and rotten manure. They flowered in the early summer, and set pretty abundantly, though some of the fruit fell off when about the size of peas. The larger fruit are now beginning to turn yellow. I have been rather troubled with the black fungus and scale, but have succeeded in getting rid of these pests by means of water and a penknife, with an occasional slight application of Gishurst, and they are now remarkably clean and healthy. I have two or three times given them a little liquid manure, and in mild weather I frequently use the syringe with pure water. I should like very much to obtain some hints from the Editors or correspondents on the culture of these hardy *Oranges* for useful purposes, and to be informed whether the fruit at all approaches in flavour that of a southern climate. I should tell you that I have a brick *Arnott's* stove in the centre of my vinery, and light it about the beginning of March, for a few hours each day, to start the *Vines*. The *Vines* are close-spurred, and not allowed to shade the *Oranges* too much.—JAS. C. BARNHAM, *Grove Cottage, Norwich*.

[We think you have treated your *Orange* trees very successfully. It would not be advisable to ripen these or any *Oranges* now, in our dark days. Those that are green we should just keep healthy. In summer and autumn, we have no doubt you will find these *Oranges* delicious in flavour. We should be glad of the experience of those who have had more practice with these kinds than ourselves. We know they ripen well, and are delicious at *Sawbridgeworth*.]

### TESTING POTATOES.

LADY GEORGINA OAKLEY has read with great interest the paper on "Comparative Merits of Potatoes" in the Number for December 16th signed "UPWARDS AND ONWARDS." Her husband, Rev. W. Oakley, and brother, Earl Ducie, have a large body of allotment tenants in this neighbourhood. Many of these tenants have suffered very much from the disease in that vegetable. She has determined to devote about four acres of land next spring—partly an old pasture newly broken-up and

partly old worked ground—to experimenting on the sorts best suited for general cultivation in this locality. It is on the rail between Bristol and Cheltenham, and many of the poor people might make good profit by supplying these markets with early and other *Potatoes*. The soil is a limestone rock, mountain limestone being the prevailing formation in the neighbourhood.

Lady Georgina has tried many sorts on a smaller scale, and under worse conditions of soil and general culture. She now wishes, in the season of 1863, to give a fair trial to any sorts which may be sent her by growers of seed *Potatoes*, if sent in small assorted quantities by *luggage* train, gratuitously, and prepaid, to the "Wickwar Station, Midland Railway." Her gardener shall plant each variety so sent, by itself, in ground of both sorts—fresh broken-up and old cultivated in equal proportion; and, when the roots are taken up, will forward to each sender an account of how they succeeded, absolutely in each locality, and relatively to other sorts.

Lady Georgina Oakley feels she must apologise to the Editors for this lengthy letter; but she is sure that they will, under the circumstances, do what they can to forward a plan which has for its object the supplying a poor and industrious class—the allotment tenants, with the most profitable tubers in future seasons for cultivation in the south-western district, where a damp climate so injuriously affects many of the best sorts of *Potatoes*.—*Lisburne House, Wickwar, Watton-under-Edge*.

[No greater boon could be bestowed upon allotment tenants than demonstrating which vegetables are the most desirable for them to cultivate, keeping in view not only which are the most abundant producers when they do succeed, but which are the least liable to failure. Foremost amongst such vegetables is the *Potato*; and we hope such of our readers as have a variety characterised by prolificacy and healthfulness will aid Lady Georgina in the way she requests. If, in addition, the variety is an early ripener, it will be all the more valuable to allotment tenants.—Eds.]

### THE RIBSTON PIPPIN AND COX'S ORANGE PIPPIN.

YOUR correspondent, "F. J. G.," says, "These sorts are notoriously subject to canker," and I am sorry to say it is true; but let us try if something cannot be found to militate against this sad feature in two of our finest-flavoured Apples.

As regards the *Ribston Pippin*, I had it, I may say, as a standard under my doctoring, both here and in *Shropshire*, for twenty years at least; and all that I could do or think of would not eradicate the disease, and at last I gave up the attempt in despair upon the standard here, and grubbed it up.

I then sowed some pips of the *Blenheim Pippin*, as it is a fine, clear-skinned, and free-natured tree, and grafted two branches of a young two-year-old stock with scions of a *Ribston Pippin*. In the following season I rung-flayed the bark clear away from the wood to the extent of 2 inches close above the junction of one graft, then bent it down, and covered the excoriated part and half of the young shoot with earth, and kept it moist all the season. Cicatrization and roots followed, and in the following (last) spring I severed the shoot away, and it is now growing as an independent dwarf *Ribston Pippin* tree on its own roots, having its bark perfectly clean. I intend to train it as a dwarf pyramid. It will bear the year after next, and, if I am spared and remain here, I shall report progress.

I am training the other part of the grafted stock as a dwarf for the wall. It, also, has its bark clean, is perfectly healthy, and it will bear, I think, next year. I trust these experiments may, in a measure, prove satisfactory; and if I may judge by a feature which I think I can perceive in the *Cox's Orange Pippin*, I buoy myself up that they will.

I rushed after the *Cox's Orange Pippin* the moment it was advertised, and a nice-looking standard tree arrived. It had been double-worked, grafted on to an *Apple* stock, which had been grafted low down. The first season induced a slightly cankered stem, and the next seriously so, which, of course, affected the grafted head; and to that degree, that last year and this the *Apples* mostly fell off, and what remained on became preciously ripe, though they were of excellent colour and flavour, and fair size, but they soon became "woolly." The head of the tree now looks prematurely aged, and some of its shoots are affected with canker.

I wrote to Mr. Rivers as soon as I saw what was going on

when he immediately presented us with a dwarf pyramid tree of the same variety, which remains perfectly healthy, stem and branch. Its fruit ripens three weeks later than the standard, and keeps well.

Now, the question that follows is—Are these Ribston and Cox's Orange Pippin trees to be cultivated more successfully as pyramids than as standards? Perhaps some of your numerous practical readers can help us here. Mr. Rivers' opinion would be valuable, for we must not let the Ribston become lost to us and to posterity if we can possibly help it, nor Cox's Orange either.

I quite agree with "F. J. G." in his remarks upon the great International Fruit Exhibition. My premature Cox's Orange Pippins were ripe at that time, and I should have much liked to have entered them, had not the fear of there being no competition in a separate class for them decided me not to do so. And now allow me to put a question as regards tasting.

Instead of steel knives, would it not be much better for the judges to be provided with electro-plated or silver instruments? The flavour of any fruit becomes injured in contact with steel; and for a thoroughly ripe Pear or Melon, how much more convenient it would be for a judge to test them through the agency of a dessert-spoon. Why, their slippery flesh on its way to one's mouth has the propensity of quicksilver to escape from the end of a knife, more particularly when one is in a hurry. I did not envy Mr. — his Melon-tasting feat with a shut knife, whilst one hundred pairs of eyes were being concentrated upon him. In one instance he made four attempts to convey a luscious morsel to the desired receptacle (equivalent to tasting four Melons with a spoon); but he went through the trying ordeal bravely, like a true and hearty-looking Briton which he is.—UPWARDS AND ONWARDS.

### HOW TO GROW GOOD CELERY.

I AM not about to tell you to grow it to an enormous size, for it is no improvement to have it weighing more than 5 or 6 lbs., and even half of these weights is plenty if it has to stand the winter.

In the first place it is necessary to get good seed and of a good kind; and in the next it is indispensable that the seedlings be not raised too quickly. I have found that if the seed is forced in too much heat the plants are liable to two faults—namely, running to seed, and to be hollow.

In commencing to raise Celery, it will be found a good plan to get some well-rotted turf and well-decayed cow or horse dung in equal quantities. Mix them well together. If the dung is wet, dry it till it can be handled without sticking to the fingers. Place 2 inches deep of the mixture in a shallow box or seed-pan, and about half or quarter of an inch of fine soil on the top of this. Make it level, then sow the seeds, carefully covering them with fine light soil or sand, but taking care that they are not buried too deeply; a covering of an eighth of an inch is plenty. Place the box or pan in some place near the glass so that the young plants will not be drawn, and never let the heat get above 65°. Give a dose of clear liquid manure once or twice a-week when the plants are up.

When they are grown so large as to have two leaves besides the seed-leaves, prick them out into beds or boxes, and let the soil into which you prick them be the richest you can get. Put them in some sheltered situation if not possessed of frames. They generally grow well enough if pricked-out in April where old bags or pea-rows can be thrown over them on severe cold days or nights. I raise my main crop this way, and have not had half a dozen bad sticks in five hundred.

I have found it a good plan to make Celery-trenches, leaving a little soil in the middle, to insert the plants before manuring, putting the manure in afterwards with a basket. It is a little more labour than the old or common plan of putting in the manure first, but I think it pays better before the end of the season.

The Celery, being naturally a marsh plant, requires in its cultivation a cool bottom with plenty of moisture. This is one reason why I prefer planting before I put in manure, as the manure laid on the top, or rather up each side of the plants, helps to keep in the moisture. It can also be kept in by placing layers of short grass, or litter, or old sawdust, mixed with equal parts of good rotted manure and common soil. This I like better than manure alone for growing them in for the table.

Never allow the plants to want water in dry weather, and give once or twice a-week a dose of liquid manure, which may be

made of guano or cow, sheep, rabbit, or horse dung; also, of potash or common house slops.

The great point in Celery culture is to keep the plants steadily growing without too much heat. There are many plans for blanching Celery, but the best and easiest is to put a handful of clean sawdust into the centre of the plants when soiled-up for the last time. The soiling is best performed in three or four operations, and not all at once, but just as the plants keep increasing in size.

I should recommend Bossom's Pink as the best. I get it very good from Mr. Watkinson, seedsman, &c., of Manchester. I try every new sort that comes out, but keep Bossom's for the main crop. I have, without any egotism, produced some of the best table Celery in this neighbourhood.

I think your correspondent "P. L. C." makes a grand mistake in having too much heat at the beginning or sowing time, for I have known an old gardener fail with the same seed as myself by too much heat at the beginning. It is quite unnatural to expect things to do as well in an artificial state as they would do in a natural one; and I think that your correspondent "P. L. C." must reflect that the heat of the soil in any part of England, or in most other countries, will, probably, never get up to 75° in early spring. I have numerous testimonials as to the goodness of my Celery. I take a little pride in the matter, and if there be anything I have left vague to your readers, I shall be happy to give the best explanation I can.—JOHN HAGUE, 36, Mount Street, Ashton-under-Lyne.

### PROTECTING ARTICHOKEs.

In this part of the country, where ground is valuable, kitchen gardens are mostly of very limited extent. We are, therefore, obliged to grow only such vegetables as are in most request, and these are generally such as yield the largest return on a given space. The Globe Artichoke is not considered one of these, and is, consequently, not largely grown. I have of late years grown but a single row of a dozen plants. These, until the year 1859, had occupied the same spot for many years. In the spring of that year I transplanted them—that is, I took offsets from the old plants, and planted them in trees a foot apart; each clump of three being 4 feet apart. I then destroyed the old roots. The new plants grew vigorously, and produced a small crop the same year. In the winter they were not protected: the leaves were cut off by frost, but they came up and bore enormously in the year 1860. In the autumn of that year the old stalks were cut down, and the plants threw up an abundance of offsets; and as I had left off protecting them with dung and litter, they were left unprotected to pass the winter as they might. I had every confidence that they would pass the winter of 1860-61 as they had done former winters; but the fact was they were nearly all killed, as nothing of them came up but a few weak shoots, that bore no fruit. This, perhaps, is not to be wondered at, when it is known that Baye, Laurustinuses, Euonymus, and other presumed hardy shrubs, were killed to the ground, and some killed outright, within a short distance.

But, Mr. Beaton calls into question the assumed hardness of the Artichoke, and starts from the observations of Mr. Keane, who recommends protecting Globe Artichokes, and Mr. Fish, who reports on having done so. Now, we know that both Mr. Fish and Mr. Keane are thoroughly practical men, as well as men of sound judgment, and not likely to recommend or to do anything solely from the dictate of custom. I rather think that when the chances are even that once in ten years we might have such a severe winter as would materially injure the roots, that it is worth while to be prepared for that emergency; besides the fact of giving the plants manure at a time when it will afford them protection, and further by reducing, possibly, the abstraction of heat from the ground, they are prepared to start earlier, even though it may be but a trifle, in the spring. Had I protected my plants every winter successively, the doing so for ten years when they did not require it would have been repaid in the one winter, when it so happened that they did, and might have been saved.

With regard to the hardness of the plant, I agree with Mr. Beaton that time has not yet clearly decided the question either one way or the other, for it is not because a plant will stand the average of our winters that it is to be adjudged hardy or otherwise. On this point the Artichoke must take its stand among various shrubs, &c., that were wholly or partly killed in the winter of 1860-61 under like circumstances. But I

do not think that a fair test, since the preceding season was unusually wet and cold, and plants were in no condition to stand the extra severe weather that followed; and I believe now, as then, that still harder frosts might follow a dry summer and autumn without having such a destructive effect. Again, supposing plants were buried under a foot or more of manure, scarcely any amount of frost would injure them.

Take, for example, the plants found in the arctic regions, among which are represented the Campanula and other families, as spoken of by arctic voyagers. These could not possibly survive the intense continued arctic frosts, unless covered by so excellent a nonconducting material as snow; but then protected by such a thick covering, they do survive, and break out again as fresh as ever in the short summer that visits those inhospitable regions, and with it the reindeer, that finds its summer diet.

Take another instance. There are several plants found in a wild state inhabiting our woods and forests which, when brought under cultivation, will not stand an ordinary winter, but require the protection of a frame or pit. How is this? Every gardener knows the nonconducting power of dry leaves, and how a few inches laid on the surface of the ground will prevent the frost entering it. The leaves are shed by the Oak and Beech in the autumn, and are blown hither and thither by the autumn winds until they cluster round the Fern or Arum, and thus protect it from the nipping frost or chilling blast. Yet without this protection the plant could not claim to be classed as hardy. Before we can decide what plants are hardy or not, it is necessary to ascertain what really constitutes hardiness.—F. CHITTY, *Stamford Hill*.

### DOES THE GLOBE ARTICHOKE REQUIRE PROTECTION?

As far as my opinion goes I am bound to give an explicit No, notwithstanding the reverse of such from two correspondents in last week's JOURNAL OF HORTICULTURE, and go thus far with Mr. Beaton. In the winter of 1860 and 1861, which we all remember, I lived gardener in a situation just at the foot of the Campsie Hills, about as cold a spot as is to be met with in the three countries. I had ten rows of the above in a bleak exposed situation, growing in a strong loam with a subsoil of the most tenacious clay. These stood all the winter without the least protection—all the loss was some half dozen plants; the rest broke from the neck quite vigorously, and produced heads the following season. At this place they stood unprotected all last winter, growing in the centre of a four-acre kitchen garden in strong black loam, with clay as subsoil to a considerable depth. Up to the time I write they are as green as Leeks, and my intentions are to allow them to take their chance as usual, under the impression that they are constitutionally hardy—at least, sufficiently so to enable them to withstand all the cold we are subject to in this locality.—JOHN EDLINGTON, *Crom Castle, Ireland*.

[It is quite certain, from the above reliable testimony which we have published, that in some localities the Artichoke will endure usually the winters of our climate. On the other hand, we have testimony that in other localities it perishes in winter if unprotected. We incline to the opinion that it is not altogether intense cold that kills the Artichoke, but the alternations of mild and severe weather—the mild weather arousing vegetation sufficiently to render the plants more tender. Be this as it may, we think it right, as the trouble is but trifling, to recommend our amateur readers to be on the safe side, and even if Liberals, to be thus far Protectionists.—Eds.]

### SHOULD THE FRUIT OF STRAWBERRIES BE SUPPORTED UPRIGHT?

I HAVE just noticed Mr. Fish's concluding remarks in his reply to "WYESIDE" (see page 695), respecting some peculiarities in Strawberry-forcing at Hatfield. I am not aware there is anything very novel in our system of management, as we have hitherto pursued the ordinary course of treatment. But what appears to have attracted Mr. Fish's attention was all the fruit hanging on the back of the shelf and none on the front.

The shelf alluded to by Mr. Fish is, as he has described, about 3 feet from the back of a lean-to house, and about 18 inches

from the glass. The flower-stems have always a tendency more or less to draw to the back. This I have always attributed to the heat and light reflected from the back wall; but this is by no means a general rule, as some will incline to the front, but these I invariably turn round; hence it was that Mr. Fish probably came to the conclusion that they all grow in that position.

My object in thus having all the fruit to hang on the back is that it gets more air and not quite so much sun; as, when hanging in front of the shelf, I have often found the fruit injured by being exposed to the full rays of the sun, which will prevent it keeping any length of time should it be required. This is a very important object to me, and I have no doubt to many others, as it often happens that I have to keep it a considerable time after it is ripe. But, on the other hand, should the fruit be required for table as soon as it is ripe, I should in that case give it the full benefit of sun and air.

So far as my own experience goes, I am not an advocate for tying or supporting the fruit of Strawberries upright, as I have never found fruit from plants so treated equal in size those that were pendent. However, should the flower-stems be of great length I would place a string, or some similar contrivance, the entire length of the shelf, so as to afford a little support, at the same time allowing the fruit slightly to depend, and thus break the great strain on the flower-stems.

As this is a subject which may probably interest some of your correspondents, I, with many others, would be glad of their experience.—J. B., *Hatfield*.

### MELON CULTURE.

DURING my various sojournings I had the good fortune to live with a nobleman's gardener, who has distinguished himself as being one of the most successful cultivators of nearly all kinds of fruits that are generally cultivated in British gardens, among which was the Melon; and the means he adopted to do so were as follows.

The soil used was merely the scrapings of the public road, mixed with small portions of turf that had been cut off the edges, the whole put together into one heap until required for use.

The pits were heated both by fermenting material and hot-water pipes, which could be turned off or on at pleasure.

The soil was just put-in in ridges along the centre of the bed, and firmly trodden to prevent overluxuriant growth.

When these ridges had become sufficiently warmed through, the plants were put in, and had a slight sprinkling with tepid water, and were kept close, and shaded for a few days till they showed evidence of laying hold of the fresh soil, when they had a little air and less shading.

When the plants had made shoots about 4 inches in length they were then stopped, and when each shoot had made about three leaves more they were again pinched, and were then allowed to grow till they reached the sides of the pits, and by this time they were showing flower. Sprinkling was then discontinued, and plenty of air admitted on every favourable opportunity. Rambled shoots were thinned-out, and others stopped and regulated as necessary.

They were thus treated till a sufficient quantity of fruit was set, when they were afforded an atmosphere more favourable to their growing and swelling, and occasional waterings with weak guano water at a temperature a degree or two warmer than that in which they were growing. They had a slight shading during the middle of the day if necessary, and were syringed, and shut up early in the afternoon to secure as much sun heat as possible, avoiding at all times pouring water near the neck of the plants, and giving at every opportunity plenty of air, but avoiding cold currents, or anything like having a certain amount of air on at a certain hour during the day. Existing circumstances ought always to be the guide of the attendant on forcing-houses. By the above treatment the plants produced large green foliage, and fruit that obtained a prize at the Caledonian Horticultural Society's Show.

Having given you what I have experienced to be a successful way of growing the Melon, I will now give an instance of a failure; and hope that you or your numerous correspondents, after reading the treatment which the plants received, will be able to offer me a reason. When I say failure I mean that the return was not an equivalent for the labour bestowed.

The pits were originally intended for succession Pines. They were 5 feet deep from the top of the wall-plate to the hot-water pipes for supplying bottom heat. These pipes were one flow and one return for bottom heat, and the same for top.

The pits were filled with dung and leaves to within a foot of the top. When the fermentation had subsided a little the soil was put in. It consisted of a strong adhesive loam mixed with decayed leaf mould to lighten it a little; I think there was a little more of the latter than justifiable. The plants grew away very luxuriantly at first, and required continual pinching and thinning to keep them within bounds.

When they began to show flower they had abundance of air and a dry temperature during the middle of the day. When leaves and flowers were dry I went round and impregnated every fresh-opened flower, but all to no purpose. In a few days they became yellow, and dropped off, and continued to do so for several weeks. At last a good many set, and began to have a very promising appearance. They then had a watering with tepid water, avoiding pouring water near the necks of the plants.

The water had to be taken out of hot-water pipes that have

been in use for thirty years, the smell of which when running into the pots was very disagreeable.

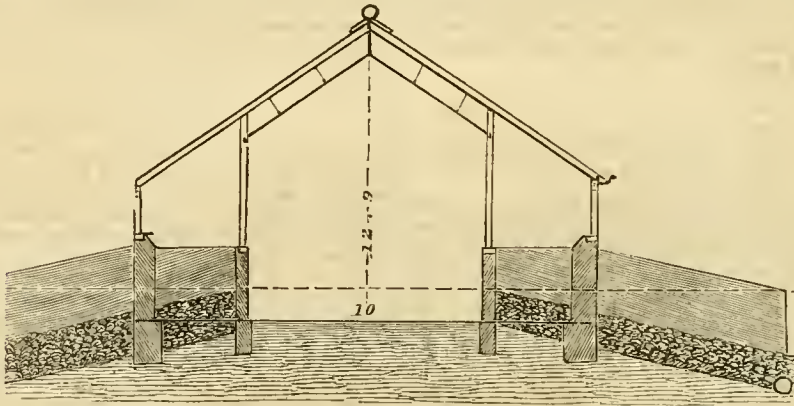
They had a slight sprinkling every bright afternoon, and were shut up early to lessen the expense of coal.

Things went on in this favourable manner for some time until a kind of dirty almy stuff commenced to collect round the neck of the plants, when both plants and fruit apparently came to a standstill, or at least made very little progress; and it was evident the plants were deriving no benefit from the roots; for, on scraping away a portion of the stuff the necks of the plants were found to be quite dead.

Some of the most forward of the fruit became serviceable for the table, but were not first-class fruits, and others never came to maturity. The only sort grown was the Benares.—R.

[Watering with fetid water, and sprinkling the leaves with the same was treatment calculated to produce such results; in addition to which the soil was too rich. This would cause over-luxuriant foliage; and such foliage is, more than healthy foliage, liable to suffer from the carburetted hydrogen and other gases emitted from foul water.—EDS.]

### EXCELLENT FORMATION OF BORDERS.



THE enclosed is a section of a span-roof vinery, in which the trees are grown as described in a previous communication (p. 632). The house is 75 feet by 20 feet. The trees are, as before stated, grown in tubs placed down the centre walk. The Vines are planted in the front of the raised beds 3 feet 8 inches apart, and trained to the uprights shown in the section, so the roof is densely clothed with foliage; and, in addition to this, we have smaller fruit trees in pots on the raised beds, one between every two Vines, so it will be seen there is but little chance for the trees in the centre of the house obtaining a glimpse of the sun at all.

As our able adviser "R. F." hinted, in answer to my last article, moving the trees to get a peep at daylight or sunshine, this, of course, would be quite useless in such a case as mine. My reason for sending the section is to give "R. F." a more clear view, also that the readers of the Journal may better understand it. I confess that I am not well versed in such matters as describing my case to so many well-informed horticultural readers; however, I am anxious to do my best for myself, and if any use to others, "Well and good," say you.

The Vines ripened in August last about five hundred bunches of what I consider good Grapes, and I think you would second me in this if you had only seen them. I have, at the present time, upwards of two hundred bunches hanging on the Vines in fine condition, most of them Black Hamburgs and Black St. Peter's. I have one Vine of Raisin de Calabre, named at your office a month later than this last winter, and it proves to be an excellent late Grape. I may add that, up to the present time, I have not cut-out 1 lb. of decayed berries. This I attributed to the border being well drained, and plenty of air during fine weather, a little in damp with fire heat. We have paid extra attention to the draining of the border, on account of its lying in a hole. The drainage consists of stones from the seashore—say about 10 inches deep; on that 3 inches of concrete, made of hot lime and sea gravel; over the concrete

place 4 inches or 5 inches of stones from the fields. I prefer brick and lime rubbish over the concrete in the place of stones, as I consider it drier; but had not the latter, therefore used stones.

I also send for your inspection a section of a Peach-passage proposed by me a few weeks back, which "R. F." kindly gave a hint upon as to width. I can manage 8 feet 9 inches, but not more, as the allotted place will not allow it; this space will give plenty of room to the trees from the tubs. I cannot have the front less than 6 feet, as the trees will require all that; they are not over-bushy, and I will allow a good space between each tree or bush, so that the trees on the back wall will not be overshadowed by those in front. The front wall will be 2 feet 6 inches; rubble stones to the surface; 6 inches brick wall above ground; boards hinged on in six-foot lengths, 18 inches deep, to act as ventilators; the remainder of the front to be a fixture. The roof will also be permanent, all glazed with large glass. The top ventilator would, as "R. F." states, be better glass, but I think it more liable to break, also expensive; and these ventilators would mostly be open during the heat of the day, so that the top of the trees would have the benefit of the sun.

Having not shown in section any middle supports to the roof, would it be advisable to have an upright 3 inches square—say one at every 12 feet, resting on a stone at bottom, and a piece of scantling secured to the rafters resting on the uprights? —A. R. M., Ireland.

[There is one fine feature of your span-roofed house, and that is the raising the narrow borders inside from 3 feet to 4 feet in height above the level of the floor, so that the inside border shall at least be as high as the highest part of the sloping border outside. With the thorough bottoming and drainage given to that border outside and inside, we are not at all surprised that the Vines should do so well and also keep so well. With Vines in such a house 44 inches apart, of course there would not be

sun enough to ripen the wood of Peaches, &c., beneath; but still if that house were allowed to come on pretty well naturally, as we presume is the case, then we do not see why the Peach trees there should not be forwarded a little and set before the Vines can shade, and thus, when moved to the orchard-house, give a crop a little earlier than those which stand there all the season. The width of this orchard-house or Peach-passage, 8 feet 9 inches, will be much better than what was first proposed. No doubt the ventilation will do, though our first opinion remains unchanged.

As respects the large span-roof, we do not think that supports in the centre are at all necessary, and the pillars would interfere with the open expanse of the open floor. The upright supports for training the Vines on each side ought to be sufficient, and if there are any doubts, a tie-rod across from one to the other at every second or third support would be quite sufficient, and not break-up the outline of the house. Without infringing on the patent shown in Mr. Pearson's orchard-house, you may get a good hint from it. Even a horizontal cross-bar would not be unsightly, especially with the shoot of a Vine along it.]

### EVERLASTING FLOWERS.

THERE is an appeal to the imagination from all flowers which retain their beauty after their life has departed. The young select them as emblems of affection that knows no change, and the old point to them as illustrations of life beyond the grave. They are appropriate, whether woven into the chaplet to be placed on the bride's brow, or hung upon the funereal urn. Such flowers are cherished in every country of Europe, but in none more than in Switzerland. One of these Everlasting Flowers is there especially coveted; it is a *Gnaphalium*, which grows on the most inaccessible cliffs of the Tyrolean mountains, where the chamois dare hardly venture, and which the hunter, tempted by its beauty and by his love—for it is dearly valued by the Swiss meidens—climbs those cliffs to gather, and is sometimes found dead at their base with the flower in his hand. Botanists call it *Gnaphalium alpinum*, but the Swiss know it as the *Edelweisse*, or "noble purity." It was long since introduced into this country, for in the reign of Queen Elizabeth, old Gerarde says, "The flower being gathered when it is young, may be kept in such manner as it was gathered; I mean in such freshness and well-liking, by the space of a whole yeere; wherefore our English women have called it Live-long, or Live-for-ever, which name doth aptly answer its effects."

#### APHELEXIS.

Of the greenhouse Everlastings, the *Aphelaxes* are one of the most beautiful groups. Besides the *spectabilis grandiflora*, of which a figure is here given, though the whole family is worthy of cultivation, yet *humilis* and its varieties of *macrantha purpurea*, and *rosea*, along with the creamy-coloured *sesamoides*, are certainly the most worthy of extra attention.

Coming all from the Cape of Good Hope or New Holland, the plants when established like plenty of sunshine, provided the sun does not beat too fiercely upon the pot in which the plant is grown; and water should be carefully proportioned to the state of the plant and to the presence or absence of sunshine, a considerable quantity being wanted in summer, and but a very small amount of moisture in dull weather in winter.

**Propagation.**—We have struck these plants at two periods with equal success—in the beginning of April and the beginning of June; and though the last were as sure, they took a little longer time to root. For April, slip off some shoots from 2½ inches to 3 inches long, that do not show flower-buds, dressing them at the base for half an inch or so, and insert round the sides of four-inch pots three-parts filled with drainage, a layer of sandy peat above it, and half an inch of sand above that. If a piece of charcoal fills up half the diameter of the pot in the centre all the better. This four-inch pot is now set into a six-

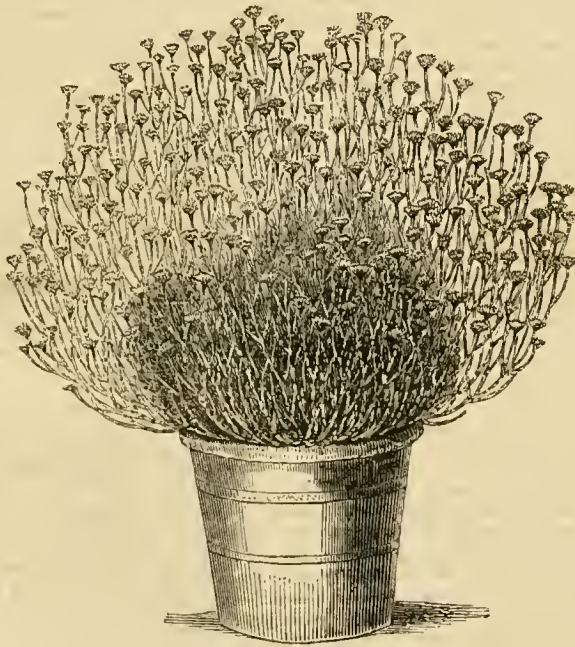
inch one, so that both rims are level with each other, and the space between them filled up with broken crocks, and sand on the top. The bell-glass is to be put on between the rims of the two pots. In this case the plants may be placed, plunged in a mild hotbed, where the temperature may be about 5° higher than the plant had in the place whence the cuttings were taken. Water when necessary, a little air especially at night, and shade from bright sunshine, are the chief essentials for success. We have struck them exposed on a shelf, but they generally need longer time.

When propagating in June (not later, or the young plants would not be established before winter), the cuttings should not only be firm at their base, but pretty well ripened all over. The same process as to preparing pots may be gone over; only, if there are several pots, they may go under a hand-light in a shady part of a cold pit, and bell-glasses be dispensed with. In this case, the wood being riper, there must be no extra excitement given to the cuttings; the heat of the summer will be quite enough. If not allowed to get too dry, nor yet be soaked with water, and air given at night to prevent damping, and no shading given, provided the direct rays of the sun do not reach them, the cuttings will be rooted in from six weeks to two months.

When rooted, pot off singly into small 60's, using sandy fibry peat, and some small bits of charcoal and broken pots from which the dust has been excluded. Set the plants in a cold frame or pit not far from the glass; keep close, and shaded in bright sun, until growth is going on freely; then nip the points of all shoots to insure a dwarf bushy habit; and

expose to more sun and air by degrees, until in fine weather they are fully exposed in September and the first part of October, getting them by the middle of that month to a dry airy shelf in the greenhouse, and close to the glass for the winter, taking care not to over-water, nor yet to allow frosty air to play directly upon them. About the end of March they will want a larger pot, to be kept rather close for a fortnight afterwards; if growing freely, the shoots to be stopped again, and another potting given about the middle of June. After this they will do best in a cold pit until growing freely, when the plants may stand in a sheltered place out of doors, or, better still, in a cold pit, with glass on, but plenty of air back and front, wintering again in good time. Next summer pursue a similar course, giving two shifts, the last in June into 12-inch or 15-inch pots; and if duly attended to in stopping, not after the end of July, and well looked after in winter, fine specimens for blooming in the third year will be secured.

To avoid much of this nicety, choose from the stock of a nur-



*Aphelaxis spectabilis grandiflora.*

seryman good, compact, bushy plants, in four-inch or six-inch pots—not larger, unless they have been grown for specimens; shift in April and June, stop as necessary, peg-down or tie-down to the rim the base shoots, and you may have a tidy specimen the following year, and a very fine one in the second year. Plants to bloom in 1863, should not be potted after June and July, in 1862, and should receive no stopping after July, as it will take all the autumn to ripen the shoots for flower-buds. Established plants will often keep in health for several years without repotting, with merely a good top-dressing every season, and a little weak manure water when making fresh growth. When the plants are already in large pots, and it is deemed advisable to repot them, it is well not to increase the size of the pots much, but, rather, carefully to remove a portion of the old soil, and replace in a similar-sized pot; and the best time to do this is after the plants have been pruned back after blooming, and the new growth is making way. A little shade must be given, and a rather close atmosphere kept until the roots are working freely in the fresh soil.

There only remain a few particulars as to *Soil*. This should chiefly be rich fibry heath mould. The sand, which is necessary for a young plant, to be lessened in its quantity for old established ones; and the compost may well be rougher, consisting of three parts heath soil, and one part of broken crocks, charcoal, and silver sand. For the last potting, the soil may chiefly range in roughness from the size of peas and beans to a number of pieces like walnuts, pressing all, however, firmly together in the last potting. In earlier pottings it may be a little looser.

*Time of Potting*.—As already indicated, this should always be in time for the roots to get to the sides of the pot before winter.

*Time and Mode of Pruning*.—After flowering never cut back into old wood, but yet cut far enough down on last year's wood to give room for the new shoots. In order that these shoots, at least enough of them, be matured for blooming, never stop after the beginning of July or even a fortnight earlier. Long shoots then stopped, or short stubby shoots then existing, if matured in autumn will be likely to produce flowers next spring and summer. Many little stubby shoots that do not bloom in established plants will be sure to do so the following year, when more light and encouragement are given to them from cutting away or shortening back the flowering shoots after blooming.

*Watering*.—Extra care must be given to drainage; a water-logged plant will never thrive. The roughness and openness of the soil are on purpose to help drainage; but, with all this, great care must be taken not to over-water in winter. When the flower-buds show, a little weak manure water may be given; perhaps the best is that from cowdung a year old, and then in bright days a little syringing overhead will do good in the morning and early forenoon. After the flower-stalks are cut back, the plants should be kept rather dry and cool for a fortnight or so, and then they should be kept a little closer, and slightly syringed and dewed, to cause the young shoots to break.

*Temperature and Position*.—The general average temperature in winter should be about 45°, with a rise of 10° to 15° in sunshine. In winter the plants should either be near the glass, or, at least, no other plant should intercept the light. Though kept airy, no frosty air should beat directly upon them. This will be easily secured by keeping them near the front, and admitting air in cold weather at the back of the house. A cold pit, or a sheltered somewhat shady place out of doors, will do in summer. We prefer the first; but in autumn, when the plant would rejoice in all the sunshine, the pots should be protected from its full influence. Even in the greenhouse, large plants on a front shelf would be all the better in spring and early summer if the pots were screened a little from the sun, by being set in a larger pot, or a piece of white calico hung in front of the pot.

#### PHENOCOMA PROLIFERA.

Or *Elichrysum*, or *Helichrysum proliferum*, is, perhaps, the next most interesting of this class. It propagates rather more easily than the *Aphelexis* by using pots in a similar manner, but moisture must be avoided. We have struck it successfully with and without a bell-glass, the pot standing on a shelf, and merely shaded from the brightest sunshine. The silvery-dotted stumpy foliage is almost as interesting as the bright brownish-white flowers. In purchasing, a small bushy plant should be selected. The great thing to guard against in the plant is legginess and upwardism; unless well stopped and tied-down at the bottom, it will get bare and stemmy below. The chief feature in the culture, as distinguished from the *Aphelexis*, is using a little

fibry loam in the compost, from a sixth to a young plant, until, in the various pottings, it may reach to fully a third in a large plant. The other constituents much the same as for *Aphelexis*. We confess being hardly up to the changes that have been made in this and other allied genera, but think we may mention the following *Elichrysiums* as also well worthy of cultivation for their lasting flowers:—*Speciosissimum*, *spectabile*, *argenteum*, *retortum*, and *sessmoides*, &c.

#### GNAPHALIUMS.

These, also, have been much changed. They are very easily cultivated, requiring a cool greenhouse in winter, and light sandy loam to grow in. The most of these would bloom freely out of doors in summer. Of these some of the best are *grandiflorum*, *congestum*, *tephrodes*, *ericoides*, *teretifolium*, *stæchas*, and the new edging plant *Gnaphalium lanatum*.

The *Aphelexes* and the *Elichrysiums* will keep their flowers in good order for years if gathered before they are too far gone, and hence are useful for winter and room decoration. The *Gnaphaliums* are generally weaker in the flower-stalk, and need more support, such as a stick or a piece of wire, to keep the flowers up.

Many who might wish to have some of these Everlasting Flowers, but who may have no greenhouse, may secure their object by sowing *Elichrysum bracteatum* in a mild hotbed in the beginning of April, pricking the plants out, and finally planting them out in rich light soil in May. The *Gnaphalium luteo-album* may be sown in the open ground in April; and so may all the varieties of *Xeranthemum*, though in cold places they will do better if sown under glass and planted out in the end of April. These, with their large flowers, should be gathered before they open, or they will open and shed their seeds all about the room. For low-growing herbaceous plants, with their pretty everlasting flowers, such as you may see dyed of all colours in Covent Garden, I know of nothing more beautiful than the low-growing yellow-flowered *Gnaphalium arenarium*, which flourishes in sandy loam in any flower-border; and the white-flowered and white-leaved *Gnaphalium margaritaceum*, which is even less particular as to soil, and is the same plant, we believe, which Mr. Beaton describes as being so much used for broad edgings at Hampton Court under the name of *Antennaria margaritacea*.

Any of our readers, therefore, who feel disposed may grow their own Everlasting Flowers for winter; and when mixed with a few nice Grasses they will produce a nice effect, even where the choicer greenhouse ones cannot be obtained.—R. FISH.

#### GERANIUMS FOR EDGINGS.

In your Number for December 2nd, Mr. Beaton, when speaking of a new Geranium, "Little Dot," says—"After Little Dot is my own seedling Harry Hieover, which, when planted in two rows for an edging, makes the most perfect ring of all round the garden; but unless the plants are two years old, one row of it is hardly sufficient for an edging." Now, doubtless on Mr. Beaton's authority, many of your readers like myself would be glad to include such a ring in their next year's arrangement. But I suppose, in the first place, two-year-old plants would be out of the question; and, in the second place, will strong cuttings of this year's striking be sent out at a price that we, who "love the good and the beautiful," though with limited means for such purposes, should feel warranted in booking a moderate number of each to bring on for two-year-old plants to carry out our wish the following year?—EDWARD OLLIS.

[If all the world were to look before they leaped, and were to cut according to their cloth, like our present correspondent, we should seldom hear an outcry or a grumble about the use and value of new plants recently introduced, or of old kinds which are from time to time brought to mind; nor yet about particular seedlings which are suitable for certain gardens, and for stated purposes only. And if the importers, the reminders, and the raisers of seedlings, were, on their part, a little more careful than some of them have been heretofore, and would state, as far as they knew, the purpose for which this and that plant was more particularly suited, that also would go a long way to keep the pot from boiling over; at all events I am sure these have been the views by which the writers in this Journal have been guided in their selections of plants, and in their recommendations from the first day.

But good intentions can never over-rule natural causes. We can no more alter the constitution of a seedling, even one of our own creation, so to speak, than we can turn the tides of the ocean. In a small number of genera some of us believe that through the pollen we can govern and guide the stature of the seedling, and some have asserted, and do believe, that they can influence the constitution also; but from my own acquaintance with the bypaths of a wide field of practice, and of practical observation, I would much hesitate before I would subscribe to that doctrine.

Harry Hieover is not the smallest of my seedlings, nor yet the third weakest in constitution of the kinds like it now in common use. If the oldest of our edging Geraniums were to appear now for the first time, and if it fell to my lot to describe it for general recommendation, if I may so put it, I should feel myself bound in honesty to say at once that you would need to plant three lines or rows of it for an effective edging to a moderate bed. But I have planted edgings of it, and with others smaller than Harry Hieover, with one row only; yet to be on the safe side of the ferry with a new plant, and especially with a pet seedling of my own, it looks better and tells best in the long run, that I should not put the best foot foremost about them at the first going-off.

The smallest edging Geranium now in use is the oldest of them all, and is still the prettiest and the greatest favourite with the ladies—all but the name, which is Dandy; and if you did but know what ladies have told me about their appreciation of the title you would never give that name to one of your own seedlings. But as luck would have it, Dandy and the Golden Chain, inseparable associates, were not seedlings at all, but sports of nature, but not in the sense of the sport the ladies make of dandies. Golden Chain is an extraordinary departure from the "Cape Scarlet," the inquinans of botany, and is considerably older than Dandy, but not so old as Dandy as an edging plant. Dandy is four times more extraordinary in its origin than Golden Chain. It came as a sporting shoot from the bottom of the old scarlet variegated Geranium—the one of the shot silk bed. The flower came in the true stellate form and in genuine crimson in the Mile End Nursery with the late Mr. Thompson, and a friend of mine saw it there before a cutting was made from it. I like Dandy and the Golden Chain, as all the world knows—not from having been once a greater dandy myself—for the looks of them, and I look upon Harry Hieover with equal favour and partiality.—D. BEATON.]

### THE DISTRESSED LANCASHIRE WORKINGMEN BOTANISTS.

I PROMISED to give your kind-hearted readers an epitome of the character of the men I have been so fortunate in being able to put in a good position to weather the storm. I have not only been able to do much good by the means placed at my disposal by your readers, but by the kindness shown me by some of the good people here, of all parties, I have been able to get one an allowance of 12s. per week; for he, though with ten children, has had no relief from parish or otherwise. I made inquiries of the relieving officer for Dukinfield district, and he gave a most excellent character to Schofield and Whitehead. The landlord of J. Kirk Smith said to me that he owed him nearly twelve months' rent, but he would never ask him for it if it were twelve years to come, for he believed him to be a very decent man, and he had lived under him for a long time. The landlord is Mr. R. Gould, an amateur Rose-grower possessing one of the best collections in this neighbourhood. Richard Bird, of Tame Valley (here), I found had maintained himself for twelve months on 14s. per week, and paid house-rent 3s. 6d. per week. He has a wife and five children, and owes nothing for rent or for anything else, but had not been able to buy anything in the way of clothing for about ten months. Some kind-hearted person has sent twice to the above persons "The Evening Mail!" for two of which they beg to return thanks.

To detail all the cases would take too much of your space; but they are very creditable to the men, who will all personally thank your readers in a body.

I have helped a number of cottage gardeners out of the funds put in my hands, and the clothing. I would suggest to your kind-hearted readers in sending orders for Mosses, not to order more than 150; and the botanists say that they would rather

supply dried specimens than green ones of other things, for most plants, being dead or dormant now, are difficult to find.

I have received the following:—From Lady H. B. and Friend, 15s.; Mr. Rabone, and under-gardeners, and nurserymen, 10s. 6d.; J. R. Lucas, Louth, £2 2s.; J. E. M., Taunton, 5s.; Mr. Gauthorpeall, &c.; a Friend of Mr. Hague's from near Silkstone, Yorkshire, 6 tons of coal; Mr. Wintle, 10½ yards coburg, 130 yards regatta shirting, 29½ yards check, 6½ blankets; Mrs. Henley, 2s. 6d., and 1 straw hat, 1 lustre dress, 3 pairs drawers, 1 pair men's shoes, 1 pair women's, and 1 pair boys' ditto, 3 night-caps, 3 regatta shirts, 5 pair stockings, 1 paper bedcover, 3 pair trousers, 4 pinafores, 4 collars, 5 petticoats, 1 blanket, 4 chemises, 3 girls' frocks, and 1 sheet.

I give the money that comes for Mosses to those persons who are most qualified to complete the orders, as they have to do all the work. Out of the money that comes for Ferns I pay the men who go out to collect them a day's wages, and they waive any further claim upon the funds sent for that purpose; the remainder goes to the general fund.

Next week I will give a list of the amount of money and clothing distributed.—JOHN HAGUE, 36, Church Street, Ashton-under-Lyne.

### CLARKE'S BOILER.

I OBSERVED a remark in a late Number of your Journal to the effect that many were going back to the old saddle-back boilers. I have watched subsequent Numbers to see if any one took notice of this remark, as my opinion is that the writer of it has never seen a similar boiler to the one I use. Permit me to give you my views of its merits compared with a saddle-back.

When I bought the house and garden I now occupy I found a small span-roofed greenhouse, 25 feet by 9 feet, heated by a saddle-back boiler. Early this year I erected a new range of glass lean-to houses 50 feet by 14 feet, divided into three houses, and employed Mr. Clarke, Liverpool, to fix his new patent boiler with suitable piping, &c. I now give you my experience of the two boilers, which, for brevity, I shall contrast. And first, as to fuel, I find that Clarke's boiler heats my new range and old small house with at least as little fuel as was required to heat my old house alone; and second, I find Clark's requires only one-fifth the attention; the facility of feeding it from the top and its capacity for holding so much fuel explains this. It is a capital boiler for amateurs who keep no gardener, from requiring to be fed once in twelve or twenty-four hours, as the weather, &c., demands.—WM. LEGG, Trammore, Cheshire.

### WORK FOR THE WEEK.

#### KITCHEN GARDEN.

THE wet weather we have lately experienced will, in some situations, have greatly retarded much that would otherwise have been done. It is, therefore, necessary to forward all that can be done within-doors, which will be available when the weather becomes fine. There are numerous operations which can be performed within-doors, which, if not immediately necessary, will at another time reduce labour when most wanted. The making of labels, brooms, flower-sticks, shreds, &c., is usually done in bad weather, as also the cleaving of wood, the making of wicker baskets, trellises for specimen climbing plants in pots, and straw mats. *Broccoli*, they will be advanced by the recent mild weather; look over the most forward for protection against the return of frosty weather. Continue to remove all dead and decaying leaves. *Carrots*, if young ones are wanted very early seed should be sown on a slight hotbed. *Mint*, pot it for forcing. *Peas*, sprinkle wood ashes or lime over them as they appear above ground; the weather that causes their appearance excites insects to activity. Set traps regularly for mice. *Radishes*, sow, and also small *Salad* in frames. *Sea-kale*, continue to cover a small portion at a time. When the first portion is cut, and the pots or tubs are taken off, cover the roots with a little litter to prevent their being injured by frost. The examination of old or the formation of new drains, if required, should on no account be forgotten; the importance of this matter is not sufficiently estimated.

#### FLOWER GARDEN.

Every advantage of the present favourable weather should be taken for transplanting shrubs, trees, &c. See that all the principal and choice plants in this department have sufficient

scope to develop their true and natural characters. There are few situations in a garden more interesting than a well-regulated and well-arranged shrubbery, where every plant, from the largest to the smallest, has room sufficient to form perfect specimens. Collections of shrubby plants appear to be much less attended to than their true merits entitle them to. Dahlias, though most likely stored away, will require occasional attention; those placed under a greenhouse-stage, or similar situation, will be safest, yet from the wet autumn and the sudden frosts just previous to their removal we fear that many will suffer. Roll walks due lawns after frost.

#### FRUIT GARDEN.

It is always desirable to get as much of the pruning and nailing done before the approach of spring as possible: therefore lose no favourable opportunity for forwarding these operations; for, besides the advantage of having so much work done before the busy season, the garden will present a much neater appearance after the wall trees are nailed, the borders made trim, the small fruit-bushes pruned, and the ground among them forked over. See that standard trees, which have been recently transplanted or root-pruned, are firmly secured against injury from high winds, and also get any root-pruning or transplanting remaining to be done this season executed as soon as possible.

#### GREENHOUSE AND CONSERVATORY.

A free admission of air at all times, if the weather is favourable, will be advantageous. At the same time care should be taken to prevent as much as possible strong currents of cold winds from passing through the house, for they invariably prove extremely injurious to vegetation. A few of the earliest and strongest herbaceous Calceolarias, Cinerarias, and Geraniums adapted for forcing, may now have their final shift. After potting, the shoots of the Geraniums to be carefully pegged-down as near to the rim of the pot as they can be without breaking; they will require to be sparingly watered for a time, and placed as near the glass as possible. A liberal supply of water will be requisite to Camellias swelling their flower-buds. When they are planted-out in the open border of a conservatory they should be carefully examined, for fear of any deficiency of moisture at their roots. Should any signs of over-dryness be apparent, get the soil forked-up as deep as the situation of the roots will allow, and give them a good soaking of soft or rain water. Two or three of such applications at short intervals will do no harm provided the flower-buds are fast swelling, that more than ordinary dryness is perceptible, and that the drainage of the border is such as it ought to be. The same kind of treatment may be advantageously adopted with many plants under similar circumstances.

#### FORCING-PIT.

This structure will have to be kept in full activity to supply the various calls for plants in bloom, which, during winter, are more or less frequent in most establishments. Care should be taken before plants are moved to sitting-rooms to gradually harden them for a day or two either by placing them in the greenhouse or any other intermediate-house. Azaleas, Rhododendrons, and other such shrubs for forcing, still out of doors, should have some protection during severe weather, or should be removed to any sheltered place till wanted. Narcissus, Hyacinths, &c., should be protected by a frame; and as they now begin to grow, remove the plunging material down to the surface of the pots to prevent their rooting upwards. W. KEANE.

### DOINGS OF THE LAST WEEK.

#### KITCHEN GARDEN.

In addition to the routine in the kitchen garden of examining blanched Endive, stirring the soil among Lettuces and young Cauliflowers, and folding leaves over Broccoli coming in for use, put a number of sets of early Potatoes into small pots, in leaf mould, and placed them in the Mushroom-house until they need more light and we find a place for growing some in larger pots, or planting-out in slight hotbeds, when we can get the material for them. When grown in pots we generally place two or three of these sets, after having well filled the smaller pots with roots, into a 12-inch pot, and the curbing previously in the small pots causes them to tuber more quickly; but when fresh tubers are required in the shortest possible time from planting, we know of no plan so good as growing the set in a pot of 5 inches or

6 inches in diameter, and, after the stem is 6 inches high, plunging the pot in old leaves just where there is a little heat, and giving but little water afterwards. Throw a layer of barley-awns over a row of Peas, to keep the mice from getting at them, and slugs have quite as great an aversion to crawl over them.

#### FRUIT DEPARTMENT.

The work here was much the same as last week, with the exception of cleaning ainery, from which we finished cutting. The leaves had previously been removed some fortnight ago. The whole house, glass, woodwork, and Vines, were well syringed with hot water, about 150°, after the Vines were pruned. The Vines were then cleaned so far as removing all loose bark, &c. The glass and woodwork were then washed with warm soap water; the Vines were well scrubbed with the same, and when dry were painted with clay and sulphur, with a little Gishurst mixed with it. They were then fastened horizontally along the house, instead of vertically, so that they may be encouraged to break more regularly, and also be more out of the way whilst the stage is filled with plants. Finished the woodwork by well scrubbing the stage and limewashing the back and front wall inside, after these two had been scrubbed with hot water. The floor of the house, being earth, had about 1½ inch of the surface carefully taken off, then the surface left watered with hot water from the rose of a watering-pot, the soil inside being very dry to keep the Grapes from damping; and as some Vines are planted at the back of the house, the surface will be gently forked or broken, and well watered where driest with manure water heated to at least 90°. A little manure will then be put on, and a surfacing of fresh soil put over all. The bottom of the house or the floor will then be filled with the hardiest and roughest bedding plants, as the fag-goted Scarlet Geraniums, and the stage will be filled with Pelargoniums, &c., where they will remain for two months before the Vines come to be started. We have been thus careful, as we had some bunches of Muscats disfigured with the thrips, and we want to reach any eggs that they might have left behind them. The general bulk of Vines here are planted outside, and brought in through holes in the front wall—not that we approve of that plan, but simply because it could not be helped without getting all the internal arrangements altered. We all know that Vines will do well under such a mode of planting; but that is no reason why we should not advise every person to plant inside if they can. If we were making fresh houses, we should never think of planting outside. Letting the roots go freely out is quite another matter. The great thing, when planting in front and inside is resolved upon, is to be sure to have the inside border the highest. We were lately informed of Vines getting into a bad state, even though they were planted inside; but we elicited the fact which accounted for the whole, that the arches in the wall through which the roots alone could get out, were, as respects their highest point, 27 inches below the surface of the border outside.

#### ORNAMENTAL DEPARTMENT.

The chief work besides attending to plants, cleaning pots, and getting-up leaves in the park to be used for so many purposes, has been looking over the plants and cuttings in cold frames and pits. Many of the tenderest of them we like to get into a house, where a little fire heat can be used for two or three months at this time. Though the weather has been so cloudy, wet, and muggy, yet we have been little troubled with damping. We believe almost every cold pit, not appropriated to such plants as Calceolarias, would be the better of some simple mode of heating, not merely for dispersing damp, increasing the movement and circulation of the air, but saving much time and material in covering in cold weather. The chief points of management during winter are these:—Do not water a plant until it actually needs it. Do not spill a drop of water in the pit; better lift the plant out that is to be watered, and replace it when drained. In a fine, airy, mild day, and especially when sunny, pull-off the sashes. In mild weather, but dull, foggy, and liable to sudden showers, give air largely back and front by raising the sashes up, but keeping them over the plants to prevent any damp falling on them. When nights are at all likely to be frosty, cover the glass and shut up closely. When the frost is pretty sharp, do not uncover until the sun begins to tell upon the covering, or the external air is above the freezing-point, or the sun shines so powerfully as to raise the temperature within above 40°, and then give air chiefly at the back by raising the lights, not sliding them, and shut-up when the sun leaves in the afternoon. When severe continued frosts come, as this

time two years ago, as soon as the temperature inside sinks from 40° to 35° cover-up securely, turn the litter carefully and frequently, but do not uncover in any hurry. In such circumstances, with the thermometer inside ranging from 38° to 34°, we have had plants covered-up for six and seven weeks, and, there being no growth, when uncovered they looked nearly as well as if they had been covered only one night. If a mild day should intervene during such a continued cold, or if a bright sun should mellow the air, we would give a little air at the back of the lights, to let out any accumulated vapour without removing the covering. There is, therefore, but little difficulty in these continued frosts; the bother is, when frost and thaw, mild weather and severe, follow each other so rapidly that you cannot depend on twelve hours at a time, let alone twenty-four hours. Now, in all such cases, a little dry fire heat would be a great advantage, and save many a covering. The simplest contrivances are a brick Arnott's stove and a small flue. The first, for convenience in such cases, should have the feeding-door either in the front or back wall, the latter generally being the easiest to get at, though in small places it would do as well at the end. When the flue is used, the great essentials to success are sinking the fire-box sufficiently below the flue, and letting the flue rise gradually from the fire-place. The good draught thus secured is one of the chief advantages in such a simple furnace as that figured at page 640, and alluded to by "Lex" at page 673 and page 745, leaving not a doubt on our mind but that such a flue will do everything that is said of it. This good draught secured, it is easy to regulate its force by the ashpit-door or a damper. Of course it is very easy to have too much of a good thing. So many pills a-day may be a good medical prescription; but it would in most cases, where the pills were not mere lard and flour, be a very different thing if a whole box were demolished at once.

We refer to that the more prominently, after reading the very lugubrious and melancholy statement of "F. C.," at pages 717 and 718. He must have been truly unfortunate in his observation and experience. Having had a great deal to do with flues, both in large and smaller houses and pits, our experience would point to a totally opposite conclusion. In small places we are told "a greater fire is of necessity used than is proportionate to the space to be heated: consequently there is a great waste of fuel; the plants must be too close to the flue to do well, and altogether such small places are very unsatisfactory, &c." We demur altogether to the "necessity." We see no necessity for sticking our fingers into the parlour fire on a cold night, and we see as little necessity for having as large a fire in a small place as would be needed in a large one. The misfortunes detailed were more the result of simple mistakes than of any necessity. Even the fuel by implication recommended—charcoal, we should have deemed the worst under the circumstances. That such a place can be managed without thought or care we never could imagine. With that thought, there can be no doubt that pits will do all that it has been said they will do. We never have recommended earthenware pipes except where only a mild heat was required, and even then we would have a yard or two next the furnace of brick to prevent cracking. The pipes should never be less than 9 inches in diameter; and when hard-burned and the common soft-burned are in competition, we would choose the latter, if equally thick. We are not sure if even Portland cement pipes will stand a very high temperature, as might be needed for tropical-houses; but we know they answer remarkably well for greenhouses and conservatories, as witness those at Linton Park under Mr. Robson's management. A small flue would be little more expense, and would be safer; though for mild, gentle heat at times, we are sure the pipes will answer well enough, more especially if the draught is regulated more by the ashpit-door than by any damper in the chimney. We know of one case, where in a brick fire the damper was thrust in altogether, and, of course, the smoke was forced through the pipes; but we did not see any necessity for such treatment.

We agree with what "F. C." says as to the usefulness of a cold pit kept as such, and in the superiority of a greenhouse to a pit cold or heated—so much so, that we always recommend such a place to an amateur for plants, be the house large or small, to be sufficiently capacious to allow him to walk in it and examine his favourites in all weathers. But though thus agreeing with him in the great superiority of such greenhouses, we have a strong conviction that the man who cannot heat a small pit without forcing, scalding, and burning his plants, would be very likely to find a necessity for doing the same thing if he had a flue in his greenhouse.—R. F.

## TO CORRESPONDENTS.

\* \* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely* to *The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**FORCING POTATOES IN POTS (*Indefessus*).**—The quantity you plant must depend on the quantity required. The Cucumber-house is too hot at all times for the Potato. Vinerias when starting do well until they come to be above 65°. About 55° is a good temperature for Potatoes. No plan is better than pots for a regular supply. We should start some more in small pots—say 60's, in a coolinery. When well filled with roots, and one stem left to each pot, take No. 12-pots, fill them half full with sandy loam and leaf mould, and place three plants out of the small pots in these large pots, filling-up with similar material, leaving room for a little top-dressing. The more pot-bound the plants are in the small pots before transplanting, the sooner will the tubers form. When well grown, remove the pots to the orchard-house, and protect from spring frosts. The same is a good plan for planting in beds, but you do not say if you have them. The vinery will be first-rate until too hot and shady.

**PERMANENTLY LIGHTENING CLAYRY LOAM (*H. B.*).**—We can say from experience that the best mode of permanently rendering the staple of such a soil open and readily workable is by paring and burning the entire surface to the depth of 9 inches; spreading the ashes and an inch in depth of cocoa-nut fibre dust over the whole, and digging it in. It would probably offend the party you name to make the proposition you specify, and, moreover, there is not the slightest need for such aid.

**CRINUM CAPENSE AND AMARYLLIS FORMOSISSIMA CULTURE (*Crinum*).**—Crinum capense is too big for a window in a dwelling-house. It will make leaves a yard long, and some longer at times. It flowers from the end of May to the end of September in the open ground, and is as hardy almost as a Red Onion. It seeds by the quart measure, and the seeds are as large as horsebeans. It will cross with all other Crinums, and render the offspring nearly hardy at the first start. But to do so much it would need to be planted on the edge of a marsh. It will live and bloom, however, in any part of the garden. The Amaryllis formosissima does best planted-out in the richest vine, or other border, till the leaves are killed by frost; to be kept till April the same as Potatoes; then to be potted, and it will bloom in May, and after blooming to be turned-out as before. But it would force and be in bloom any week from January to May, and it is the only hardy bulb known that will bear the heat of a Pine-stove year after year. In the good old times the Jacobea Lily—this very bulb, and the Coral tree, used to bloom twice a-year, and take rest as often. They would be put into the Pine-stove on the 1st of January, bloom and finish growth in time to go to rest for two months some time in May, up again in August, bloom, and be at rest early in November.

**CLAY SOIL AND COCOA-NUT REFUSE (*No Name*).**—The first thing to be done with a "dreadfully stiff and clammy" clay soil in a garden or farm is to drain it thoroughly. The next best thing is to pare it, and burn as much of the surface in March and April as one can do—say so much every year till all the garden is gone over; and any time in summer, when a piece of ground is free from a crop, the top spit, or 3 inches or 4 inches, should be burnt. Then say that 3 inches or 4 inches of the burnt surface will much improve the next 6 inches or 8 inches of the clay, and thus 10 inches or a foot deep is good fair till, but still very stubborn to work and had to do in wet weather. At this point the refuse from the cocoa-nut is by far the best thing that has yet been tried to improve clay soil, also the cheapest, because the most permanent. From careful calculations which we have made, however, 3 inches deep of this stuff on a clay surface will improve the next 6 inches below as much as 4 inches deep of burnt clay would do; but as burning is, or may be, a cheaper process in many places, we would begin with it, and put in the "nervous system" afterwards. We were told last week that the dwellers next to the cocoa-nut fibre mills at Kingston-on-Thames are now using it heavily on all descriptions of land, and that for the clay lands they find it extremely effective in its operation, and the demand for it now is increasing steadily month by month. We have ourselves used it for six years, 2 inches deep, between Strawberry-rows, where the surface of the refuse formed a thin crust after the first rain, which prevented it from being shifted by wind, and we consider it the best and the cleanest thing for that purpose. If it were thoroughly dried in the sun, we should think it the best material to preserve Apples and Pears in where there is no regular fruit-room.

**AZALEAS AND LIQUID MANURE (*Amateur*).**—We reconcile the two "passages" you refer to by saying we wrote the one about the liquid manure as poison in Azaleas, Rhododendrons, and Heath, intending it for amateurs like yourself; and some one of our staff more bold wrote the other passage on "sweet old cowdung" and so forth, for the use and benefit of first-class gardeners who understand perfectly when old liquid manure is "weak and sweet" it is not poison to any plant; and when liquid manure is "weak and cool" it is as good as rain water from the eaves of the house, and quite as harmless. Then, as you have used liquid manure for Azaleas "with marked beneficial results," you are, fortunately, up to the requirements of a first-class gardener in that respect.

**SEEDLING GERANIUM (*W. Legg*).**—Your seedling Geranium is a true old kind from the Cape. The quarter-stem of Le Heritier and other old authors, but not the "Oak-leaf Geranium of the present day. It has a pale pinky flower, and the leaves are among the very best for tasty nose-gays and for floral designs.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

## CHRISTMAS MARKET.

AN event looked forward to for many months. The excitement of it divided between the Lord Lieutenant of the county who has viewed his Shorthorns, Scots, and Southdowns during the two years fattening has lasted; and the weaver who has reared and fed a Rabbit that turns 17 lbs.; or the good Suffolk dame who has taxed her abilities, and pledged her reputation to produce two capons weighing 2½ lbs. There is more of heartiness about this market than about any other. The creeping customer who generally crawls to a shop or stall, and adds to the wrinkles that already exist in his face, by endeavouring to contract his features so as to concentrate all his power in his eyes, that he may detect any fault in the article he is about to purchase—who never asks the price of anything till he has examined all and made his selection—who never releases his hold till he has bought or given it up, and who follows his purchase all over the premises if it be taken away to be trussed or packed—this man at Christmas asks the price cheerily, gives it cheerfully, and only stipulates for the best. Crowds who never dream of poultry at any other season of the year now flock into Leadenhall, and form a class of customers peculiar to the season. If the visit be deferred till Christmas-eve, Paterfamilias generally comes *en famille*. On these occasions retail shops are despised. Customers like to buy first hand, and father and mother show their skill in selection. It is part of the Christmas treat.

No little practice is necessary to enable a salesman to judge his trade on these occasions. Many turn thousands daily during this market, and a difference of 20 or 25 per cent. often occurs within twenty-four hours. The Turkey that on Monday may be worth 15s., will make 21s. on Thursday. The Goose that was bought well at the time at 9s., may, on the other hand, be worth only 7s. Hundreds of pounds depend on the weather. If the morning be dry, cold, and starlight, the goods feel the effect—they may be kept without injury; the market may be described as firm with a tendency to rise. If the morning be heavy, dull, and drizzling—if the gas lamps, instead of shining like stars, gleam dimly through their wetted glasses, and every man opens his great coat, nudies his comforter, and says it is "muggy," then it is safe to be—"things is down." We are like the old optimist in the smuggling galley. If the night were dark and she lay at anchor, at least she was safe; and if it were light they could see pirates as far as they could be seen. If the weather be unpropitious, senders will be dissatisfied; if poultry be cheap, buyers will be pleased.

Nevertheless, seeing the uncertainty of these things, we, for credit sake, avoid giving any quotation. Like our old friend "Francis Moore, Physician," who declares, "rain about this time, four days sooner, or four days later," we affirm that Turkeys, being of good quality, were like roasting beef—the heavier they were the more they were worth, and that Geese were the same.

We trust that all bought young, tender, and juicy poultry, that they bought at a muggy time, and that nothing connected with the Gallinææ could impede or prevent that which we wish to all

A MERRY CHRISTMAS.

## BLACK BANTAMS AT DARLINGTON.

In your notice of the Darlington Poultry Show, in last week's issue, you remark that the pen of Black Bantams, which at the recent Birmingham Meeting took first prize, were, at the Darlington Meeting, "disqualified by the Judge, Mr. Hewitt, and a card 'Disqualified, the Cock's Legs being Coloured,' was affixed to the pen," and add that "the arbitrator carefully washed the right leg perfectly white, leaving the other as unnaturally blackened as when received at Darlington."

There cannot be a doubt as to Mr. Hewitt having adopted the only course open to him; but the question arises, How far is the owner of the bird to blame? That gentleman is unknown to me. If a close observer, even granting that the fraud had been perpetrated by another person, it seems curious, to say the least, that he should have been unaware of a fact so plain as to be a matter of general remark at Birmingham. An explanation is due, and it will doubtless be forthcoming.

CUCUMBER-FIT (*The Abbey Gardener*).—Your pit would be all the better if a foot or two wider. Your proposed plan of ventilating is good; training to trellis ditto; mode of getting atmospheric moisture from holes placed in top of tank doubtful. How does it get through the soil? What means do you propose for preventing the soil getting too moist and too hot? See answers on such subjects for the last month or two. We would keep the soil from resting on the iron tank; we would also have the top of the tank close, and then we could have moist heat or dry heat from it just as we wanted. A moist atmosphere could also be conveniently obtained by evaporating-pans on the pipes for top heat.

TACSONIA MANICATA FLOWERS FAILING (*A Constant Reader*).—Your plant is extra luxuriant, and the temperature is not high enough for the flowers to open. If you had a night temperature of from 45° to 50°, and a rise of from 10° to 15° from sun during the day, the flowers would open. You may prune back the plant when you like. Every well-ripened bud you leave will produce a shoot that will be likely to bear flowers next season. We would not delay after Christmas, as the shoots will then be induced to bloom more early. Most likely the roots want curbing.

VINE-BORER, &c. (*A Constant Subscriber*).—If you have provided good soil for the vines, the pitching the surface with stones above will not be injurious. Dark-coloured stones would be best. To destroy red spider you may try the lime and sulphur now safely. But we should also well wash with soap and water afterwards, and then paint with sulphur and clay or Gishurst compound, not using it too strong.

ROOM-HEATING WITH HOT WATER (*R. B.*).—As far as we can judge, you will need fully 400 feet of four-inch pipe to heat the unceiled room containing 72,600 cubic feet, if you do not wish the pipes to be very warm. If kept as high as 200°, less would do, but it is healthier to have more piping and less heat in them.

ESTABLISHING A ROOKERY.—"On the north-east of my house is a small plantation of well-grown Elm, Fir, Beech trees, &c., and on each side of the drive are well-grown trees; a brook runs through one part of the garden, and on both sides of it is a belt of lofty trees. Can any one inform me how to induce Rooks to build in any of the trees?—GATLEY."

[The Rook is very perverse in selecting a nursery for its young, nor did we ever know any one who succeeded in overcoming their perversity. We shall be obliged by any relative information.]

PROTECTING CROCUS-BULBS FROM MICE (*Donsland*).—Dust over the surface of the soil where the bulbs are planted thickly with dry soot, and renew the dusting as often as it is washed away or soddened by rain.

CABBAGES, &c., AT CHISWICK GARDEN (*S. E.*).—We published all that the Royal Horticultural Society published on the subject, and we had no means of acquiring further information. No book contains a complete list of kitchen-garden varieties and their synonyms. The numbers of THE COTTAGE GARDENER containing outlines of Peas and their synonyms may still be had.

ROYAL HORTICULTURAL SOCIETY.—"What a wonderful paper is the *Gardener's Chronicle* for finding mares' nests! Let me, however, distinctly state that the nurseryman alluded to at p. 696 neither wrote the letter nor had anything whatever to say to it; but the matter was a common topic of conversation amongst a large body of dissentients. When I put the reply in inverted commas, I did not for a moment mean that those were the very words, but the *purpose* of what was written; and I might have added that I had known that the donor distinctly stated that he did not care about his name being inserted, if only the prizes were announced.—VIOLENS."

PLANTS AGAINST AN ELIZABETHAN HOUSE (*S. Northampton*).—For the south side no plant is so good as Glycine or Wistaria sinensis; then the Chimonanthus fraccans trained as a Peach tree, the best front-of-the-house plant in this world; then the Japan Honey-suckle, for the east and for the west front, and Jasminum nudiflorum on the three sides, so as to have it in bloom from October to March. Spiræa Lindleyana is one of the most noble wall plants we have, and would do on the east front, and Magnolia grandiflora is grand indeed on the west wall; but there ought to be a double-flowering Pomegranate on the best part of the south side of such a house. Of course, there will be some Roses on all the fronts—such as Lamarque, Triomphe de Rennes, Gloire de Dijon, and Celine Forestier, from the Noisettes and Teas, and Sir Joseph Paxton the most telling Hybrid Perpetual for that way, though not the best-shaped Rose; Senateur Vaisse, Eugène Appert, Anguste Mû, Comtesse de Charbrillant, and such fast and vigorous growers, but unless they are on their own roots the fly and the honeydew will "catch" them in hot weather.

POND MUD FOR CONIFERS (*Idem*).—Your plan is most capital, all but the "leaves." No leaves or sticks should ever be mixed up in compost for Conifers until they are entirely decayed, and the mud should have a winter's frost and airing before using; and if it had twelve months' exposure to the elements it would be all the better, and then it would be just the thing for these Roses, and the rest of your wall plants. The very composition you intend for the Conifers would be better for the house-wall borders than any other.

REMOVING AN OLD ASPARAGUS-BED (*Wyeside*).—It would be better to take up your old plants at once, and force them on a dung-bed, as recommended by Mr. Fish in a late article, and plant young ones on your new bed. You would then have the luxury of forced Asparagus at a season when it is far from plentiful, and you would have the pleasure of seeing your new bed go on vigorously. Old plants may be removed, but it is better, on the whole, to have young ones, preparing the ground well beforehand, as recommended in former Numbers of THE JOURNAL OF HORTICULTURE. Your question on the "Ascent of Sap," was answered at length, page 691.

CLEMATIS LANUGINOSA HARDY (*Idem*).—We have every reason to believe this perfectly hardy, when planted in favourable situations. We have seen it in Kent growing and flowering against the south side of a house, and in such a position it withstood the winter of 1860-61, with only a laurel bough or two in front of it. In damper or later places where it has not such a good chance of ripening and hardening its shoots, it is not unlikely to suffer.

NAMES OF FRUITS (*J. A.*).—1, Red Doyenné; 2, Beurcé Die!

It strikes me, however, that the identical birds were exhibited at the Crystal Palace Chicken Show in August, receiving high commendation at the hands of the Judges, Mr. Hewitt himself, I believe, being one of them, the present owner then claiming the pen. If this be correct, it appears they "passed muster" at that time. It would seem that Messrs. Day & Martin's patent had not passed also, by virtue of the claim; and at Birmingham the cock's legs could scarcely have been "touched-up," otherwise they would have presented a different appearance. Then who is to blame? The present owner is more like the scapegoat than the real offender, the claim at the Crystal Palace being, perhaps, much induced by the position the birds then obtained.

A similar case was detected a short time ago, and it is believed there is at least another pen of Black Bantams equally faulty being exhibited: therefore, it is high time such impositions were put a stop to, and the subject ventilated.—JUSTITIA.

[The most satisfactory course to be pursued by the owner of the pen at Darlington would be for him, through our columns, to declare that he neither caused the Bantam cock's legs to be blackened, nor knew that they were blackened.—EDS.]

### LORD TREDEGAR'S POULTRY EXHIBITION.

THIS Exhibition, as its name would suggest, has been for many years past anxiously supported by his Lordship; annually gaining ground in the good opinions of the residents near Newport, and increasing wonderfully as to the importance and perfection of the poultry exhibited. It is held in connection with a cattle and horse show, forming one important item in the varied sights that every year seem to draw a still greater attendance from those parties who feel an interest in such matters. The trains that hourly arrived at Newport from all parts of South Wales were filled to overflowing; and the weather, we are glad to say, on the whole was satisfactory. There cannot be a doubt entertained that the Show of last week has been, so far as the poultry and Pigeons were concerned, an infinite improvement on every preceding one; and when we consider, too, how very commonly such meetings appear to clash their general interests during December, we cannot do otherwise than honestly congratulate the Newport Committee on their present success. The whole of the arrangements were both orderly and well matured.

In Spanish Mr. Martin, of Claines, Worcester, stood first with a pen that are now getting not only well known, but which have also been adding very materially of late to the reputation of his yard. The second-prize pen were also very good. In the class for Spanish chickens Mr. Oliver had it all his own way, having no rival. The coloured Dorkings were, both old and young, of first-rate character, the whole of the birds shown being far better than ordinary. Some White Dorkings shown at Newport were also excellent. In Game, the exhibitors of the district around Newport were much interested by the exhibition of two pens sent by Mr. Harry Adams, from Beverley, Yorkshire. It was evident at a glance they were sent to win, and convince the Game-breeders of South Wales what the northern counties of England can accomplish in that direction. One pen were Brown Reds, the other Red Piles, and certainly such condition was not ever approached by competitors. They were one of the gems of the Show. Many capital local pens were most favourably noticed in the prize list, belonging to the neighbourhood. In adult Cochins, all colours together, it is very long since we saw so closely balanced a competition as the prize pens—one being a very true-feathered Partridge-coloured pen, the other a lovely pen of Silver Cinnamons. The ultimate triumph was to the Partridge birds, but never were perfections more evenly developed. In the chicken Cochins, a pen of really good White ones took precedence over a pen of the best Partridge chickens we have seen for a long time, save that the cockerel betrayed an inclination to be "throats-breasted;" though we believe the slight ruddy tinge on the throat, new so truly objectionable, may moult out rightly at the next change of plumage. Very excellent Brahmas, both light and deep grey, were exhibited. The Hamburgs and Polands of every variety were superior to our most sanguine hopes. The Black Polands and Silver-spangled ones were quite meritorious enough for even the largest shows. A pen of very good Silver-laced Sibrigh Bantams were shown, and some equally creditable Game Bantams.

In the class for "Any other variety" were some perfect Malays, Indian Game Fowls, Silkies, both white, black, and

brown in their extraordinary plumage, for to apply the term "feather" would be inappropriate altogether; and some remarkably good Black Hamburgs.

The Aylesbury Ducks were perfect, and weighed well. The Rouen Ducks, too, maintained a high position.

The prize pen of Geese were the largest-framed birds we ever saw, but shown in really breeding order. The weight was precisely that of the second-prize pen; but, on handling the latter, they bespoke much of the over-feeding so common among Geese at Christmas tide.

The Turkeys shown were of high excellence; but, as a bystander observed, "they were large in size and advanced in years."

In the Pigeons, the Carriers were remarkably good. Some extraordinary White Runts were also shown, some Satinettes, a pair of very good Short-faced Red Mottled Tumblers, and some exquisite Fantails.

In the extra stock, a pen of red-legged Partridges drew especial public attention. They were in perfect plumage, and seemed as tame as the poultry around them.

The Cottagers' prizes were well deserved, and caused rather a spirited competition, adding materially to the public interest. Special prizes were given to these parties, both for fowls and Ducks likewise.

SPANISH.—First (given by Lord Tredegar), J. Martin, Claines, Worcester. Second, J. Parsons, Maesteg, near Bridgend. Highly Commended, A. Heath, Wilts. Commended, J. Llewellyn, Caerphilly. Chickens.—First, and Second, C. H. Oliver, Newport.

DORKING (Coloured).—First (given by Lord Tredegar), F. T. Parker, Rockfield, Monmouth. Second, C. H. Wakefield, Malvern Wells. Highly Commended, C. B. Fox, Newport. Commended, R. Crawshaw, Merthyr; J. Logan, Newport. Chickens.—First, J. Jones, Llanarth, Abergavenny. Second, C. H. Wakefield. Highly Commended, C. B. Fox, Newport; F. T. Parker, Rockfield, Monmouth. Commended, R. Crawshaw.

GAME (Any variety, except White or Piles).—First (given by Lord Tredegar), H. Adams, Beverley, Yorkshire. Second, W. Nicholas, Glamorganshire. Highly Commended, J. Martin, Claines, Worcester; S. Dupe, Evercreech, Somerset. Chickens.—First, J. Martin. Second, W. Nicholas. Highly Commended, R. Crawshaw, Merthyr Tydvil.

GAME (White or Piles).—First, H. Adams, Beverley, York-shire. Second, W. Nicholas, Cardiff. Highly Commended, W. H. Gayton, Newport. Commended, J. Horton, Shirenewton, Monmouthshire. Chickens.—First, J. Horton.

COCHIN-CHINA.—First, J. Carr, Hafod, Swansea. Second, R. H. Nicholas, Malpas, Newport. Chickens.—First, R. H. Nicholas. Second, J. Carr.

BRAMA POOTRA.—First and Second, J. Hinton, Hinton, Bath. HAMBURGH (Golden-necked).—First, C. H. Wakefield, Malvern Wells. Second, A. Nuttall, Newchurch, Manchester. Highly Commended, W. Cannon, Bradford, Yorkshire. Commended, E. Payne, Cardiff.

HAMBURGH (Silver-pencilled).—First (given by Lord Tredegar) and Second, J. Martin, Claines, Worcester.

HAMBURGH (Golden-spangled).—First, W. Cannon, Bradford. Second, W. Cuff, Cardiff.

HAMBURGH (Silver-spangled).—First, T. Davies, Newport. Second, W. Cannon, Bradford.

POLAND (Black, with White Crest).—First, H. Beldon, Bradford. Second, T. P. Edwards, Lyndhurst, Hants.

POLAND (Golden or Silver).—First and Second, Mrs. Blay, Worcester. Highly Commended, H. Beldon, Bradford.

BANTAMS (Game).—First, E. Payne, Cardiff. Second, T. Davies, Newport. Highly Commended, J. Carr, Swansea.

BANTAMS (Golden and Silver-laced).—First, Miss G. Everett, Gibraltar Cottage, Monmouth.

BANTAMS (Any other variety).—First, E. Hutton, Pudsey, Leeds. Second, Mrs. Leigh, Pontypool Park.

ANY OTHER DISTINCT BREED.—First, E. Hutton, Pudsey, Leeds. Second, Master C. A. Ballance, Taunton. Third, P. Cother, Solihull, Wilts. Fourth, R. H. Nicholas, Malpas, Newport. Highly Commended, H. J. Evans, Cardiff; R. H. Nicholas.

GUINEA FOWLS.—Prize, Sir G. F. R. Walker, Castleown, Cardiff. Commended, F. T. Parker, Rockfield, Monmouth.

DUCKS (Aylesbury).—First (given by Lord Tredegar) and Second, J. Logan, Newport. Highly Commended, Mrs. A. Hounfay, Woodlands, Newport; R. H. Nicholas, Malpas, Newport.

DUCKS (Rouen).—First (given by Lord Tredegar) and Second, J. H. Braikenridge, Chew Magna, Bristol. Highly Commended, W. Cuff, St. Fagans, Cardiff.

GEESSE.—First, A. Cuthbertson, Llångibby, Newport. Second, R. Rees, Abergavenny. Commended, R. Crawshaw, Merthyr Tydvil; R. Rees.

TURKEYS.—First (given by Lord Tredegar), Miss J. Milward, Newton St. Loe, Bath. Second, Hon. F. C. Morgan, Glamorganshire.

#### SWEEPSTAKES FOR COCKS.

SPANISH.—Prize, R. Crawshaw, Merthyr Tydvil.

DORKING.—Prize, J. Jones, Abergavenny. Highly Commended, F. T. Parker, Rockfield, Monmouth. Commended, F. T. Parker.

GAME.—Prize, C. W. Brierley, Rochdale, Lancashire. Highly Commended, J. Martin, Claines, Worcester. Commended, J. Phillips, Newport; E. Jones, Newport.

COCHIN-CHINA.—Prize, J. Paddon, Swansea.

GAME BANTAM.—Prize, C. W. Brierley, Rochdale, Lancashire.

ANY OTHER VARIETY.—J. Carr, Hafod, Swansea (Silver-pencilled Hamburgs).

#### COTTAGERS' PRIZES.

ANY DISTINCT BREED.—First and Second, W. Jenkins, Malpas, Newport (Dorkings). Third, T. French, Newport (Black Game). Fourth, J. Ford, Malpas, Newport (Hamburgs). Commended, Mrs. M. Pillinger, Malpas, Newport (Silver-pencilled Hamburgs).

Ducks (Any distinct breed).—First, J. Bunday, Malpas, Newport (Aylesbury). Second and Fourth, W. Parsons, Marshfield, Newport (Aylesbury). Third, E. Morris, Malpas, Newport (Aylesbury).

Pigeons.—*Carriers*.—First, J. W. Edge, Birmingham. Second, A. L. Silvester, Birmingham. Commended, S. Dupe, Bath; C. D. Phillips, Newport. *Pouters*.—First, A. Heath, Calne, Wilts. Second, G. Paddon, Swansea. *Tumblers*.—First, A. L. Silvester. Second, J. W. Edge. Commended, F. Barfoot, Newport. *Fantails*.—First, J. W. Edge. Second, Miss J. Milward, Newton St. Loe, Bath. Highly Commended, H. B. Pring, Newport. *Any other variety*.—First, H. B. Pring. Second, A. L. Silvester. Third, Miss J. Milward. Highly Commended, C. D. Phillips. Commended, J. W. Edge.

Edward Hewitt, Esq., Eden Cottage, Sparkbrook, officiated as Judge, and expressed himself well pleased, both with the quality of the poultry exhibited and the whole of the general arrangements.

## ALPHABETICAL ARRANGEMENT OF POULTRY EXHIBITORS.

ALLOW me to call your attention, and that of poultry exhibitors, to the fact that the entries in the Crystal Palace catalogue have all been arranged alphabetically in each class, with the exception of those of the aristocracy and clergy, which take precedence in each class where they occur. I was not aware that this was the case until I looked into the catalogue of the present Show, and I find that it has been the practice at the Palace shows for the entries to be so arranged. Now, without desiring to make the least reflection upon the honesty of our Judges, I must say that I think this arrangement most objectionable; and were I one of the Judges I would do all in my power to obtain an alteration of this plan, for the prosperity of the poultry interest requires that amateurs should possess perfect confidence in the arrangements at every exhibition for placing every exhibitor whether rich or poor, aristocratic or plebeian, clerical or lay, in a position of equality, so that the merit of the birds shown by each may alone determine the awards; and this cannot surely be accomplished where the above-mentioned systematic classification of names is understood by all parties concerned to be the plan adopted in the catalogue.—SPRIGHTLY.

## REQUISITE CHARACTERISTICS OF BLACK-BREASTED GAME.

KNOWING that your valuable paper is always open to those requiring instructions, I venture to ask you to enlighten me on the following points arising out of the late Birmingham Poultry Show—viz:—

Ought a Black-breasted Red Game cock to have a black breast, or may it be laced and blotched with brown?

Ought a Black-breasted Red Game hen to have a black tail or a partridge tail?

Ought a Black-breasted Red Game hen to have a red earlobe or a white earlobe?

Ought a Black-breasted Red Game cock or hen to have white toes and white nails; or what should be the colour of the toes and nails?

I am led to ask these questions because I feel that in Class 48 (Black-breasted Red Game) the first prize was awarded to No. 666, which contained a cock having his breast throughout laced with brown, and two blotches of brown, one on each side of his breast, and the hens having partridge tails and white earlobes.

That the second prize was awarded to No. 664, the cock's breast having almost every feather laced with brown besides two blotches of brown, one on each side of the breast near the wing, and the hens having partridge tails and red earlobes.

That the third prize was awarded to No. 654, the cock's breast being perfectly black, and the hens having partridge tails and red earlobes.

That the fourth prize was awarded to No. 653; that No. 661 was highly commended, and No. 651 commended, in all of which the cocks had perfectly black breasts and the hens partridge tails and white earlobes.

I also find that in Class 49 the first prize was awarded to No. 716, the cockerel having a black breast, and the pullets black tails and white earlobes.

The second prize was to No. 669, in which the cockerel had a black breast, and the pullets black tails and red earlobes.

The third prize was to No. 713, the cockerel's breast being marked with brown with a bar of brown across the sickle-feathers,

and the feathers from the bottom of the thigh having evidently been removed, and the pullets having partridge tails and red earlobes, and the middle toe on each foot white.

The fourth prize was to No. 710, the cockerel's breast being again marked with brown, and the pullets having partridge tails and one of them a white nail.

No. 679 was highly commended, and the cockerel's breast was black, and the pullets' tails black and earlobes red.

No. 689 was also highly commended, and the cockerel's breast was black, one pullet having a black tail and red earlobes, and the other having a partridge tail, white earlobes and white nails.

Similar discrepancies in the markings will be found in the commended birds in this class.

I also find that in Class 74 the first prize was awarded to a Black-breasted Red Game cock with willow legs, which had a white nail. And I observed that in the Black-breasted Red Game classes the heads of the majority of the prize birds were very thick and coarse, and that but very few had the thin and long head which I always understood was a prime characteristic of first-class Game birds.

If brown lacing and blotches of brown on the cock's breast, partridge tails, white earlobes in the hens, and a white toe or nail and a thick coarse head are to be regarded as the proper characteristics of the Black-breasted Red Game, the sooner the Game-fanciers throughout the country are aware of the fact the better, as many good birds are yearly consigned to the spit for these defects only, and which at Bingley Hall have proved to be meritorious.

At the time I made by notes in the show-yard, I had not seen your papers of the 18th and 25th November (THE JOURNAL OF HORTICULTURE reaching me only monthly), and although I have now read Mr. Hewitt's statement therein contained—viz., "I certainly never yet have, and most decidedly I never shall, accept the office of arbitrator at the meeting of any society in which my awards are to be previously made the subject of private dictation," I still fancy there must be some mistake; and that these words are not intended to convey that the Judges do not form their unbiased opinion, but receive instructions from others. Will you kindly enlighten the poultry world on this matter also? When such things are reported of the first Bird in the kingdom, who will take the trouble to send their birds to any show whatever?—E. A. S.

[For reasons easily understood by any reflective person, I decline to make any observation, *pro* or *con*, on the awards alluded to by "E. A. S." at the late Birmingham Poultry Show; but he personally refers directly to a remark in my letter published in THE JOURNAL OF HORTICULTURE just prior to the late Birmingham Show, in which I stated, "I certainly never yet have, and most decidedly I never shall, accept the office of arbitrator at the meeting of any society, in which my awards are to be previously made the subject of private dictation."

I never for a moment intended to imply that private directions were previously given, as to the parties who were to be the recipients of the Birmingham Society's poultry prizes. Such an idea appeared so foreign to common sense that I never thought so great a perversion could have arisen. My only objections to officiate as dictated were grave and sufficient enough—viz., that as the appointment of the Birmingham poultry Judges professedly rested with a single gentleman, I would not encumber to have my duties dotted out for me by any private correspondence carried on with a third party in the rear.—EDWARD HEWITT, *Eden Cottage, Sparkbrook, Birmingham.*]

## A PLEA FOR BANTAMS.

I AM one of the many who rejoice in the existence of such a periodical as THE JOURNAL OF HORTICULTURE. Each week there is a rush among my boys in order to get the first look, and an exclamation from my eldest girl—"Anything about Bantams this week, Papa?" followed by "Oh! I am so glad," or "Nothing! Oh, Pa, I am so sorry." Now permit me, as an admirer and breeder of Bantams, off and on for five and twenty years, to say a word in their favour, for I do think that these pets of our forefathers are not now sufficiently appreciated.

First, there are many people whose premises resemble mine, having no fences between pleasure ground, kitchen garden, and stable-yard, except formed of easily penetrated laurel and other shrubs. Under such circumstances, it is clearly impossible to

keep large fowls; but then people so situated may have, like myself, a yearning after poultry and new-laid eggs, and can they not gratify such tastes? Certainly they can by keeping a few Bantams, and the better bred the birds are the less harm they will do with their feet, for they will be all the smaller; of course taking one precaution—viz., to give them, in some sunny corner, a heap of coal ashes for their dust bath.

"Do you dislike the Bantams being in the garden?" said I to my occasional gardener. "Lor' no, sir; bless the little things, I ha' been watching them while I was digging, and the heaps of live things they picks up!"

It is so. I saw, for instance, this last summer, a brood of half-grown blacks picking at something on a mignonette-bed. I went to see, and they were clearing it of green caterpillars. Then, too, who now-a-days has not, alas! a delicate wife or child? and how such relish a Bantam's egg! Spanish! oh, the huge horrors! Cochinchinas the high-coloured! Commend me to a Bantam's egg, or two if you please—no eggs like them. The eggs the old woman brings for the kitchen are well enough for kitchen purposes; but they will have a taste sometimes: therefore defend me from them for breakfast, especially as the farm boys, the old lady's suppliers, put in a nest egg now and then.

But, again, there is the pleasure of the thing. A garden never looks complete without some birds about it—Plovers, a Hawk, Call Ducks, Pigeons, or, best of all, Bantams—so pretty, so tame, so useful.

But then I plead for real Bantams—little, strutting, impudent, wing-drooping things. I plead for a real Bantam cock and real motherly-looking Bantam hens, not merely large fowls dwarfed. See that Game cock walking across the yard. Take a child's shilling telescope, look in at the wrong end, and there you have a Game Bantam cock. Or again, see those Game Bantam hens. Take up said telescope, look in at the right end, and there you have Game hens. Perhaps I am writing with a strong bias for the older class of Bantams, from long association with them—as far back as my school days. Let every one situated as I am, with a garden open on all sides and having only a tiny yard, but who loves live things, keep Bantams. How many fathers who buy pets for their children still properly prefer pets that are of some use. Now my little Bantam friends are both ornamental and useful, and how right it is to bring up children to love and to take care of live things. Then, too, a "pet" must be a little thing. Who ever petted a giantess? No man ever married one for love; no, the sharp dog married such to make a show of her, and to earn money by the poor big thing. Yes, rely upon it, little pretty things are the things most loved. As to what sort of Bantams to keep, there is plenty of room for taste. I own I prefer the Black; they are good winter-layers, their eggs are most excellent, and they are hardy as well as full of spirit. As to laying, I have had them lay at twenty weeks and three days old. Moreover, they never stray, and so give no offence to captious neighbours. White Bantams, another genuine kind, have their admirers; so have Sebrights, though clearly not a genuine race.

Finally, good readers of THE JOURNAL OF HORTICULTURE, if at all situated as I am, keep Bantams—pleasure, some profit, and perhaps a prize await you. By the way, what has become of that other genuine kind, the once-common "Nankin?"—WILTSHIRE RECTOR.

### WILD DUCKS BRED WITH TAME DUCKS.

In reply to your correspondent "J. R." in reference to "the rearing of young wild Ducks along with tame ones, subjected to the same treatment as the latter," permit me to give him my experience.

I believe in all cases where a hatch of ducklings is composed of both wild and tame ones, the difficulty "J. R." speaks of will be almost inseparable—viz., that the young wild Ducks will die-off, leaving their more hardy brethren in undisturbed possession of their foster-mother's care. The difference of habit at the onset in the newly-hatched ducklings almost entails such a result to a certainty. I never failed to rear wild Ducks, however, when I made the attempt, without the admixture of the eggs of tame Ducks in the same nest. Some thirty years ago, previously to going to reside at my present residence, I enjoyed the advantages of a small pond, with abundance of grass around it. It was then "the hobby" of my late sister and self to keep wild Ducks—Pintails, Widgeons, and so forth. As the latter birds, though

thoroughly domesticated and in perfect plumage, lived healthily, but only in a single case produced any eggs whatever, I will confine my observations exclusively to the wild Ducks. A tenant of ours could generally get three or four sittings of wild Ducks' eggs from the pits on the farm most years; and, at my own request, they were forwarded to me. I found a Bantam hen a capital mother to bring them out, and for after-attention also; but, unfortunately, the Drakes thus hatched, when adult, were troublesome among poultry. A small Irish Duck generally was substituted.

As a rule every egg produced a duckling; and, to render them more tractable, they were always closely confined the first two or three days. Whilst quite young we fed simply on bread, very small strips of raw meat, and plenty of white canary seed floating in the saucer of a large flower-pot. They also, as they grew on, ran about *ad libitum* on the grass, and evidently ate many slugs, &c. We also gave "duckweed" on the water. Thus treated there was very rarely a death, save by accident, the canary seed being especially to their liking, and to it I mainly attribute this success. Until a month old we "cooped" the old Duck, but left the youngsters free. They grew up invariably quite tame, and bred freely the next and following years. There was one universal drawback, however. Although not admitted when grown up to the society of tame Ducks, they always, in two or three generations, betrayed prominent marks of deterioration; in fact, they became domesticated. The beautiful carriage of the wild Mallard and his mate, as seen at the onset, changed gradually to the easy, well-to-do, comfortable deportment of a small Rouen; for they, at each reproduction, became much larger, and the legs took the fineness and elasticity so easily recognisable in the first parents. As every year this retrogression became still more extensively developed, simply from the power of domestication—for it is beyond doubt no common Ducks had access to them—we oftentimes reverted to a new stock from the eggs of wild birds frequenting the farm, always hatching and rearing them successfully; but, in about four or five reproductions, getting precisely in the same fix as before described.

If your correspondent wants to rear some wild Ducks to keep as ornamental birds, or to use for the table, the difficulty, if attempted without rearing tame Ducks with them, will be very trifling. I will just mention that I have known many wild Ducks poisoned by eating the ripe fallen seeds of the laburnum tree, commonly in this county called the "golden chain," of which, although to them so deadly, they appear to be especially fond.—EDWARD HEWITT, *Eden Cottage, Sparkbrook, Birmingham.*

NOTHING is easier. Consider wild Ducks bred with tame Ducks exactly in the same light that you would if you were breeding some Dorking fowls with Bantams of the same sitting. What would become of the poor little fellows if the Dorking chicks were allowed their full swing at the food? Why, the Bantams would most assuredly come to grief like "J. R.'s" wild Ducks. The great overbearing tame species have, most likely, been allowed to gobble-up all the food, whilst the poor little wild fellows were obliged to peep about like lightning, as their only chance of getting a few fragments.

Only watch the latter in their youth up, and see that they get their share, and all will then go well. A few worms extra daily for the issue of the Mallard, introduced to them on a spade, would be highly relished and beneficial, they soon learn to pester on to it; and the spade may then be lifted up out of the way, as a special dining-table, with the ducklings upon it.

As to the hen, if she is placed in a coop with its back, top, and sides boarded, the sunniest place in the world would afford her shade.

I had the pleasure of being amongst some of the first to write upon poultry and Pheasant breeding in THE COTTAGE GARDENER, and I illustrated a coop in No. 191, page 134, which would prove exactly applicable to "J. R." I will also further mention, that if your correspondent wishes his wild Ducks to breed on the premises, he must pinion them, or they will pair and be off to a certainty at their natural breeding season. Formerly we used to do a great deal in that intermixing fancy way, and the Ducks used to go and squat in the henhouse to roost. The poor things were so tame and pretty, that we could not muster up heart to kill them, and we also thought it cruel to pinion them: therefore, at the breeding season, away they used to go, and the tame ones, too, very often—viz., down the

river Corve, where stray fishermen, by some unaccountable peculiarity of vision, used to mistake them for trout!—UPWARDS AND ONWARDS.

### ARTIFICIAL DUCK-HATCHING IN CHINA.

THE hatching-house, at Chusan, is built alongside of the Chinaman's cottage, and is a kind of long shed with mud walls and thickly thatched with straw. Along the ends and down one side of the building are a number of round straw baskets, well plastered with mud to prevent them from taking fire. In the bottom of each basket there is a tile placed, or rather the tile forms the bottom of the basket; upon this the fire acts, a small fireplace being below each basket. The top is open, having of course a straw cover, which fits closely, and which covers the eggs when the process is going on, the whole having the appearance of a vase placed on a pedestal. In the centre of the shed there are a number of large shelves placed one above another, upon which the eggs are laid at a certain stage of the process. When the eggs are brought, they are put into the baskets described above; the fire is lighted below, and the heat kept up to range from 95° to 102°; but the Chinamen regulate the heat by their own feelings, and not by the thermometer, and therefore it will of course vary considerably. In four or five days after the eggs have been subject to this temperature, they are taken carefully out, one by one, to a door in which a number of holes have been bored exactly the size of the eggs; they are then held in the holes, and the Chinamen look through to the light, and they are able to tell whether they are good or not. If good, they are taken back and replaced in their former quarters; if bad, they are of course excluded. In nine or ten days after this—that is, about fourteen or fifteen days from the commencement, the eggs are taken out of the basket, and spread out on the shelves already noticed. Here no fire heat is applied, but they are covered over with cotton and a kind of blanket, remaining in these circumstances about fourteen days more, when the young Ducks burst their shells, and the Chinaman's shed teems with life. These shelves are large, and capable of holding many thousands of eggs. The Chinese who rear the young Ducks, know exactly the day when they will be ready for removal, and in two days after the shell is burst, the little creatures are sold and conveyed to their new quarters.—(*Athenæum*.)

BATH AND WEST OF ENGLAND SOCIETY'S MEETING.—This will be held next year in the city of Exeter, on the 8th, 9th, 10th, 11th, and 12th of June. J. Pitman, Esq., and Dr. Brent are appointed Stewards of the poultry department, and Honorary Secretaries.

### SALT NOT INJURIOUS TO PIGS.

AN article in your Journal, December 2nd, signed "J. R. Pearson, *Chilwell*," stating that salt is injurious to pigs, has, I must confess, surprised me, as I do not think his statement is in accordance with the experience of those who know anything about the pig.

It has been my lot to take many voyages at sea, on which occasions we have frequently had pigs on board; and I appeal to all those who have been similarly situated to bear me out in what I am about to state—that the pig is almost, if not quite, the only animal that does well—nay, I may even say, thrives at sea; and I am sure their food has been salt enough in all conscience, and must have necessarily been so, as I am in a position to know that there was no special pig food on board. I remember some years ago returning from Hongkong in charge of invalids, principally Artillery, and before leaving the port we took on board several pigs. Those pigs were fed on pea soup boiled in the same water with the salt pork, and biscuit mixed with pot-liquor, the water in which the very salt beef taken to sea was boiled in. The sailors also made pets of them, and gave them portions of their own food, which was entirely salt provisions; yet the pigs, so far from dying, rapidly got fat, and when killed made most excellent pork, as I can vouch for.

That Mr. Pearson may have lost some pigs from giving them food into which salt had been introduced is very probable; but we all know the carelessness of servants, and the abominations they will throw into the swill-tub. I am, therefore, inclined to think that their death, if occasioned by the swill at all, must have been caused by some decomposed matter in the swill, not having

reference to the salt at all—that is to say, not in its condition as salt. Again: Mr. Richardson, in his book on the pig, which is considered a good work, says at page 68, and I will quote his own words:—"Do not omit adding salt in moderate quantities to the mess given. You will find your account in attending to this." That salt may be injurious to some animals (I believe it is not a good thing for dogs), I do not deny, but I do believe, so far from being injurious to the pig, that the animal thrives better with it than without it.—AUGUSTUS R. R. PRESTON, *Surgeon, Outlands, near Plymouth.*

### ARTIFICIAL SWARMING.

#### FERTILE WORKERS, OR A DRONE-BREEDING QUEEN.

SINCE my last communication on the artificial swarming of bees, I have had several private inquiries about the success of the one of which I gave an account, and of the process I adopted. With your permission I will now give an answer to those and others who take an interest in bee-keeping. It will be remembered that, on our last inspection of the combs and bees of the artificial swarm, we saw that eggs had been laid in the cells, which we naturally supposed would turn out working bees, being laid in worker's cells. When we looked again, on the 9th of August, they were found to be all drone eggs. Here, then, was a case proving the theory of parthenogenesis—viz., that a queen can lay drone eggs without the aid of male bees, and not working bees. Seeing this, we took another bar-frame of comb and young brood from the original Ligurian to enable the bees to make another queen, being aware that the bees would not allow a queen to remain which could not produce working bees. We removed all the stocks of bees to the hills on the 16th of August, and consequently could not examine them until the 28th, when we found only drone eggs. We gave her other two combs of young brood, and examined her again on the 8th of September, and found her much the same, and on the 27th found no brood in any of the cells. Still the bees seemed as if they did not want a queen, and we resolved to allow her to remain till the 13th of October, when we again found new-laid eggs. On the 29th of October, we examined her carefully again, and found a number of drone-cells sealed-up, and new-laid eggs in workers' cells. We were then strongly impressed with the opinion that her majesty had this time been successful in her hymeneal fights. But, alas! no. On the 22nd of November, we found only young drones running about, but no young working bees, and still some new-laid eggs; but these I think perished with the cold.

Such, then, is the state in which the first artificial swarm we attempted remains at the present time. Of course she must remain now till spring, and as soon as we can get young brood from the old Ligurian, I will give her some. Had this been the only one which we tried, it might have prevented us from trying it again; but the second one we attempted has been entirely successful. When we examined her on the 29th of October, she had a number of young bees out, others sealed-up, and also new-laid eggs; we had also a sight of her majesty. On the 28th of November, we found all the young bees had been hatched, with the exception of a few which had evidently perished from the severe frost of last month.

I think I may safely say that the oldest bee-keeper will admit that this has been the most unfavourable season for bees, and that there may have been many natural swarms this season which have been no better than the artificial one, although not detected, from not having the power of inspecting them so minutely in the straw hive as we have in the bar-frame hive. It is well known that during this season there were many days and even weeks in which young queens could not get out on their love excursions, thus proving the truth of Huber's observation that after a time impregnation becomes impossible. I believe, too, that breeding so late in the season as these have done is seldom seen, and that drones in the month of November are quite as rare. It will be interesting to notice the result, which I will do at a future time. I have had no reason to alter my opinion as to the hardy nature and prolific qualities of the Ligurian bees, as the old one, notwithstanding that it has been twice emptied of comb and brood, has made 40 lbs. of honey and comb. I am compelled, however, to alter my opinion as to their docility. They are perfect savages—ALEX. SHEARER, *Yester Gardens.*

[The above interesting narrative affords strong ground for

suspecting the non-existence of a queen in the first swarm, and for attributing the drone eggs to fertile workers. So few instances of this last-mentioned phenomenon have been observed by British apiarists, that we hope Mr. Shearer will do his utmost to verify the fact. Bees will sometimes remain satisfied with a drone-breeding queen, or even with fertile workers only. It is stated that these latter will frequently destroy royal cells if they are introduced, and that they display as much enmity to queens, as if they were themselves endowed with the full faculties and powers of royalty.

The best mode of restoring such a demoralised colony to a healthy state would have been to change places with it and another stock. In a few days, when both parties had become accustomed to their new position, all the bees from the drone-breeding stock should have been swept off the combs upon a cloth spread midway between the two, and allowed to return to a new hive furnished with brood-combs put ready to receive them. The drone-breeding queen, or the fertile workers which appear to adopt the stay-at-home habits of queens, would then have returned to the old spot where they would be at once put to death by the strangers, whilst the others, returning to the new hive, would have reared a queen in the ordinary manner.

I can only account for the ferocity attributed to these Ligurians by supposing that the enforced idleness of the late untoward season has had the effect of rendering bees spiteful and suspicious, and that the Italians, being the strongest colonies, show these symptoms of a bad honey harvest the most. No one can try their bees' tempers more than myself; and I can conscientiously aver that in my hands the Ligurian bee is by no means an irascible insect.—A DEVONSHIRE BEE-KEEPER.]

### APIARIAN MISCELLANY.

(Continued from page 703.)

IN reply to the letter of "UPWARDS AND ONWARDS," at page 731, I may remark, that it was not my intention to assert that he claimed any priority of invention respecting drone-excluding communications. I am very glad the plan has been tried by so practical a bee-keeper, and hope to adapt it to some of my own hives next summer. Where wooden crown-boards are used I cannot see much complication in making three side apertures instead of one central passage. A zinc slide, a large cork, or a flat piece of wood effects all that is required for closing them over. I may add, that side apertures were adopted by me long before the communications of "A RENFREWSHIRE BEE-KEEPER" appeared in the columns of this Journal.

"UPWARDS AND ONWARDS" claims the character of writing for the million. If so, he may ease himself the trouble. Not one in a million of the lower class of bee-keepers will permanently adopt any of his plans. I have for many years laboured to infuse ideas of very simple improvements in the management of their hives among cottagers. I have purposely avoided any recommendations which could be called complicated, and have frequently practically shown them, by hives of my own working among their own bees, and by simple alterations for themselves of their own hives, what could be done in the way of improvement: but all, or nearly all, to no purpose. With, however, the upper and middle classes, if I may so term them, of bee-keepers, the results are far more encouraging, and I claim in future to write for them alone, and would advise "UPWARDS AND ONWARDS" to do the same. I wish to ask if there is anything in the adoption of side passages, plain boxes with loose bars, Stewarton-hives, and other plans which might be alluded to, which can be called complicated to any bee-keeping mind of ordinary intelligence. Does "UPWARDS AND ONWARDS" think seriously for one moment, that one cottager out of a thousand will adopt his plan of drone-excluding passages? Which to them would appear the more complicated—the three holes bored with a large augur, or the nicety required in fitting up the affair described by him in his former paper? To any bee-keeper really desirous of adopting improvements, there is nothing that can be called complicated in his plan; and he does well in recommending it to the notice, not of the million, but of those who are likely to be benefited by his valuable communications.

"UPWARDS AND ONWARDS" speaks in high praise of the character of our district as a prolific honey-neighbourhood, and of the friends he has made here. Of the first point I would say that we consider this as a honey district a most uncertain one, and by no means equal to many other parts of the kingdom. Of

the second point I would say, that should he ever find his way again to this locality, I trust he will give me the opportunity of being added to his list of Devonshire friends.

With respect to the bee-feeder recommended by our friend my confession must be made, I have never tried it. It has the great objection in all such apparatus of compelling the bees to leave the stock to obtain the food. That large quantities of food may be supplied, and that such feeders answer the purpose intended I have no wish to dispute—in fact, the statement of quantity transferred and general effectiveness will admit of none. But for all this I prefer the bottle. I have never tried to give more than 5 lbs. of food in twenty-four hours by means of a bottle-feeder, but I know that this quantity will be taken down by a good stock in that period of time.

"UPWARDS AND ONWARDS" makes the common mistake of all objectors to the bottle as a feeding medium, when his objection is on the ground of dripping of the contents, and that the bees must take it whether they will it or not, or be saturated with it. There is no drip whatever. If from weakness, cold, or other cause, the bees of a hive refuse the food, it will remain for weeks or months undiminished in the bottle. Nearly every kind of feeder have I tried, but there is none I think that can at all approach in general excellence to the very simple plan of an inverted bottle. For gradual spring-feeding in diminutive quantities, a small bottle with contracted mouth is best. For autumn-feeding, bottles may be used capable of containing many pounds, having a mouth of 2 inches diameter. In neither case if properly managed will there be the slightest drip of the liquid, and there will be generally found less excitement among the inmates than by any other system I have tried.

But what shall I say with regard to the stone caricature of a head, used as a weight for the milk-pan cover? Surely its adopter and recommender strengthens my position when he admits the universal amusement which the sight of it causes. There is a species of child's toy which causes amusement by shifting various heads on to different shoulders. The more incongruous the result of the adaptation the greater the mirth and laugh to be excited. I really think in this case the head must be said to be on the wrong shoulders. It might well have fitted those of some stone-walled-innured monk of former times, but will not appear in its fit and proper position as the crowning-point of a hive of industrious bees. Still, if "UPWARDS AND ONWARDS" likes to have his laugh and see other people enjoy theirs, there is no earthly reason why he should not indulge in this little foible, and, doubtless, he hopes that others besides himself will find "sermons in stones."

To resume the consideration of the hives at the Exhibition. In due course of order we come to MARRIOTT'S STAND. I was rather pleased with the appearance of the rotary observatory ninecomb-hives; but for actual facilities afforded for stocking them with bees, and for inspection, they do not equal the flat single-combed hives.

Of this character, one exhibited in Messrs. Neighbour's stall afforded the most perfect example of what an observatory-hive should be, and reflected great credit both on the inventor and exhibitor. Having had one constructed on the same principle of shifting bars with combs and bees from an ordinary box, I can speak confidently of its efficiency and the facility afforded for scientific observation of the interior economy of a bee-hive.

There were also shown at this stand a number of well-made Taylor's bar-hives, and the Woodbury pattern of the bar-and-frame hives, all of which are most admirably adapted for advanced apiarists.

Of the COTTAGE-HIVE brought out by Messrs. Neighbour, though very well and neatly made, I cannot speak in such high praise, though, doubtless, it is an improvement on the common straw hive. The hives of "UPWARDS AND ONWARDS" are far more practically useful in my humble opinion. These of Messrs. Neighbour might easily be improved with a few slight alterations.

MR. TEGEMEIER'S boxes are very moderate in price, but a fatal objection to their use by me would be the distances he has adopted between the centres of the combs. Nor would I be bothered by the use of the, to me, very objectionable slides between the bars in lieu of a loose cover.

MR. LOVEY showed some boxes which were altogether unsuitable for bees' domiciles on account of size, besides being fitted with objectionable slides.

Of BOOTHMAN'S HIVE the less said the better. It seemed an absurdly complicated affair, fitted-up with a nasty lot of wires and bits of zinc, looking for all the world like a ~~row~~ of gridirons.

The wax-refining apparatus appeared to be ingenious, and doubtless well adapted for the purpose.

W. J. PETTIT exhibited one of Major Munn's hives. I would praise it if I could. The office of censor is by no means a pleasant one, particularly where censure and not praise is to be given. Of the ingenuity of the contrivance there can be no doubt, and it might not suit the capabilities of some manipulators; but a bar-and-frame hive, with a thin bag of black muslin or net to slip over the hat, is much more to my mind. Mr. Pettitt also, as I have previously stated, exhibited some boxes furnished with drone-excluding communications, which seemed likely to answer the purpose intended.—S. BEVAN FOX, *Exeter*.

(To be continued.)

ERRATUM.—In my last read "bands" instead of "boards," page 709 second column, sixteenth line.

### BOTTLE-FEEDER FOR BEES.

I OBSERVE from a letter in your Journal of the 9th inst. that your esteemed correspondent "UPWARDS AND ONWARDS" entertains the idea, although it has been more than once contradicted in your columns, that when a bottle-feeder is used the bees are compelled to imbibe the syrup in self-defence, or would otherwise be inundated with the contents of the feeder. This is entirely an erroneous impression, as even when a very wide aperture is used (in my bottles  $1\frac{1}{2}$  inch internal diameter), if muslin or tiffany is tightly stretched over the mouth of the bottle not a single drop will fall, with the exception of a small quantity which runs out when the feeder is first inverted, and if placed over an empty hive it would remain full for an indefinite period. Once or twice I have had the feeder, holding about 5 lbs. of syrup, emptied in little more than twelve hours, but generally find a strong stock in warm weather will empty one in about twenty-four hours; this is, I imagine, quite quick enough to satisfy most bee-keepers. At the same time I doubt not that a still larger quantity would be removed in the same time if supplied underneath in a large feeder with floats, because a vast number of bees are then able to work at the same time on the large surface exposed for their accommodation, and in warm weather this system of feeding answers very well. In cold weather, however, the bees are disinclined to descend, and, if they do, many perish from the cold.

Last winter furnished me with an instance which illustrates strongly the advantages of the bottle system. In December, my attention was called to a common straw hive which had been very populous in summer, but subsequently suffered so severely from the inroads of wasps that it then contained scarcely more than half a pint of bees, and these were at that season in a complete state of pauperism, and there was little expectation of carrying them through the winter. I recommended the use of an ordinary half-pint sauce-bottle. The bottle was filled with sugar and water, and the neck pushed down through a hole in the top of the hive, thus bringing the supply of food into the very centre of the cluster of bees. This hive progressed so wonderfully that it sent out a large swarm in the very beginning of June. No other plan of feeding would, I believe, have succeeded. The hive was large, and the population so very scanty that the life of every individual bee was of great importance, and I do not think they could have been induced to ascend into a feeder on the top of the hive if an ascent of only a few inches had been required, and feeding at the bottom was under such circumstances quite out of the question.—J. E. B.

EXCLUSION OF DAMP FROM BRICKWORK.—The following methods for obviating this evil have been described at the Royal Institute of Architects. Three-quarters of a pound of mottled soap are to be dissolved in one gallon of boiling water, and the hot solution spread steadily, with a flat brush, over the outer surface of the brickwork, taking care that it does not lather. This is to be allowed to dry for twenty-four hours, when a solution formed of a quarter of a pound of alum dissolved in two gallons of water is to be applied in a similar manner over the coating of soap. The operation should be performed in dry settled weather. The soap and alum naturally decompose each other, and form an insoluble varnish which the rain is unable to penetrate; and this cause of dampness is said to be effectually

removed. The other method consists of sulphurised oil as a varnish or paint, and is said to improve the colour of brick and stone, as well as preserve them. It is prepared by subjecting eight parts of linseed oil and one part of sulphur to a temperature of 278° in an iron vessel. It is said to keep out both air and moisture, and prevent deposits of soot and dirt, when applied with a brush to the surface of a building of stone, or even of woodwork.

### OUR LETTER BOX.

KEEPING POULTRY PROFITABLY (*Hoylake*).—Poultry may be kept profitably when it is well attended to, and not over-fed. Do not attempt too many breeds at first. It seems to us, you will be trying enough if you start with two breeds—one for eggs, and one for table. When is your season? If in the summer or early autumn, keep Spanish. Those accustomed to Spanish eggs will never eat any other. They are, besides, intrinsically worth more, they weigh more, and contain more food. If it be in the winter, you must keep either Cochins or Brahmas. You must always recollect laying depends on the age, and not the breed of the birds. Brahmas, or Cochins, or Spanish, will do in any confined place, but Dorkings must have a run. If you intend to sell poultry for the table, keep Dorkings; if you do not, keep any of the other breeds. A Dorking hen is a paragon in most poultry qualities, a full average layer, an excellent siter, a good mother, and unrivalled for the table; but she must have elbow room, and cannot bear confinement. 13 yards by 8 yards is not space enough for forty fowls. You want really good, but not prize birds to start with. They must be young, and we doubt not you will succeed in making your poultry profitable. Do not, however, crowd too many into a small space. Better succeed with a smaller number than fail with a large one. Give them as much run as you can, and none is better than an old garden. Do not go to any expense with houses, the cheapest are the best, and all that is necessary is to have them wind and water tight, with gravelled floors. Do not make a particular enclosure for hens and chickens. They will have to be acattered about for the sake of health and run.

POINTS IN GOLDEN-PENCILLED HAMBURG COCK (*A Novice in Hamburgs*).—A Golden-pencilled Hamburg cockerel must have a perfectly-shaped comb, well pointed, and the pipe turning up behind; perfectly white earlobe, shaped like a fourpenny-piece; copper plumage; and ample tail, the sickle-feathers being black in the centre, and shaded from the edge on both sides with rich copper bronze.

HEN'S SPURS (*J. W. S.*).—We should not consider the spurs of a hen at all important in a Dorking. They are common to them and to Game, but they are unusual in Spanish. When all the points have been enumerated, any addition in the shape of a new one is a disadvantage, especially when it cannot be called an improvement. It is not, however, a disqualification.

BAHMA POOTRAS (*J. W.*).—There are two breeds of Brahma Pootras—dark and light. The first are pencilled all over, and have silver-striped hackles. The cocks have straw hackle and saddle, black breast spotted with white, black thighs, and tail. The light should be white all over save the tail and flight, which should be black, and the hackle which should be striped. The pullet you mention will breed good chickens if put to a light cock. This latter should be marked like the hens.

SILVER GREY DORKING HEN (*Idem*).—We believe you will be as likely to breed some good birds from the hen you mention, as from any others. You will never succeed in breeding all Silver Greys from any birds, however carefully chosen. You will have to breed a good number, and to choose from them.

BENT SICKLE-FEATHERS (*J. W. S.*).—If you had named the breed of the cock you would have enabled us to answer more easily. Straighten the bent feathers, and, if necessary, bind them till they have recovered strength. If the bird is likely to be exhibited again, do not on any account pull them out. It is a great disadvantage for a cock to lose his sickles. No special diet is necessary.

PLUMAGE OF A DUCKING GAME COCK (*G. R. Lyndhurst*).—The Ducking cock should have very light straw-coloured hackle; black tail, breast, and thigh; copper-coloured saddle, and duck wing, with the mallard colour. The bird you mention would seem to be a Silver Duckwing. The Greys vary in many ways in colour, some being much lighter than others.

DUCKS DYING (*S. L. Q.*).—From the symptoms you mention, your Ducks appear to have picked up something of a poisonous nature. Had you any corn dressed for sowing that might have been dropped in their way? You will find oats and oatmeal good substitutes for Indian meal and potatoes. If you notice any more of your Ducks drooping, keep them penned-up for a few days, give them plenty of clean straw and gravel, and let them be fed on oats whole, and not allowed too much water. It is possible that the birds you mention as having pined and died had been fasting some time when turned into your yard, and then gorged themselves with food and were unable to digest it. A stoppage would cause the drooping of the wings and the cramp as described.

ROSEN DRAKE SICKLY (*A Constant Subscriber, Manchester*).—If your Rosen drake had been taken up from a run where he had liberty and plenty of water, the confinement in the enclosure you mention would account for his pining away and for the cheek in his mouth. It is always unadvisable to move a bird when deep in moult, as many of the young feathers are killed even by the most delicate handling. The thick white matter in the corner of the eye is a sign of very low condition. If the skin around appears puffed or inflated wash it with vinegar and water, and gently press it with the thumb that any matter may be dislodged. The bird should be shut up in a dry, warm place and well fed.

PIGEONS AT THE PORTSEA SHOW.—In your last Number of THE JOURNAL OF HORTICULTURE, I see a correspondent gives me credit for lending to the Portsea Catary Show some Powder Pigeons. This is a mistake, as they were sent by Mr. Body, High Street, Portsmouth, and are first-class birds, being from the renowned stud of the late lamented Mr. Bult.—J. C. HASSARD, *Major, R. E., Hilsa*.

BLACK BULLFINCHES (*T. Cave*).—We have seen many black Bullfinches. The colour is the result of feeding on food that is too stimulating.

WEEKLY CALENDAR.

Day of Mnth	Day of Week.	DEC. 30, 1862.—JAN. 5, 1863.	WEATHER NEAR LONDON IN 1861.				Sun Rises.	Sun Sets.	Moon Rises and Sets	Moon's Age.	Clock before Sun.	Day of Year.
			Barometer.	Thermom.	Wind.	Rain in Inches.						
30	Tu	Verbenas.	30.380—30.336	36—24	N.E.	·01	m. h. 9 a f 6	m. h. 57 a f 3	44 2	9	m. a. 2 48	364
31	W	Fuchsias.	30.368—30.339	39—29	N.E.	—	9 8	58 3	51 3	10	3 17	365
1	Th	Citronumston.	30.352—30.279	39—30	N.E.	·01	9 8	50 3	53 4	11	3 45	1
2	F	Michclius died, 1737. B.	30.361—30.255	45—29	E.	—	9 8	iv	50 5	12	4 13	2
3	S	J. Wedgewood died, 1795.	30.078—29.745	43—27	S.W.	—	8 8	1 4	40 6	13	4 41	3
4	SUN	2 SUNDAY AFTER CHRISTMAS.	29.830—29.743	45—26	N.	—	8 8	2 4	22 7	14	5 9	4
5	M	Mezereon flowers.	29.835—29.677	50—21	W.	—	8 8	3 4	rises	○	5 36	5

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last thirty-five years, the average highest and lowest temperatures of these days are 44.1° and 31.5° respectively. The greatest heat, 57°, occurred on the 3rd, in 1860; and the lowest cold, 4° on the 2nd, in 1854. During the period 149 days were fine, and on 96 rain fell.

A PLEA FOR MODERN FLOWER-GARDENING.



UCH has been said of late having a tendency to disparage the modern system of parterre flower gardening, and it is well worth while inquiring whether the expressions of those who would have us revert to the individual beauties of the mixed flower-border represent the general opinion of the country; and whether, after all the ex-

cellent logic that has been spent to point out the defects of the one and to extol the merits and adaptability of the other, the real facts of the matter have been elicited.

It is a mistaken theory to suppose that a mixed flower-border, however well arranged, excites the admiration of the general community in the same way as one having the dress and finish of this elegant though much-abused bedding system; and it is also a mistake to suppose and promulgate that these mixed flower-borders are all but totally neglected or misguided since the advent of ornamental and artistic flower-gardening.

True, attention has been more fixed upon plants suitable for this modern decoration; and every gardener and lover of flowers is on the alert to obtain—either from cross-breeding, hybridising, or selecting from herbaceous borders—plants that are either remarkable for foliage, elegance of habit, or redundancy of bloom; and every year is adding to the stock of novelties either in variety or species, so that before many years elapse there may be as many favourite flowers for this sort of work as there were select individual border ones before bedding-out was known. Does anybody imagine for one moment that the thousands of visitors who throng and promenade the gardens of the Crystal Palace, Regent's Park, South Kensington, or Kew, week after week and year after year, and who have been neither slow nor sparing in their laudations of the gorgeous array of flowers, their happy combinations, and their general contour, would look on with the same amount of pleasure if the one half of the space were devoted to individual objects, from the Christmas Rose onwards and upwards, which the botanist and the gardener at all times admire either less or more, but which are lost or dwarfed as pictures of beauty in the artificial landscape immediately the eye or microscope is taken away from them? This, I contend, is the beauty of modern flower-gardening, because it introduces whatever is compatible to its interests, no

matter whether it be annual, biennial, or perennial, and sets it off, like any other well-arranged material, to the best advantage. The florist is a severe stickler for form and quality of bloom. The mixed-border pleader advocates a return to the objects of his solicitude and love, and promises a hearty welcome; and each, quietly speaking, is a little empirical in his own way, but the much-abused innovator makes a selection from each, and deserves a little more consolation and moral support from both.

Some ridicule it because it is artificial. So is the fine smooth-shaven lawn; so are the broad, straight, gravel walks; so are the fountains; so are the statues; so are the very beds that in days of yore were filled with the much-vaunted herbaceous material, which the partisans of parterre flower-gardening are accused of banishing from their gardens, but which in fact are only removed to less artificial borders, where they are more at home. And what garden of eminence in the country, beginning even with some of the less pretending villa residences up to those which it is the pride and the boast of gardeners to revert to, but possesses either more or less of those adjuncts to the mansion, which is artificial enough to be sure?

By all means let the herbaceous subjects have proper justice accorded them; but do not introduce the more cumbersome, which are neither remarkable for flower, foliage, or habit—nor those puny sorts which require microscopic examination to exhibit their merits—nor, in fact, any of them which unavoidably become a blank in midsummer—into these artificial parterres. They are nothing but an eyesore there. The proper places for these are in borders outside of the smooth-shaven lawn, and as a break in the beginning of the true English landscape. There they may be introduced into wavy or straight lines in these irregular or other-formed borders, or in detached figures—in fact in many ways; and a very interesting field of observation will they present to the amateur and botanical student, not to speak of their gradual relief between sylvan shade and the extreme ornamental landscape.

Then, again, it is contended that this system is but a fleeting show at the best—that in the vicissitudes of this climate it is a great deal of labour and little return. Can any of the opponents of the system indicate a plan so effective as to disarm the criticism of all and sundry? Can they point to the experience of the past where an equal amount of gratification was afforded with less adequate efforts? or can they read the admirers and promoters of this innovation such a lesson as to induce the former to see only beauty in its similitude to Nature, and thus ignore everything from a hand-bouquet up to a ribbon flower-border? This once accomplished, then the gardener must soon follow suit. There are, no doubt, heavy engagements upon his time at the propagating and bedding-out seasons, but this is often accomplished at very little extra expense; and his employers, as a rule, are so gratified at the generally improved appearance of their parterres—many of them residing in their country

residences only during the gayest season—that the little extra expenditure incurred is passed over without comment; so that there is exceedingly little room for evincing a morbid desire to curtail, if not to annihilate, the system altogether.

It has been called monotonous because it presents a uniform dumpy surface. Its success has been questioned because an unfavourable season occasionally occurs to mar or retard its growth and beauty; but the originators of this opinion forget that what affects and retards the ultimate beauty of the one must also considerably deteriorate the ornamental appearance of the other. More than that, I maintain that this system affords much the best groundwork for advantageously displaying all sorts of spring-flowering bulbs, as well as portable specimen Conifers and other ornamental plants, which can be lifted and disposed of in shrubberies and reserve gardens when the planting-out season arrives; and if the accommodation of the gardener be proportionate to the space he is expected to fill, there cannot be a doubt that his dress garden will be an object of interest throughout the whole year—such an interest in fact (for the earnestness of our opponents compels us to be candid with them), as will completely eclipse the best-arranged botanical mixtures.

But I have something to say in conclusion concerning the dumpy monotonous surface which this arrangement and material presents. It is certainly by no means satisfactory to my own ideas: but the system is only in its infancy, and is steadily progressing every year. The great public gardens in England should lead the van in this respect: and if there is one place more than another, with all the influence of English aristocracy and English wealth at its back, where we should expect to see the best examples of modern gardening and modern design introduced, it is South Kensington. But there the design has all but been condemned. Even the graphic pen of our friend Mr. Beaton has failed to excite there a reactionary movement in its favour.—JAMES ANDERSON.

### CAPE BULB CULTURE.

THE two ends or extremes of the management of the larger kinds of Cape bulbs, but not of the largest bulbs from the Cape, having been inquired about at our office by a young hand down at Leamington, it struck me as an excellent opportunity to refresh the minds of the Journal's readers on that subject, and to request once more that they will divest themselves of the old notions which have hitherto deprived this country of the enjoyments of some of the finest of flowers—the flowers of half-hardy bulbs; and nine-tenths of all the bulbs on the face of the earth are either altogether hardy or half-hardy. The few kinds of stove bulbs inhabit the coast line in a narrow belt within the tropics round the globe, and a very narrow belt it is compared with the range on which the rest of "the Lilies of the field" are displayed. So far within the tropics, and no farther, will you find a stove bulb; and so many feet above the level of the sea, and you will not discover a bulb to which the heat of a stove is not certain death in the long run. You may keep stove bulbs alive for many years in a lower temperature, and yet be able to bring them up to the mark again by changing the climate to their liking; but there are scarcely any of those half-hardy kinds which, if once deranged by the unwonted stimulus of extra heat, will recover from the over-excitement. *Sprekelia formosissima*, the *Jacobaea* Lily, is the only half-hardy bulb known in practice which will endure the heat of the stove and forcing-bed from year to year with impunity. This bulb, therefore, may be added to those in the extreme limits of different treatment under cultivation.

*Cyrtanthus* and *Nerine* are the two kinds inquired about from Leamington, and they are at the extremes. The evergreen *Cyrtanthi* require a little more warmth while they are at rest, with their leaves on, than any other Cape bulb whatever. They and *Vallota purpurea* grow on the verge of marshy lands; and from their roots being constantly supplied with moisture, the drought has not the power over them to cause them to shed their leaves like most other bulbs of that country or colony; but *Vallota* being from a higher locality, and requiring less heat in winter to keep it growing, however slowly, it does not differ materially from the great family of Cape bulbs, except in being an evergreen. But the *Cyrtanthus obliquus*, the only evergreen one we ever see now from the Cape, rests entirely from growth for five months from the end of September, and requires 10°

more heat during these five months than any other bulb from the same country—that is, it should be in a climate of 50° the whole winter; and no other bulb from the Cape of Good Hope should ever be in a winter temperature above 40°, at least not for long at a time.

The whole secret of growing all Cape bulbs to perfection, is never to let one of them experience more warmth in winter than 40°, except the one in question, *Cyrtanthus obliquus*; and if that is not up to 50° from October to March, it will never bloom in this country, although it may live.

Many years since I had to look out for a couple of flowering-bulbs of this *Cyrtanthus* for experiment, and there were not in all the nurseries, or in all the private collections of this country, as many as two bulbs of this *Cyrtanthus* which the owners would guarantee to flower next year, or say had flowered the year preceding. And knowing that if the bulbs did not flower for the last three years, the chances were they could not be brought to do so for the next ten years, if ever it could be effected, I had to send out to the Cape for some bulbs, received them in good condition, bloomed them as freely as *Gladiolus*, crossed them, and subverted two botanical genera in doing so, sent a seed-pod to Dr. Lindley, who pronounced the seeds half ripe only; but every one of them made a plant in the Chiswick Garden, though eventually every one of them was lost.

Now, if this *Cyrtanthus obliquus* down at Leamington has not bloomed for the last three years, it is of no use but as a botanical specimen. All the gardeners in the country in a committee could not cause it to flower under five years certainly, perhaps not under fifteen or twenty-five. So you see the necessity of placing *Cyrtanthus obliquus* at one of the extreme limits of the proper cultivation of Cape bulbs. Yet, to a certainty, it would bloom every year as regularly as *Vallota purpurea*—that is, it would bloom at any time from May to Christmas, as freely as *Gladiolus brenchleyensis* if it had the proper cultivation, which is extremely simple—that is, to be allowed to make the yearly growth from April to September in a cold-frame temperature, and that, of course, could be done in a greenhouse by placing the pot near to where the top or bottom air was given, and by keeping the bulbs in an intermediate temperature between a stove and a greenhouse from September to March, and giving very little water through the winter. In order to keep the fat fleshy roots from shrivelling the pot ought to be put inside another, and be placed in a saucer of damp sand, merely keeping the sand damp the whole winter, and giving one good watering to the bulb once in six weeks. The Portugal Laurel never moves a bud from the end of September to the beginning of March, and yet if its roots were left to dry-up and shrivel, it would lose all its leaves, if not die right out; and so it is with the "evergreen *Cyrtanthi*," as they say of one kind of bulb only, for I do not think the variety *carneus* is new in.

After this explanation it would do us very well in the column for correspondents, "Keep your *Cyrtanthus* on the front shelf of your late vinery from October to March, and give it cold-pit culture for the rest of the year."

Now for the other extreme of Cape bulb cultivation. The Leamington correspondent had received a supply of the last-named bulbs and of some *Nerine*, of which he did not get the name; but from his description of it there is little doubt about its being *Nerine curvifolia*, a very pretty kind, and quite as easily cultivated as a Dutch *Crocus*, and very much in the same way all the year round, only that this *Nerine*, and all the other *Nerines* we know of in cultivation, should not receive so much frost as would kill or pinch the points of the leaves. The only one of the *Nerines* which has the least difficulty about it is the *Guernsey Lily*, *Nerine venusta*, of which there are four varieties, and the one which comes to us yearly through the seed-shops and nurseries is the variety *sarniensis*; and I am not aware that any one has ever taken in hand to cultivate the *Guernsey Lily* in England as all *Nerines* ought to be done in our climate. All the *Nerines*, like all the true *Amaryllises*, rest during the summer months with us, and grow on all the winter like the *Belladonna Lily*, the type of the Linnæan *Amaryllises*; and all *Nerines* but one, *Nerine undulata*, require exactly the same treatment from October to April as one-year-old plants of bedding *Calceolarias*. *Nerine undulata* is hardy enough to do in front of a greenhouse without any protection; and if there were a demand for it here, we could so farm it as to be able to sell it at one-half the price per bushel which is charged for the earliest kinds of Potatoes. Then, if that be so, and so it is undoubtedly, the *Nerines* stand at the

opposite extreme to *Cyrtanthus* from the same country; they also ran out in a line, as it were, getting hardier and more hardy from *Nerine coracea*, the brightest of them all, through *pulchella*, *curvifolia*, or present plant, *flexuosa*, *sarriensis* or *venusta*, to *undulata*, which is quite hardy. There were two or three more kinds of them known years back, but they are now, in all probability, lost.

There was a consignment of "roots" of *undulata* sent to me for the Experimental Garden from a kind correspondent in Guernsey through Mr. Salter, of the Versailles Nursery, to whom I gave some of them, and who has it on sale. The reverend gentleman below Bristol, who first discovered the value of the cocoa-nut dust for bulbs, wrote me at the beginning of last November that he had then "a lovely bulb in flower which he believes is scarce. It was given him by Dr. Burchell, of Fulham, the old African traveller, and was discovered by him, and is the *Amaryllis undulata* of Willdenow, but now goes by some other name." I thought it might probably be the same as the Leamington *Nerine curvifolia*, as I take it to be, and I much wished a bulb of it if that were the kind. Next week I had a spike of bloom sent me to see the difference, if any, and it was the true *Nerine undulata*; and this will be the first notice of the fact which his reverence will see; and by so saying, the Leamington possessor of *Nerine* with the "very curled leaves" will also see how much I should value a "root" of *Nerine curvifolia*, but not now; for just at this time the plant has nearly finished the length of its leaves, and will not be fit to move until the end of May, unless it be in a pot, or be different from what I take it to be; for there is no bulb like it in the waxy margin of the leaf except *Hæmanthus undulatus* from the same country.

All the *Nerines* flower in September and October, and at no other time. Most of them come like the *Belladonna Lily*, and at the same time with a host of flower-stems and flowers only; and when the flowers are over then come the leaves, or with some of the kinds the leaves come simultaneously with the flowers. When they are bloomed in pots the best way would be to turn them out of the pots as soon as the flowers were past, and to plant them out with their balls in a light at the end of a cold pit, to grow on during the winter and spring, and to have the glass tilted at front and back the whole time, as long as the frost was not more than 5°, 6°, or 7°, which would not hurt them; but when the thermometer fell below 25° to shut them up until there was a change of weather, to keep them well watered from the end of February to the middle of May, and to keep down the glass close over them all the summer months when they are at rest, for our hottest summers are not too hot for them while they are at rest, nor for the *Belladonna* either, which requires the same treatment all the year round as the *Nerines* if they are grown, or rather bloomed, in pots.

Another correspondent who has been growing the *Belladonna Lilies* in pots and who cannot get them to bloom, has been on the wrong scent altogether. He put them into 60° of heat after the blooming time was gone, and, of course, he put them off flowering by so doing. The *Belladonna* must be in good hands to flower in pots one year with another; but in a warm border in front of a stove or greenhouse they flower every year and increase fast by offset bulbs. If any one took the trouble to make a bed on purpose for *Belladonna* and *Nerines* at the end of a cold pit, he might pot them at the beginning of September, bloom them in pots, and then return them to the same bed after flowering for the rest of the year. They would give no more trouble than *Gladiolus*; and a whole host of *Irid* bulbs could be grown in the same cold pit, and in front of these *Amaryllids*, if the first foot in depth of the front part of the bed was of peat and one-third loam. But the oldest plan of all is still the best for amateurs for their *Nerines* and for the *Belladonnas*—that is to say, make a bed for them on purpose in front of some hot-house or greenhouse. The bed should be fully 2 feet deep and 1 foot above the level of the ground round it. Any good garden soil will suit them. What one would use for a Peach-border would be about the best, but no dung and no peat should be in it, as, though dung and peat are good for one or two years, they are not safe for permanent beds for bulbs which do not require peat—as *Irids* and many *Lilies*. June and early in July is the best time to plant them; and the roots or bulbs should stand 6 inches apart each way, be fully 6 inches deep in the ground, and have mulching in winter, for which coal ashes are as good as anything, and have straw put over it in very severe frost.

D. BEATON.

## CROSS-BREEDING STRAWBERRIES.

As you request information from any one who may have it to impart relative to the cross-breeding of Strawberries, I beg to say that I have crossed British Queen and the Alpine, and British Queen and the Russian Alpine.

The produce of the cross first named was a lot of very diminutive plants, remarkably free-flowering, and having large flowers but quite sterile.

The plants of the cross named secondly were large and free-flowering, shy-blooming, and also sterile.

Enclosed I send you three small runners of another cross between a wild Hantbois (which I gathered on Bramham Common under a Thorn bush, where, apparently, it had been growing for many years, having a woody stem about 10 inches long), and a fine seedling that I obtained between British Queen and Black Prince, having the flavour and nearly the size of the first, with the prolific properties of the last. I have only reared one plant. It was sown in March last, and it has made a large plant with four large crowns. It has not flowered yet, and is very shy in forming runners, having only produced about six through the summer, and those have grown mostly since I took it up in September.

If you thought it might in any way interest Mr. Darwin, it is at your option to send him one or all. I gathered some of *Fragaria vesca* to plant on the rockery, and they are greatly improved in size and perpetual. Has any one noticed this before?—WILLIAM SMITH, York.

[Mr. Darwin, to whom we forwarded all the runners, is very much obliged, and has planted them. We had a large bed of *Fragaria vesca* (Wood Strawberry) some years since, and the fruit was double, both in size and quantity, that obtained from plants growing wild.—EDS.]

## CHRYSANTHEMUMS.

"I DON'T like Chrysanthemums," said a London friend to me some time ago; "there's a sort of mock gaiety about them. They mean to look handsome and attractive; but there's fog and gloom all round, and they are out of place. There are like ornaments on an old person—and so—and so I don't like them." I wonder whether this feeling is general, or how it is that the flower seems this season to have been very much in the background. As for myself, I felt personally aggrieved—hardly done by, having never seen a really good Chrysanthemum show. I had made up my mind this year to do so. Alas! it was no use making plans, for neither the Crystal Palace folk nor the Royal Horticultural Society found room for one; and although Stoke Newington still continued loyal to the flower, yet I did not seem to be drawn towards that, and so contented myself with a peep at Kensington. It could hardly be called a show; and therefore the conclusion which was drawn in the Society's "Proceedings"—that because so few persons went to the Gardens on that day, the wisdom of not having a Chrysanthemum show was patent, was what I should call a very fine *non sequitur*. It was not a show—had none of the adjuncts of a show; the sum offered was not sufficient to bring together many exhibitors, and was, moreover, so completely an after-thought, offered so late in the season, that there was no possibility of people preparing for it: hence I hope that it will not be taken as a precedent.

I look upon the Crystal Palace Company not having one as more ominous still. They are so ready to cater for the public in every way, provided it is likely to bring grist to the mill, that I fear they regard it as an unprofitable thing. I hope this may not be so, for I do not agree with my London friend; and even now, as on Christmas-eve, I look at my little lot, and can see a brilliant bloom of *Jardin des Plantes* and *Carissima*, I do not think their gaiety forced, but am glad to welcome anything in the shape of a flower. Nor had I this season my usual treat at my excellent friend, Mr. Salter's, of Hammersmith. Had I known it, I should have preferred a visit there to that to Kensington; but there were friends I wished to see and business to be done, and so the visit to Hammersmith was not paid. Mr. Salter has done what he could with his usual kindness to make up the loss. I saw some of his seedlings at the Floral Committee. He kindly sent me blooms of some others, and has also furnished me with a list of those novelties which he intends sending out in the ensuing spring.

Of the flowers of this year which, through his kindness, I

have had blooming in my possession, the following seem to me to be very desirable:—

*Carissima*, a very beautiful large flower; blush white, and beautifully incurved.

*Duchess of Wellington*, rosy carmine with blush tips; large incurved flower.

*Edith Dombrain*, makes an uncommonly pretty plant; colour a pinkish-blush.

*Sparkler*.—When I saw this flower in the autumn of 1861 it struck me as being likely to be a more general favourite than *General Slade*. Although it only obtained a second-class certificate while the *General* was first I still hold to that opinion, and think that, although both are good, as a general rule *Sparkler* will be preferred.

*Lord of the Isles*, too, is a very fine flower, high in the centre; and although not novel in colour, beautifully incurved, and a most desirable flower.

*Lord Ranelagh* is a light reddish-orange, beautifully incurved, and of fine habit.

Of the *Pompones Citronella* is a very pretty clear yellow; and *Lucinda*, rose and lilac, and very full.

It seems strange that the new varieties should run much more amongst the large flowers than the *Pompones*, but so it has been of late years. In 1860 Mr. Salter had twenty-four new large flowers and only ten *Pompones*. In 1861 he had twenty-one large flowers and five *Pompones*; while, as will be seen from the following list, he has this year eighty large ones and only six *Pompones*. The fresh blood that is likely to be infused into the flower by the late introductions from Japan will not make any alteration on this point, for they are larger than anything we have at present, one of them being described by Mr. Fortune as being as large as his hat.

I now subjoin a list of Mr. Salter's novelties, and am the rather glad at having this early opportunity of doing so, as, owing to the very late season, Mr. Salter was unable to supply his list in time for the "Year-book." I have seen some of the flowers, and think Her Majesty will take the place she ought to do in all loyal hearts, as the habit is so excellent; while *Lord Palmerston* is as great a novelty as his namesake. *Princess Alexandra* and *Princess Louis of Hesse* are very good flowers; and amongst the *Pompones* *Julia Engelbach*, *Mary Lind*, and *Fairest of the Fair*, will, I think, be general favourites.

*Her Majesty* (Smith), ivory blush, beautifully incurved; compact dwarf habit. Every flower a perfect model.

*Abbé Passaglia* (Smith), large, brassy orange, beautifully incurved.

*Antonelli* (Smith), reddish-orange, incurved. A splendid flower.

*Aspasia* (Smith), rosy purple, incurved blush. A very pretty pot plant.

*Beverley* (Smith), large creamy white, finely incurved.

*Cleopatra* (Salter), blush, with rosy shade, finely incurved.

*Cardinal Wiseman* (Smith), bright red crimson; dwarf, and fine pot plant.

*Duchess of Buckingham* (Salter), fine incurved white. Excellent conservatory plant.

*Daphne* (Smith), sulphur. Fine and distinct.

*Golden Fleece* (Smith), clear golden yellow, incurved; fine dwarf habit.

*Holman Hunt* (Smith), clear rose. Large and very fine.

*Handel* (Smith), large, dark rose anemone. Very distinct and noble flower.

*Jane* (Salter), large, silvery pink, finely incurved. Very distinct and beautiful.

*Lord Palmerston* (Smith), dark rose amaranth, incurved, and tipped with silvery white. A very fine and distinct variety.

*Mrs. Brunlees* (Smith), delicate rose, with light centre, incurved, and fine large flower.

*Mr. Jay*, reddish-orange, with gold centre, incurved, and fine.

*Oliver Cromwell* (Smith), dark ruby red, beautifully incurved.

*Othello* (Salter), dark rose carmine, finely incurved.

*Orpheus* (Clark), large rose lilac, tipped blush. Fine large flower, after the form of *Themis*.

*Princess Alexandra* (Smith), delicate lilac blush, with lemon centre, finely incurved. A lovely flower of exquisite form.

*Princess Louis of Hesse* (Smith), bright rosy pink, incurved, blush. Dwarf, and excellent habit.

*Queen Margaret* (Smith), large rosy anemone, with light centre. Fine and distinct.

*Samuel Broome* (Smith), orange salmon, incurved. Very full and noble flower.

*St. Andrew* (Davis), orange nankeen, incurved, and fine show flower.

*Talbot* (Smith), rose purple, tipped blush; very close, stiff petals, beautifully incurved.

*Victor Hugo* (Smith), dark brown crimson with chestnut centre, finely incurved.

#### POMPONES.

*Fairest of the Fair* (Salter), delicate lilac blush with silvery tips. Very double, and fine habit.

*Helen Lindsey* (Salter), cream white, a complete ball. Fine, early, and free-flowering variety.

*Julia Engelbach* (Smith), golden orange with brown points. Very double, and excellent habit.

*Lilac Cedo Nulli*, a sport of *Cedo Nulli*, with lilac flowers.

*Mary Lind*, blush with purple shade. Very distinct.

*Pyramidalia* (Smith), red and orange hybrid. Very free, every branch forming a pyramid of flowers.

#### LARGE FLOWERS.

*Cresna* (Smith), dark golden amber, incurved; very close and full rosette form. Very dwarf and fine pot plant.

*Pomona* (Smith), dark rosy fawn with bright orange centre, incurved.

*Princess Mary* (Smith), large blush white, finely incurved. Beautiful show flower.

*Fair Rosamond* (Smith), rosy yellow with lemon centre, incurved.

The above four flowers will be also in my first section; but *Daphne* and *Pyramidalis* will be put in the second section.—*D., Deal.*

### PROPAGATING CONIFEROUS PLANTS BY CUTTINGS.

I WILL add a mite relative to successful practice upon the above subject.

Now is a very good time to put in cuttings of all the kinds desired to be increased by that mode. The cuttings will do either in a cold pit or hot pit according to convenience, the difference being only a matter of time. The warmer they are the sooner they will strike.

Supposing some one wants to increase any of the beautiful *Cupressuses*, *Thujae*, *Junipers*, *Thujopsis*, &c., take some long strong pieces of the ends of the side branches—the larger the piece the sooner you make a handsome tree—say from 6 inches to 12 inches long, yet some of them will strike from bits of 2 inches.

We have had a great deal of instruction about preparing these cuttings from time to time, embodying certain rules, which, of course, the writers considered unlawful not to observe; but in these "trotting days," as Mr. Beaton calls them, if the laws that were made for a past generation do not meet our wants, we must go ahead and take the responsibility of making laws for ourselves. It is so with Conifer cuttings. Having the pieces, take one up and cut a shaving off its bark about 1½ inch long from the base upwards; cut that shaving clean off at one cut, so as to expose the wood from top to bottom of the cut, and so on till you have finished. Never mind about the bottom end of the cutting, whether it be square, round, or oval, eye or no eye, joint or no joint; all that is non-essential. There is not a plant that will strike from a cutting that requires to be cut in any given form; but if it will break with a bend without bending double, it will strike from that break as soon as from the most precisely cut end—in many instances much sooner—because there is more alburnum exposed, from which the roots proceed.

Perhaps I shall be put down as an unmistakeable descendant of the "uncouth Goth." Be it so: my aim is success, and I base my practice on scientific principles—so I will next take a large seed-pan, crock it, and secure the drainage; fill it with fine sandy soil, finishing-off with half an inch of silver sand, and dibble-in the cuttings as thick as their tops will allow them to stand, water them, and give the usual significant rap on the potting-bench. Then I want a large saucer, and three little stones an inch or two thick placed in a triangular form in the bottom; on these set the cutting-pan, and keep water in the saucer up to the bottom of the pan continually, and give no water at top. Put them into the pits above mentioned, and keep close till growth has commenced, when they should have a little more light and air, gradually exposing them till you get

them out altogether, and when they have been out a week or two, shake them carefully out and plant in a nursery-bed.—  
WILLIAM SMITH, *Fork.*

MEASURING THE ANGLES OF ROOFS.

THE following is in answer to "PATELIN'S" inquiries on this subject:—

There is a want of a thorough understanding, as to the mode of calculating the angle between the perpendicular wall of a lean-to house, or the supposed perpendicular line in the centre of a span-roofed house, and the sloping glass roof, because some authors count from one side of the quadrant and others from the opposite side. It is much to be wished that the Editors of this work would give a certain sound on the subject, as frequently when the angle of a house-roof is given, we have nothing to judge from except the context as to whether that roof has a slope very steep or very flat. We presume the youngest of our readers are aware that a quadrant is the fourth part of a circle, formed by dividing the circle into four equal parts, by two transverse diameters. The fourth part of the circumference thus forms the arc of the quadrant, and the two diameters, meeting in an angle in the centre of the circle, form the two straight sides of the quadrant. The arc of the quadrant is then divided into 90°, being the fourth part of 360°. So far all is clear. See *fig. 1.*

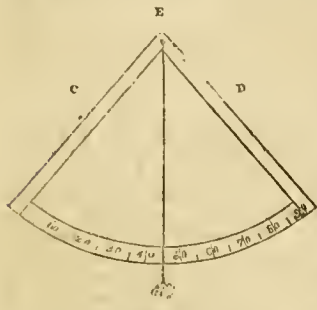


Fig. 1.

There may be many other ways in taking the angles of roofs; but I used to amuse myself doing so with a quadrant formed of wood, or stiff paste-board, with a string and bob, fastened at the angle E. Thus: place either of the sides C or D parallel with the slope of your roof, and the string with the bob will mark the angle on the arc. In deciding on the slope of a roof to be made, you can just elevate or lower

the back part of a long rod intended to represent the slope of a roof, until the requisite degree is marked on the arc by the string. For instance: in a house 9 feet wide, and the back wall 9 feet higher than the front wall, as in *fig. 2,* either side of the quadrant, placed parallel with the sloping roof A, will show an angle of 45°. This will always be the case when the height of the back wall above the front wall is

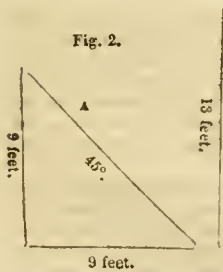


Fig. 2.

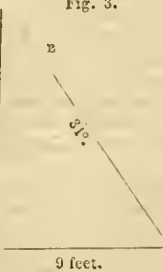


Fig. 3.

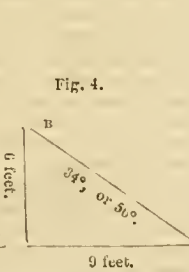


Fig. 4.

the same in feet and inches as the width of the house. But now comes the bother and worry about these angles. According to the side of the quadrant we thus use, the difference becomes greater as we go from the point of agreement at 45°. Thus you are recommended to have a roof at an angle of 34°, as the best, and as your front wall and glass together are 6 feet in height, you wish to know what height the back wall should be. Now, the mode by which I always calculate, is to use the side C of the quadrant, or that which is nearest the numerals, 1°, 2°, 3°, 4°, and so on, on the arc; and to have a roof, B, in *fig. 3,* at an angle of 34°, the back wall will require to be about 13 feet higher than the front one, or 19 feet altogether, supposing the width of the house to be 9 feet, and just so much higher or lower as the house is wider or narrower than the 9 feet specified. You will at once see that such a house would be chiefly useful for late

and early work, commanding most of the perpendicular rays of light in the dark months. You will also perceive that 0° being the perpendicular, 24°, 14°, &c., would give you roofs all the more steep, until you came to upright sashes at 0°. On the other hand, however, many people calculate their angles by using the D side of the quadrant, which is next to 90° on the arc, and this, as specified above, alters the whole matter. On this mode your desired angle of 34° for roof would be shown at B, *fig. 4.* To secure this angle according to that mode, you would require to raise the back wall only 6 feet higher than the front, 12 feet in all, provided the width was 9 feet. We incline to think that this must be the angle of roof you require, as with upright glass in front, such a slope would prove a very generally useful house. On such a mode of calculation, the roof and angle in *fig. 4,* of 34°, will be exactly the same as an angle of 56°, according to the first mode referred to. In one word, according to this last mode, the lower the figure of the angle, as 10°, 15°, 20°, &c., the flatter will be the roof. According to the first mode, the lower the number of the angle, as 10°, 15°, &c., the steeper will be the glass roof. Thus the angle of the glass sash of a garden-frame, will, according to the last mode, be about 10°, according to the first mode it will be 80°. Such differences ought to lead to one general usage to prevent misconceptions. I approve of the first mode—that is, of using the side of the quadrant C next the units on the arc. Others have just as good a right to use the side next 90°, until some authority shall settle the matter. By the first mode I have computed all angles of roofs mentioned by me. What is said of the garden-frame, and *figs. 3 and 4,* will explain the difference. There may be some better method of deciding on an angle than a quadrant and a rod, &c., but I know of none.—R. FISH.

A HEDGE OF ROSES.

YES, "A Hedge of Roses." The very words at any season give an idea of the beautiful; and they do not sound ungenial even now at Christmas, the season redundant with its many happy reflections. So there is given an illustration of a "hedge of Roses," and does not the very phrase bring from the past some of our sunniest memories?

But these pages are for the "real," not for the merely "ideal," so let us pass on to "a hedge," a veritable one—composed of the cream of the Rose-catalogues, a combination of colours and varieties; the van being led by the warlike Géant des Batailles, followed by Generals Jacqueminot, Washington, and Simpson; accompanied by the fine-formed, unwieldy Colonel de Rougemont, with the Mesdames Alexieff, Boll, Furtado, Melanie, and others; having as companions such partners as Jules Margottin, with Monsieurs Ricaut, Lafitte, and a name that sounds strange—John Hopper, with many others, and last, though not least, Mr. Wm. Paul's Beauty of Waltham.

Though I here enumerate a few essential ones, the outline of the hedge, as I devise it, admits of every facility for the furtherance of individual likings and fancies, giving each an opportunity to select for himself. So, now bring your rod and line, and let us proceed to peg-out the necessary space within which to plant our hedge. Yet, first let me tell you that, as usual, we again submit to individual fancies or desires as to the form, whether it be straight, abruptly curved, or rotund; though it will be better where applicable to give the preference to a line more or less north by south, as thereby both sides will the better be benefited by the direct influence of the sun.

Having selected the spot, well trench and manure the ground some 5 feet or 6 feet wide the whole length required, and, if possible, 2 feet or 3 feet further than just where the hedge is to be. Here let me state, that where the nature of the soil is really adverse to the growth of Roses, I would not advise the attempt to be made unless the proper space for the whole growth of the individual plants be made artificially, as however well you may prepare a certain space in one of those harsh ungenial soils, though it may suit them, and they may do well for a few years, yet it would not be wise to plant them for the purpose specified above, for in time the roots would roam beyond the limits of the artificial soil prepared for them, and the result would be very unsatisfactory.

Having prepared the soil, turf if necessary the space to within a foot each way of where your centre is to be (the centre of the hedge). By so doing you have a border some 2 feet wide. Now, procure some rough, knotty, rustic-looking stakes, or poles, about 7 feet long, and drive them firmly in two rows. Each stake

in those two rows to occupy the centre of the interval between the opposite pair thus:—

Each of the said stakes to be some 5½ feet apart from each other in each row, the distance between the two rows of stakes in the line being 1½ foot apart. This done, procure the necessary number of Rose plants, giving preference to the following sorts:—Glorie de Dijon, Blairii No. 2, Chénédolé, and, perhaps, the Queen of the Prairies; although I am not very partial to the last, it may do in some soils. But, suppose you take to the three sorts enumerated above, then proceed to plant them alternately all ways; and if odd ones are necessary, give the preference to the former one. Having planted them as directed, cut each of them in to one eye—the bottom one, if it is likely-looking; if not, and it appears weak, take the next, rubbing the discarded one out, as I have mostly found that eyes or buds, like shoots, consist of weak and strong ones, the weaker ones never doing like the others. Now, secure the plant firmly to the stake, but so tie it as to admit of its settling down with the soil, otherwise you may hang each of them.

When they break, to use a gardening phrase, and are started to grow, encourage them by giving them repeated waterings with manure water, &c., supporting them by tying them to the posts. The next spring again cut them down to the one eye, and again encourage a good strong growth, treating them in all ways as they were treated the previous season.

The next spring so prune them back to five or six eyes as to secure for the next summer's growth fine, good, strong shoots. I say prune to five or six eyes, as I would wish you so to prune the single stem of each individual plant (as they may vary materially one from the other), as to secure the five shoots, for get the five this season you must by some means or other, so that if either does not look likely give six a chance to break. Then, when you have secured five healthy young shoots to each plant, encourage again each of those shoots to make a thorough good growth. Your requirement now is rather to attain good, strong, short-jointed, well-ripened wood than great length, as the after-growth of the hedge will prove. As they grow tie them loosely and carefully. Pray do not bundle them together as Roses often are, tied for tying sake; mulch the ground, and give most copious waterings if dry weather should set in.

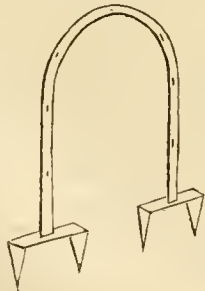
When the shoots get about 5 feet long pinch the tops off. When they are again safely started in growth secure the bottom shoot that has started in consequence of being pinched back, and rub out all others upon each point save this one. By so doing, as doubtless you will see, you will materially strengthen the growth of all; as vegetation, even when most luxuriant, benefits by a little relaxation, for this enables it to muster its resources and start again with strength and freshness.

You, doubtless, perceive that I am quite an adherent of Mr. Beaton's mode of treatment when a thorough good growth is needed. By all means cut the shoots down; cut away the whole growth of last summer, and in the roots below you have a firm basis upon which to set to work, and form a shoot or shoots—say three or four of them, 14 feet long if you wish. I have done it, so write from experience; and let me tell those who have not done so, and who may have now oldish plants of Roses, that if an eye can be found at the base of any of them, cut them down to it.

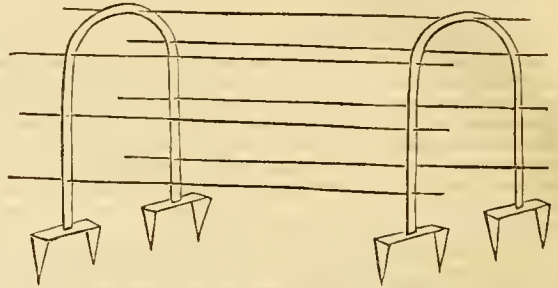
Having pinched the points of the shoots off and given the unobserved hard-working roots breathing time, we leave the shoots to make good hard wood for next spring, as we shall want it all. Leave them until a mild week in the very early spring succeeding, when the border should be thoroughly well treated as regards manuring and forking; and now the want is a wherewith to extend and support them when formed into "the hedge,"—in a word, a Rose crinoline is wanted. A crinoline for a hedge! how absurd!

Very well. Now take the pattern of your main support from the letter U; upon the now upper crosses of it place strong tines, or, as some would say, "legs." This, as you will see when inverted, will form when placed in the ground a permanent oblique stay, thus—

The bent part of this above ground



should be flattened. Through this when properly flattened, &c., holes will be made, in number 11—that is, five on each side and one in the centre of the upper bend. The number of these bent supports which may be requisite will depend upon the length and the strength individual ones possess when made. I would have them about 3 yards apart. Through these pass the customary small fencing wire so—



The Rose plants, grown as I have stated above, are to be trained to this fence, but first let me give a size for the same. It may be some 48 inches high—that is, above ground. The number of wires being, as I have stated above, five on each side and the centre one, might be equalised thus—six wires 8 inches apart bring the required figure by multiplication to 48 as above. Now get the five shoots ready upon the first plant; select the weakest; train it straight up to the centre; when there turn and tie it some few inches along the top or centre wire; then select the next two weakest shoots and train them up in a workmanlike manner, and in opposite directions along the fourth wire from the ground. Tie nicely, and leave at a tolerably good length until you have trained the next Rose, when you must arrange so as to cut them back where two eyes meet. If one shoot to do this must be longer, of course let it be the strongest from the strongest plant. By cutting them back so you have the means of getting a shoot to go up to the fifth wire, and down to the third at the very end; try to fill out the ends and the bottom, as the base and the top of the shoots are sure to do so. Now, select the two last and two best shoots to go along the second wire from the ground, the best in the worst place; and if you follow my directions, treating the other side in the same way, you should not have an inch of vacant space upon either the second from the ground, the fourth, or the sixth wire—each will be a continuation of good well-seasoned wood, save just where the first shoot runs up, and this seldom fails to fill out.

Well, now, perhaps, you have caught my idea and I need not go further, though if a thing is done it should be done well, and so we will proceed with the "finis."

Try your utmost to get every eye to break, to start, to grow. Encourage each to grow well, and as they grow tie those you can, alternately up and down, to the vacant wires, Nos. 1, 3, 8, and 5 left on purpose. Some few shoots may not readily bend into their places now; if so, stick a stake in the ground, and tie each such shoot to it. Overlook the appearance this one season, even if you have stakes protruding, giving you an idea of a bristled hedgehog.

If when growing some of the shoots should be weaker than others, when the strongest are 4 inches long, or long enough to tie to the proper wire, stop them, and so encourage the weak ones; next look carefully after them, and find out when the wood is just right for budding upon. Then, when you find the sap begins to lessen within them, and they are ready, bud, upon every conceivable point of them where applicable, any Roses you like, but do it neatly and cleanly. You need not cut half the slit budders in general do. You need not also have more than half the heel to the buds you have been used to. If you notice three parts of all Rose-buds, those that have too much bark to them generally take hold of their fresh support close to and around the eye, when the outer part of the bark dies, and consequently there is a much larger wound for the foster-parent or stock to heal: so pray, upon this occasion in particular, bud in a clean, neat, and workmanlike manner. Try also so to insert the buds that when the shoot is tied to the next wire it may be at the side of it; for these, when they grow, will in their turn have to be tied down and in with the others, and that neatly and tidily. Another thing let me tell you—when tying the buds

in, whether you use matting or worsted, pray tie them loosely. Do not catch hold of the shoot with one hand, and with the other twist your material around as if your only intention were to stop the flow of the sap. Take an example from your own finger when wounded. There is a certain tightness at which a bandage wound round feels comfortable: either tighten or loosen if it is not. So with a plant. Excessive tightness of the ligature interferes with the equalisation of the sap. Perhaps it does not stop its upward flow, but it stops its downward tendency in the liber, sometimes wholly. I have seen instances where the untied bud grew the best. When your buds have taken and grown even Teas can be placed upon this trellis with impunity, as you can mat it in severe weather.

If the contemplation of this our "Hedge of Roses," does not give a zest to your happy Christmas thoughts, I hope many and more worthy things may.—W. EARLEY, *Digswell*.

### POTATOES AND THEIR QUALITIES.

YOUR correspondent, "UPWARDS AND ONWARDS," has written a very servicesable paper on this excellent root; but he mentions one of the best Potatoes in this country in rather a flippant way, insinuating that it is now an old Potato; but this is not the case, as it has not been known in Gloucestershire for more than twelve or fourteen years, and only more generally during the last seven or eight.

I do not agree with your correspondent that the very white powdery Potato is best, as many of this description are very indifferently flavoured.

In praising the Fluke (from Lancashire it has been stated originally), I can only state that it is a sort which commands a higher price than any one of the late-keeping Potatoes named by your correspondent, and we are extremely fond of them at our dinner table. I consider the Fluke one of the richest-flavoured Potatoes grown. This Potato is not so prolific as many others, but where the soil agrees with it, it is an excellent bearer; but I have heard that newly-broken-up pasture ground is not favourable to its growth and numbers.

The great thing to persuade all Potato-growers is to vary the varieties every year, and plant them not too frequently on the same soil. The custom of small occupiers of growing Potatoes and Wheat in succession for sometimes twenty consecutive years has favoured the increase of disease all over the country, and it would be well if this were guarded against for the future. In addition to this injurious custom, Potatoes have been planted for many years too late in the season.

The public are obliged to your correspondent, "UPWARDS AND ONWARDS," for naming several new sorts; and I trust in seasons to come Potato-growers will purchase their seed Potatoes from a distance much greater than heretofore, and then we shall have every chance of a cessation of the disease which has been so long a scourge, and which has certainly been in a much more modified form this year than in any season since 1845.—H. W. NEWMAN, *Hillside, Cheltenham*.

### GRAPES THROUGHOUT THE YEAR.

WE have forcing and cool vineries, which give us an abundant crop of Grapes from May till December, and I am most anxious to produce fruit all the year round. Will you inform me what are the best proportions for pits or houses, and the method to adopt for top and bottom heating to obtain a crop of Grapes to supply the table from January to April? Also, what sorts of Vines you recommend to answer this purpose, and how to retard the Vines till the required time for bringing them into action?—A. BURGE.

[Consult Mr. Sanders' book on "The Vine." He has no particular house for the purpose. See answer to correspondent about the angles of hot-house roofs. Could we have our wish, a steep roof at an angle of from 33° to 38° would be our choice. Then supposing we settled on a house 9 feet wide, we would have the front wall 2 feet high, the back from 15 feet to 16 feet, a raised border inside 6 feet wide, and 18 inches deep; two four-inch pipes below it for bottom heat, either in chamber or rubble, with means for draining the bottom of the border, and at least four five-inch pipes for top heat, and plant the Vines inside, and keep the roots there. The wood of these Vines ought to be ripened and pruned early in summer, and rested by

the roots being kept dry, and plenty of air and shade, and then started in August and September. If pots are used, they should, after being well ripened as to their wood, be pruned, and laid down against a north wall, and kept dry and cool before starting them. We shall be obliged by some correspondent answering more in detail.]

### WALKS.

WHATEVER difference of opinion there may be as to certain appendages of a garden, there can be no question but that a really good walk or roadway is a favourite with every one. A firm dry walk, or a good hard road, is so essential to the general character of a place, and very often is the first thing a visitor notices, that where these necessary requirements are indifferent in quality, it is not easy for the other attractions of the place to mend the reputation that suffers by the second-class pathways. Certain localities, it is true, lack the materials necessary to make a first-class walk or roadway; but there are many makeshifts, which, when well and skilfully worked-up, make a very good road or walk; and sometimes very unpromising materials, when so worked-up, do more credit to the manager than when a fine walk is made at great expense of articles that could hardly fail to be successful however used. Believing, therefore, that some light may be thrown on the subject by a few notes on principles generally applicable, as well as some having reference to particular localities, I will endeavour to make my remarks meet the cases of the majority if not of all classes. Commencing with what unquestionably was the first of all paths for human beings—the "public footpath," let us see how this is best made in the localities where such exist.

PUBLIC FOOTPATH.—It is likely this still-necessary mode of communication between one place and another has existed since the earliest times of the world being peopled. Following the beaten track of the wild beast may have originated the first public roadway; and, gradually, the removal of certain obstructions in the way led by degrees to other improvements, until the wants of the times, and the better peopling of districts, led to the construction of thoroughfares exhibiting an industry which has won the admiration of succeeding ages. The paved causeways which are supposed to have been introduced into England by the Romans, and of which there are several remains in a good state of preservation, attest the skill and industry of that singular people; but we are told that paved causeways, of still greater magnitude than any the Romans ever created, existed in South America centuries before that country was visited by Europeans. However this may be, a good paved causeway is certainly the most durable public road we now have; and though there have, even in our time, been many attempts to substitute something else for a hard stone pavement by the advocates of Mr. McAdam, and the various schemes of wood and iron paving, it seems almost certain that good hard stone will maintain its supremacy after all. But the streets of large towns are not the only places a pavement is adapted for. In many parts of Lancashire and Cheshire, turnpikes and parish roads are alike paved with large stones; and it has long been a question there whether such paved roads are not, on the whole, better than those made of small stones. This question, however, need not be argued here. Suffice it to say that, for a public pathway through very dirty ground, a hard stone pavement is unquestionably the best of all pathways; but where such a walk passes through a dry grass field, the chances are that the turf is preferred to the walk, and an objectionable trackway parallel to the walk is made. This is not unusual even when a smoother material is used for a walk than ordinary paving stones, for the coolness of turf is much relished in summer. Some discretion must, therefore, be exercised in having paved walks only where there is much traffic; and even then, if there be wheeled carriages or horses to traverse them, it is likely that something else than limestone or granite would not form a more agreeable path.

ASPHALTED WALK.—The adoption of this article in the formation of railway platforms, public thoroughfares in the neighbourhood of towns, and in many private places, has created quite a revolution in walk-making. Even the mode in which this article is used has undergone so much change of late years, that it is only in consequence of the most important material not being very plentiful, otherwise it is difficult to say how far the use of tarred walks, as they are often called, would be carried. It is certain that when well done nothing makes so easy and

agreeable a walk that we know of, neither is it wholly useless for resisting the action of carriage wheels; but in this case it must only be as an accompaniment to a stoue causeway or pavement, where it can be poured on hot, and by its filling-in the crevices and partly covering the stones the noise of vehicles is much reduced. Sometimes the stonework is entirely covered over with the soft plastic substance, which the feet of horses indent at every footstep, as I have seen in some large manufacturing towns; but pieces are liable to break off, and it is expensive to often renew it. Where the traffic of foot passengers only has to be sustained, a coating of gas tar and small gravel over stones makes an excellent pathway, rolling and smoothing at the same time. Generally, however, the formation of a walk on a foundation of another kind is adopted, the conditions for that being far from difficult to obtain in almost any position; one of the most necessary qualifications for that purpose is a little descent one way to carry off the water, for, although railway platforms are sometimes level, in general most other places done with this material have a sufficient declivity to insure the water being all carried off. If water be allowed to stand in shallow pools on the face of the walk, it quickly rots and perishes the material, and a break-up is the result. The outlet side also must be clear—no kerb to stop the water and form a stream on the asphalted part of the walk; but if there be a kerb, let it be slightly below the face of the walk, so as to allow the water to run off freely. In fact, it is the due preparation of the foundation, rather than the care and skill in putting on the material, that constitutes the quality of the walk.

In laying down asphalt, an ordinsry hard-beaten footpath of the proper level or inclination, and a fine hot day to do the work in, are all that are wanted. Those accustomed to the work have a boiler and fireplaces moveable on wheels, which they take from place to place, and some well-sifted gravel about the size of peas and beans, and free from sand and anything larger than a small marble. The tar, being heated in the boiler, is run-out into iron pails and carried to the walk, and is roughly spread, or, rather, thrown on by one man with a ladle, while another spreads it with a long-handled brush made on purpose, and a third with a barrow throws on gravel with a shovel at the same time. When a few ysds are done, the roller is drawn over it several times. The quantity of tar laid on must fall short of half an inch thick, but as much gravel is given as will adhere to it, so that the mixture may be a good inch thick and often more. After repeated rollings a part of the loose gravel is swept off, and it is again rolled; but sufficient gravel is at all times left on to insure the feet of the pedestrian always treading on the gravel rather than on the tar. The latter, however, by being well heated over the fire before putting on, loses much of that soft stickiness it had before; and the gravel, being left on rather higher than the tar, works down by wear, so that the walk is better some weeks or months after it is made than it is at first. It gets smoother by wear; and the cold weather of autumn and winter removes, in a great measure, the liability it might have to get soft. It must not, however, be supposed that such a walk is of everlasting wear; on the contrary, it wants renewing like other things, and a slight coating of tar and gravel, as before, is given every two or three years where there is a great deal of traffic, the quantity of material given being much less than was the case when the foundation sucked-in so much at the first doing.

Asphalted walks are not recommendable in the front of mansions or dwelling-houses, where they approach close to the windows, the smell being disagreeable in hot weather; and I have been told of a case of which I have the fullest reliance, that the strong smell of the coal tar used in this mode of making paths penetrated into a house, and even the food tasted of it, milk particularly so. It must, therefore, be used with caution in such places; and if it be advisable to do it under such circumstances, it would be better done, if possible, when the family are from home. That the smell goes off in a great measure every one knows; but a very hot day will revive it to a certain extent, and we all know it is not agreeable. A perfectly level place is not adapted for asphalt, as it is almost impossible to prevent the existence of some slight hollows or basins in which water will stand; and it quickly decays the tarred substance, besides looking badly, as there is always a stain left when water has no other way of escaping than by evaporation. For general purposes we would, therefore, advise extensive level plots—as terraces, promenades, &c., to be done with something else than asphalt.

**CONCRETE WALKS.**—Many directions have been given in papers more especially devoted to mechanical pursuits for the making of walks or floors of this kind; but, in general, the modes recommended are too expensive for ordinary purposes, and it is only lime of a particular description that will stand out-door work, and this not very well at all times. Various substances are mixed with it, as gravel, shells, coals, broken clinkers, refuse of mines or furnaces, or other substances of that kind not possessing any antagonistic quality opposed to the lime. There are many ways of mixing and using these ingredients. One of the best modes I have seen adopted was by pounding the lime, not slaking it, and mixing it in a dry state with the stone or other substance forming the compound, and only wetting it at the moment it is used. Another way, and a favourite one with some architects when using concrete for the foundation of a building, is to mix the material and carry it to the height of 15 feet or 20 feet, and let it fall with considerable force on the place it is intended to occupy. This, however, is not applicable to walk-making in an ordinary way. When concrete has to be used as a walk, it may be merely laid on the proper thickness, which ought not to be less than 3 inches; and the surface being nicely smoothed, with a sufficient descent in certain directions for water to run off, a tolerably good walk is formed. Its expense, however, will, I fear, prevent its general adoption.

**CEMENT WALK.**—Like the last, this is also an expensive walk, but there is reason to believe when the mode of making cements becomes better known it will be more extensively used. In fact, I believe we are only beginning to find out the many uses to which cements may be put; and I expect other kinds than those we now have will be brought forward, that will make a revolution in many of the arts in which stoue and brick are now used. Even the last few years have added very much to the purposes for which Roman or Portland cement may be employed.

In-doors Portland cement makes an excellent floor or path to a greenhouse. One we have here has been down five or six years, and looks quite as well as at first. It is, however, too expensive for general out-door purposes; but where the cost is not objected to, it will be found to make an excellent path. Portland cement is better than Roman, and allows a large portion of sharp clean sand being added to it, as well as broken sandstone, the latter, however, not to appear at the top, as is the case with concrete; but there is much difference in the quality of the cement, and some little knack also in the way of using it, so that all are not successful who try their hand at it. Even those in the building line often make mistakes with it, and I confess having, therefore, some reluctance in advising its use, excepting to those who know how to mix and work it. In general, a mixture of three parts of coarse sharp sand that is free from salt or mineral impurities, with two parts of broken Portland stone, and one part of cement, laid down immediately it is wetted, and smoothed over with a little cement with less sand in it, and no stone, will be found to answer; but as some mistake may occur, I cannot undertake to say that in all cases it will be found to answer. Even cements are not always alike, and I have seen some excellent work and some very indifferent by the same workmen, the quality of the material deceiving them. There are other misfortunes to encounter in cement work than the action of the weather; but this is one of the most likely to fear in walk-making. The plastic substance ought not to be less than 1½ inch thick.

**PEBBLE-PAVED WALK.**—Some very pretty walks are made of pebbles carefully assorted to size and colour; but where the walk is of great length I would only advise a plain stripe, or some exceedingly simple pattern. Promenades, courtyards, and other places of greater breadth and not so long may be treated with a more elaborate pattern; but a long, straight, or even a curved walk, of from 6 feet to 10 feet wide, looks best when not cut up into diminutive fractions. Assuming only two colours in pebbles to be available—say a pale buff and a black or dark, and the edging of the walk to be turf; for a ten-foot walk of considerable length, I would say let there be 1 foot of the pale-coloured pebbles at each side, then 1½ foot of dark, and the centre 5 feet all pale. Some, perhaps, might prefer more variety; but I am no advocate for cutting anything up into scraps and fragments. Pebbles about the size of a hen's egg, or a trifle larger, will do best, and with a little practice they can be set in their places very quickly. It is best to have the bottom firm, excepting about an inch or so of fine material, in which the pebbles are

set, and this had better be dry sand and dry pounded lime. A sifted mixture of the same may be scattered over the top, but only very little of this. As the lime may, perhaps, show above the dark stones and neutralise the colour, it is best to put only a very little of this, and then put on sand only. Some fancy-work of this kind is painted or coloured to a certain design, but the deception is so apparent that I by no means advise it. Channels of pebbles by the sides of walks of other kinds, where the descent is long and great, and when they are well set, look not amiss. Side openings now and then, where convenient, to carry off the flood water, will in many cases obviate the necessity of having them.

**PAVED WALKS OF OTHER KINDS.**—There are various kinds of fancy tiles as well as bricks, both plain and ornamental, that are occasionally used for special purposes; but as these generally form an accompaniment to something else of an architectural description, and are not properly garden walks in the strict sense of the word, they need not be alluded to any further here. We will, therefore, at once proceed to the formation of walks with the substances of which most walks are made of.

J. ROBSON.

(To be continued.)

### APRICOT TREES IN POTS IN ORCHARD HOUSES.

I HAVE been an orchard-house cultivator (amateur) for more than three years, having about a dozen Apricot trees, but during this time have not had the pleasure of pulling three ripe Apricots; whilst the trees outside against a wall have borne fair crops.

If any one succeed, it must be mismanagement on my part; yet it is, perhaps, some consolation to know that my friends and neighbours are equally unsuccessful.

It would appear Apricots are much more difficult to fruit than Peaches and Nectarines, for, with the same apparent treatment, these succeed whilst the others fail. If the Apricot requires any special management, with the roots cramped-up in a pot, I should be glad to know what it is. I may say that my trees bloom profusely, but either do not set at all, or the few that do set drop when very small. I also give them the advantage of more abundant ventilation than the Peaches and Nectarines; and as the whole of the front sashes (glass) of a lean-to house, and 4 feet deep, lift up, there can be no lack of this. Is there too much?—A CONSTANT SUBSCRIBER.

[It must be admitted there is greater uncertainty as to the crop of Apricots in an orchard-house than in the case of Peaches and Nectarines. My Apricots almost entirely failed one season, and nearly so another, whilst generally they have been loaded with fruit. There is no doubt we ought to be sure of a crop every year; at any rate, there should be no more uncertainty than in any other cultivation. I believe Apricots ought to be sprinkled over their shoots and blossoms now and then, before and during their blooming season, and I have an idea that the want of this causes the bloom to be too weak. The reason I have arrived at this conclusion is, from observing that Apricots set the best on the walls during changeable weather, when it rains about every other day. Last year I had two trees watered with a rose from overhead every morning, and thought it answered a good purpose; but did not intend saying anything about it till after next season, so as to have further proof. As far as my experience has gone, there are several things which appear necessary to success. First, a strong rich soil; the pots filled with roots; the trees well stopped the previous season, so as to be full of short thick spurs; well watered before coming into bloom—as if dry at the bottom of the pots when in flower, and afterwards watered, they appear to be unable to set—and above all plenty of ventilation. Orchard-house Apricots are so delicious! such bags of honey! that I have made up my mind to know all about their cultivation; and if I live shall pay more attention to them, and shall be glad to give or receive a hint on the subject.—J. R. PEARSON, *Chilwell*.]

**MUSHROOMS IN RUSSIA.**—These, kept often in huge glass jars, sometimes in immense barrels, while rather revolting to look at, are most worthy of a moment's attention. How we had rejoiced, while staying at certain houses here, whenever Mushrooms were introduced at dinner; they were food fit for an emperor, and were served out without stint. In England the

mere mention of Mushrooms brings up the idea of a wealthy gourmand making researches in theoretical gastronomy to please an over-indulged palate; but in Russia while equally good, they are in such prodigious quantities as to form a great part of the food of the whole people. An accurate return of the total quantity of these plants annually consumed in Russia would be a startling and important document; but is not likely to be procured, for the greater part is eaten by the same peasants who gather them, and who, besides feasting on them all through the season, pickle, salt, and dry them on strings against the winter period; when fried with a little hemp-oil, and eaten with rye-bread, they supply well the place of animal food; but if, with a little more art they be fried in sunflower oil, then there are some "Mushroom outlets" which look and taste very much like the same preparation of chicken. The acquisition of this most notable stock of nutritive human food depends not on Russia being richer in species of agarics than Great Britain, for it is the contrary—but in the extraordinary skill of Russian peasants in knowing how, when, and where to look for them, how to distinguish the edible from the non-edible, and how to cook them when procured. This skill is a something handed down traditionally from parent to child; and if it could be written in words, would prove a valuable addition to what scientific botanists yet know in the matter; for many Mushrooms never ventured on in this country are daily used by all classes in Russia, and others which are really so bad that they cannot be eaten, and some actually poisonous, are yet occasionally employed to profit in furnishing an aromatic alcohol.—(*Professor Smyth's Three Cities in Russia*.)

### HURST HOUSE SEEDLING PINE, SYN. FAIRRIE'S QUEEN PINE.

THIS Pine, I perceive, is advertised in your columns under the above names, pray which is the proper one? Now, happening to live in the neighbourhood just at the time negotiations were going on respecting the transfer of it from Hurst House to Mosely Hill, I am of opinion, until we are further enlightened upon the subject, that "Hurst House Seedling" is its true name.

It was raised there, and I believe I am right when I assert that all Mr. Fairrie did in the matter was to advance the requisite sum of money wherewith to purchase the stock on the conditions that Mr. H. Williams, his gardener, was to advance him the same after leaving him in possession of a good stock; and if the Messrs. Jackson's plants are true, those from the Paradise Nursery are equally as much so, as part of the original stock went there. Perhaps the gardener at Hurst House will inform us whether it is a seedling from any of the Queens at all.

"Honour to whom honour is due." Let the man who was the successful raiser of the Pine at least have a voice in naming it; and as far as my humble opinion goes, I consider Mr. Fairrie has no more right to call it "his Queen" than the man who never heard of a Pine.—FAIR PLAY.

### PEACH-TREE BUDS FALLING.

SOME of the buds on my Peach trees are falling-off. The fruit was ripe in July, and ever since the trees have had as much air as possible, the roof being a fixed one, and the soil kept in a proper state as regards moisture. Being about to commence forcing, I find that some of the buds are falling-off, and others are black in the centre, I am quite at a loss to know the cause. Your opinion would very much oblige.—ANXIOUS.

[Dryness at the roots will produce the symptoms you speak of. Have you given them an extra dose of strong water in washing the trees? We have known trees suffer much from drought in August and September when the soil was moist at the surface.]

### THE SWEET-SCENTED COLTSFOOT.

*Tussilago fragrans*, Linnaeus. *Nardosmia fragrans*, De Candolle  
Nat. ord., Compositae.

THE term *Tussilago* has been derived from the Latin *tussis*, a cough, and *ago*, I drive away; while that of *Nardosmia* is from *nardos*, the spikenard, and *osme*, smell, its delightful scent being likened unto that of the spikenard of the ancients.

No hardy plant for winter decoration is more desirable for small or suburban gardens than the Sweet-scented Coltsfoot, for

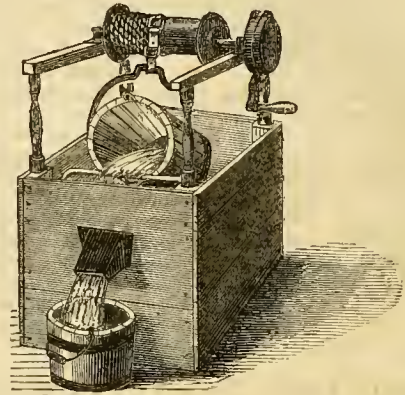
it is of the easiest cultivation and very suitable for confined situations, where it thrives without any care or trouble when once established. In planting it only requires to be placed on a raised mound composed of any good garden soil, with a few rough clinkers or stones placed over the surface in imitation of rockwork, and should have a northern exposure not over-shaded or crowded with shrubs. It is a hardy perennial with creeping or, rather, running underground roots, and is what might be called a weed when it gets fully established, and one, if in the open border, which would be difficult to eradicate. The leaves are produced in spring, after the plant has done flowering, and are large, orbicular, on long footstalks, and finely serrated round the edges; and the plant itself resembles the common Coltsfoot of our fields, which many a worthy farmer regrets his too intimate acquaintance with. Nevertheless, the fragrant Coltsfoot will be highly valued for the odour of its blossoms, produced as they are at a dreary period of the year, and when a few spikes of the flowers, gathered and placed in water in the sitting-room, will perfume the whole place, and last for more than a week in perfection. The scent is very similar to that of the Heliotrope, and the flower-spikes are produced in succession from December to February, especially if protected by a mat or other slight covering to keep the severe frost, snow, and damp from them; and though very severe frost may occasionally seem to conquer their tenacity for life, yet no sooner does the severest frost relax its icy grasp than the flowers appear again in spring-like freshness to exult and spread their fragrant sweets, and that at a season when Flora's gifts are scarce, and when we seem most capable of such enjoyments.

The flower-stems grow about 8 inches in height, with from ten to twelve tassel-shaped flowers of a bluish colour on each stem, and which open in succession.

This interesting plant is a native of Italy, where a practice is prevalent among the country people of carrying burning touch-wood, which is made of the dry roots of this plant, the smoke being intended to protect them from the annoyance of gnats. The leaves also form the principal ingredient in the manufacture of herb tobacco; coughs have been frequently much relieved by persons smoking the dried leaves; and an infusion of the dried flowers sweetened with honey has been found particularly efficacious in complaints of the same nature.—GEORGE GORDON.

### HOLMES'S SELF-TILTING WELL-BUCKET.

MANY people prefer to have wells from which they obtain water for drinking and domestic purposes entirely open. Pumps are often objected to on account of the unpleasant taste which wood or metal communicates to the water.



To obviate these objections different kinds of apparatus have been used, from the "old oaken bucket" attached to a pole and sweep, to that represented by the above cut. The latter we regard as decidedly the best of anything we have seen applied to this purpose.

In connection with the cut, the inventor gives the following description: "There is a double pulley on the end of the shaft, the outside being ratcheted and the inside plain. In lowering the bucket, reverse the motion, and keep the break on to prevent the too rapid descent of the bucket."

The machinery described does not appear in the cut; but we can state, from having seen the operation of it, that it works with ease and exactness. Mr. Holmes exhibited his apparatus at the shows of the Norfolk and Plymouth Agricultural Societies last autumn, and the committee by whom it was examined, spoke of it in commendatory terms.—(*Prairie Farmer.*)

### ORNAMENTAL PLANTS.



GAULTHERIA BRACTEATA (Bracted Gaultheria).—*Nat. ord.*, Ericaceæ. *Linn.*, Decandria Monogynia. *Syn.*, *G. erecta*; *G. odorata*, *cordifolia*, and *rigida*; and *Andromeda bracteata*.—A handsome, low-growing, evergreen, greenhouse shrub, growing

a foot high, or upwards, having rigid, hairy branches, and alternate ovate or cordate-ovate acute leaves, serrated and usually shining above. The flowers grow in simple axillary or terminal secund racemes, and are tubular-ovate, contracted at the mouth,

rose-coloured, the pedicels having comparatively large, ovate, acute, rosy bracts at their base. From the Andes of Columbia. Introduced in 1848. Flowers in summer.

*MONARDA AMPLEXICAULIS* (Amplexicaul Monarda).—*Nat. ord.*, Lamiaceæ. *Linn.*, Diandria Monogynia.—A very distinct and handsome hardy herbaceous perennial, growing about 2 feet high, with erect, slender, obtusely, four-angled stems, having re-

are large, solitary, somewhat depressed; the corollas very handsome, large, and freely produced, white, having a rosy tinge, and, on the lower lip, elegantly marked with four rows of purple spots. Native country not known. "For a number of years grown in the Botanic Garden of Leige, and was raised from seeds obtained from M. Fée, director of the Strasburgh Garden. In M. Fée's catalogue it is called *M. amplexicaulis*, which name is stated to have been given to it by M. Fischer, of St. Petersburg. We have not, however, found it noticed by that author, and M. Fischer does not know any *Monarda* bearing such a name; but we retain it to avoid confusion." Flowers freely from May to July.—(*Gardeners' Magazine of Botany.*)



*Monarda amplexicaulis.*

marksably long internodes, and clothed with soft, spreading hairs. The leaves are 2 inches to 3 inches long, sub-amplexicaul, acutely lanceolate, subcordate at the base, serrated and fringed with white hairs; the upper leaves have the nerves and veins of a beautiful purple red (shown black in our figure). The floral leaves are sessile, ovate-lanceolate, acuminate, ciliated, pale green, tinged with red on the paler centre. The verticillasters

### THE MISTLETOE.

At a time when this singularly beautiful plant is brought so prominently before us, a few observations in connection with it may not be out of place, especially as there is still much misconception regarding it, and it is far from being so common in some districts as it might be if means were taken to cultivate and encourage it; but somehow, in the districts more famed for its growth, it is reluctantly sacrificed every year to a custom which it is next to sedition or sacrilege to find fault with. The upshot, however, is that large specimens are rare in places best suited to its growth, while the accidents it is liable to from natural causes will even prevent fine specimens growing in places beyond the reach of those who cater, rather unceremoniously sometimes, for our Christmas holiday. Still, Mistletoe will ever remain a favourite with all classes, and however much it may be sought after to adorn the dwellings of all classes at this festive season, its eradication is hardly likely to occur. Perhaps it is in greater danger in those fruit-growing districts where the habit of destroying an orchard when it has turned old and indifferent has superseded the very common way of endeavouring to restore it by re-grafting. Old Apple trees are the favourite homes of the Mistletoe, although it will thrive on many other kinds, as will be shown below.

It is needless to repeat the oft-expressed opinion that the Mistletoe had its present importance given it at a much earlier period than the Christian era, and some assert that the specimen found on the Oak was the more especial objects of veneration. Be this as it may, Mistletoe on the Oak is exceedingly rare, the examples we have of it being few. A friend of mine assures me that he has seen it on the Oak at Eastnor Castle, the seat of Earl Somers, a tree near the carriage drive containing it. It would certainly be worth while some one ascertaining if this plant be of the same species as those occupying stations on trees of other kinds, and if not it might be perhaps artificially propagated. Old Oaks are plentiful enough everywhere, and Mistletoe is often near them; yet we never see the union of the two, or so rarely that the number of such lucky ones is far from great. Of the other trees it is found on more plentifully are the Apple, Crab, Thorn, Maple, Mountain Ash, and Lime. I believe it is also found on the Poplar sometimes. Generally old sickly trees are its home, and it is needless to say that it does not improve their condition. Perhaps the most healthy tree it attacks is the Lime, on the top of which it not unfrequently fixes itself out of the reach of the plunderer, but where it is liable to much breakage by high winds. I have seen good specimens on the Maple, while an old scraggy Thorn is much embellished with it, and it is far from diminishing its beauty.

There is certainly great misconception about the Mistletoe disliking certain districts, and we are told it is not much seen in some of the south-western counties; and some assert it will not grow in the north of England at all. Of the latter I have the most ocular proof to the contrary, as the largest specimen I ever saw in my life was in an old walled-in garden at Belsay Castle, Northumberland. The situation was a sheltered and favoured one for the neighbourhood. It was growing on an old Apple tree, and had been planted in its place there by the worthy baronet, the owner of the place, now the oldest member of the Horticultural Society. An excellent specimen of *Aruncaria imbricata* stood near it some twenty years ago, second to none I have seen in the south of England save the one at

Dropmore; and I believe the same garden, or rather nursery, contained an excellent *Cedrus deodara*. This, however, is diverging from the subject; suffice it to say that the Mistletoe presented as healthy and vigorous an appearance as I have ever seen it do around London, that there is no doubt but it may be cultivated in districts it has never yet been introduced into by care, time, and patience; and, as the Editors have shown that the simple process of cutting the bark and inserting the seed will produce a plant, it is certainly worth the trying. For my own part I prefer fastening on the seed without cutting the bark, when it can be so. I may, however, remark that I have never seen it near the coast, and suppose that the strong sea air is inimical to it; but the places where it will grow are plentiful enough, and it is not unlikely but it may be induced to grow on other trees than those heretofore tried, that here is a fine field for the experimentalist, and none will be more glad to hear of unexpected results arising from such enterprise than—  
A SUBSCRIBER FROM THE BEGINNING, H. N.

### THE MARKET-GARDEN PRODUCTS OF ANGERS.

An account having been given in a previous article of the trade of Angers in trees, Apples, and Pears, some details as to what is done there in Cauliflowers, Strawberries, Cherries, early Peas, Kidney Beans, and Dandelions, may not prove uninteresting.

**CAULIFLOWERS.**—The traffic in Cauliflowers begins in March, and during that month and April 772 tons 16 cwt. are dispatched, chiefly to Paris, but some also go to Nantea and Poitiers. Assuming that the Cauliflowers weigh 29½ lbs. per dozen, which is about the average, it follows that 58,165 dozens are carried, and taking their value at from 15d. to 20d. the dozen, we have an amount of upwards of £4100. The cost of the carriage alone comes to £3000; and making allowance for the expense of packing and the profits of the parties through whose hands they pass, it is evident the Cauliflowers cannot reach the consumer at less than 4d. or 5d. a-piece.

**STRAWBERRIES.**—For a long time after the railway was made it was considered doubtful whether this fruit would travel safely to Paris; but with careful packing it reaches that city—not, it is true, so fresh as when just gathered from the fields, but sufficiently so to fetch a good price. The Strawberries are packed in long, narrow, and very shallow baskets, each containing from 5½ to 7½ lbs., and sell at from 7d. to 1s. 5d. the basket. The quantity sent last year was 64 tons 7 cwt., representing a sum to the grower of £1088, and costing about £260 for carriage.

The varieties principally cultivated for market are the Old Pine, Princess Royal, Myatt's, Elton, and Sir Harry, the last of which is beginning to be extensively grown.

**CHERRIES.**—The weight of Cherries sent by railway was rather greater than that of Strawberries, being 78 tons 12 cwt., worth about £958, and costing £320 for carriage. They chiefly come from the districts lying to the north and east of Angers, a very small portion being produced in the neighbourhood of the town itself.

**EARLY PEAS.**—Of these 118 tons were carried; and the value may be estimated at £960, while the cost of carriage was £480. They partly come from near Angers, and the rest from Sainte-Gemmes which has the merit of producing the earliest.

**KIDNEY BEANS.**—Early Kidney Beans have been forwarded to Paris, but hitherto the quantity has been small—not quite 25 tons, worth £350 to the grower, and costing £100 for carriage.

**ARTICHOKES.**—Another plant cultivated to a considerable extent at Saint-Laud is the Artichoke; and yet it is not sent to Paris. To see the quantities of heads which arrive at our markets every morning in May and June, one would think they must be intended for that great market which lays the whole of France under contribution; but such is not the case. There are two obstacles. The first is that the Artichoke is of great weight as compared to its value, and, consequently it does not pay to send it by the fast trains, whilst, as the luggage trains take six days to go to Paris, it could not arrive there fresh if sent in this way. The second cause is that the variety cultivated, the "Gros Camus," is not held in much estimation at Paris, where the Laon Artichoke is preferred on account of its larger leaves, and its more fleshy as well as perhaps more tender receptacle.

**DANDELIONS.**—Another plant which, though requiring no culture, is sent to Paris in considerable quantities, is the Dandelion. In the end of winter and beginning of spring, all the unemployed women, and they are numerous in the neighbourhood of the quarries, go off in the morning, often before sunrise, and especially in frosty weather, and spread over the meadows on the banks of the Loire. There they collect the plant which is the object of their search, and return, sometimes late at night, bent under a burden which they have gone six or eight miles to seek for, and the value of which is from 1s. 9d. to 2s. 6d. according as they find places where the plant is less or more abundant. But, before they touch their hard-earned gains, nearly as much more time must be consumed in cleaning the Dandelions, and rendering them fit for the eye of the purchaser. Here, however, the work changes hands; it is no longer the same women who take this part of the labour; but the children and other members of the family, who are unable to make these long and fatiguing journeys, now step in. Thus the gathering a plant scattered over the fields, gives employment for nearly three months to all the women and children in the above populous districts who are not otherwise engaged, and greatly alleviates the hardships which their families would often have to endure.

As regards the amount of traffic to which the Dandelion gives rise, the authorities of two railways have furnished exact statements of the quantities carried. On the Bohalle line, from the 8th of January to the 26th of April, 72 tons 17 cwt. were forwarded to Paris; on that of Saint Mathurin, 101 tons 1 cwt.; the Menitré railway is estimated to have taken 100 tons, and that of Trelazé 25 tons; so without taking other lines into account, these four alone carried about 300 tons of Dandelions to Paris, the carriage of which by passenger train came to £1200 in three months.

The Dandelions consist of two kinds, the green and the blanched; the former comprise about four-fifths of those carried, or about 240 tons, and their value may be taken at £1920; the blanched, which constitute the remaining 60 tons, may be set down at £1080, and the total value of both classes at £3000. If the question is asked, What is done with such a quantity of Dandelions, a plant almost unknown for culinary purposes before the construction of railways? we would answer that the green plants form an excellent substitute for Spinach, and the blanched make delicious salads. Thus this wild plant, growing in the winter, without any culture whatever, in meadows and waste ground, affords a large revenue to the needy population of several large villages, and that too at a period of the year when out-door work cannot be carried on.—(*M. Baptiste Desportes in Proceedings of Comice Horticole de Maine et Loire.*)

### CELERY FAILURES AND OTHER DISASTERS.

I PERCEIVE I am not alone in having indifferent Celery this year, and I may certainly say with Mr. Chitty, I never grew a worse lot in my life. I grow but one sort—Laing's Mammoth, as I always found it first-rate before this year. I sow at two different times—about the middle of February, and the same time in March. I never depend on the first sowing for a general crop, as it is liable to bolt if not used early; but it will generally be fit for use until the end of October, and often through November. This year my early Celery was a complete bolt. I did certainly take a few of the best hearts in, but I expected to be called over the coals for it. So far, however, things have gone on smoothly; but I would rather have a good grumbling bout than a silent rebuke any time; and I am sure if I were master instead of man, I should want an explanation on the subject.

I have until this year been very successful in the cultivation of this favourite vegetable; and if there be one thing more than another in which I pride myself in the kitchen garden, it is Celery. The very first exhibition I competed at, I beat all the cracks in our neighbourhood with Laing's Mammoth. That was the second year it was let out, and I have stuck to it ever since; but I have done with it now. I must try another kind, for I believe it is run-out, or I have been cheated by the seedsman. I am inclined to the former opinion, as I had more bolted sticks last year than I bargained for; but this season has surprised me completely.

My second sowing did quite as badly as the first. It came up all right. I took advantage of a showery day (by the way we

had little else last spring), in the early part of May, and pricked it out on a sheltered border. The snails tithed them pretty freely, but they did get a start at last. When a job is done with me it has to stand for done—I cannot go round into every nook and corner daily, and see how things are looking. I am always doing the job that wants doing most, with fifty more staring me in the face. Talk about a six-o'clock man, I believe if I could see, I should work till six o'clock next morning sometimes, to satisfy myself.

I now and then cast my eye towards the plants as I hurried by, and I thought they made but little progress, but did not guess the cause until I examined them. They were swarming with green fly. I dusted them over with quicklime, which settled both the fly and slugs, and left them to take their chance a little longer. They were middling plants by the middle of July, when they were lifted with balls, and planted in single trenches. If transplanting had ever proved fatal to Celery, I should certainly have given this up, for it looked as if it had caught the jaundice, and turned as yellow as a frog. It recovered, however, eventually, but it was too late—it had not time to do its work.

I do not believe in dribbling earthing, I like it to grow before it is earthed; there is then something to keep the soil out of the heart, and there is a chance of feeding it with liquid manure, which is very beneficial when it is growing freely.

I always earth mine up at three times, pressing the earth firmly round the plants with the hand each time, and being particularly careful in keeping the soil out of the hearts the last earthing, or it will be sure to rot.

Another thing attending its culture requiring care, is the transplanting. Each plant should be taken up with a good ball, and planted with a trowel; giving a copious watering and shading are beneficial for a short time. I find that my late Celery, small as it is, is bolting.

It has certainly been the worst summer I ever knew for kitchen-garden crops. Brussels Sprouts instead of growing have gone to flower; Broccoli has flowered prematurely before it has acquired any size; Dwarf Kidney Beans were a complete failure; Onions ditto; Carrots very indifferent; Lettuce ditto; Peas never filled; Cauliflowers blown up by the roots; Potatoes blown to shivers. Such an accumulation of disasters is enough to make a gardener wish he were a chimney-sweep.—**Huddersfield.**

[Under such circumstances it would be useless to wish our correspondent a merry Christmas; but we do wish him a happier new year. We do not think he need abandon Laing's Mammoth, nor look suspiciously at the seedsmen, for all varieties of the Celery have been complained of this year in some locality or other, and, in most instances, on inquiry we have found that the failure, as in "Huddersfield's" case, arose from severe checks to the growth of the plants in their seedling state. We once heard Lord Brougham say, "I dispose of so much work because I think only of the one subject before me." Our correspondent, in a similar spirit, concentrates his energy; but Lord Brougham used to find time also "to go round and see how things were looking."—**EDS.**]

### CELERY CULTURE.

In looking over the November Part of your Journal I see that "P. L. C." complains of his Celery being bitter, stringy, and rotting very fast. He tells us of the quantity of manure he used, and from the pains he took with it he had every reason to expect a good crop, but it was a failure; and as a guide for him I will state a few facts.

For fifteen years I grew Celery largely, sometimes it was pretty good and sometimes bad. In 1860 it was very bad, rusty, cankered, and bitter—indeed, it had always been so more or less. In 1861 I used no farmyard manure to two rows, one of Red and one of White, and was so satisfied that these two rows were better than the rest, that this year, 1862, I planted my whole crop in the same way.

My plan was as follows. At the bottom of the trench I threw in about two quarts of fine Peruvian guano with the lumps well broken. The trenches held 105 plants each. I covered the guano with from 4 inches to 6 inches of soil, and then planted. The plants grew slowly at first, but in about a month they commenced growing vigorously. I then began applying liquid manure, about every ten days, from a large tank supplied from byre, stable, and large laundry; we find the crop all that we could wish—perfectly clean, crisp, and sweet.—**T. W.**

### VINES OVER-LUXURIANT—SPINACH DYING-OFF.

We have a viney here, the Vines in which are making exceedingly strong wood and rather thick leaves. The Vines have been increasing in strength for some years, with a corresponding degree of deficiency in showing fruit; the bunches inclining to become tendrils, with a part of the berries turning red and not coming to perfection, although the others are as black as jet and well flavoured, but, of course, not in such compact bunches as could be wished. I was thinking of lifting these Vines into an entirely new border, but have not been able this autumn on account of the fruit being on, and I fear it will be the same another year. They are Black Hamburghe, and, perhaps, from sixteen to twenty years old.

Having sowed a considerable breadth of Spinach in the beginning of August, it came up and grew well till about ready to use. All at once it turned yellow without any apparent cause and died-off, scarcely a live root left. I understand it is in the habit of doing so most seasons in this garden. I should like to know if there is a preventive known.—**A FEW-YEARS SUBSCRIBER.**

[Your Vines at twenty years old will require great care in lifting. Autumn would be the best time; but any time now in open weather would do, provided you could cover the new border so as to throw into it a heat of about 75° to 80°, and start the Vines as late as you can. We should be inclined to try first what securing a deep drain in front would do, and removing a good portion of the surface soil until you reach the roots, putting a couple of inches of fresh soil on, and throwing a gentle heat into the surface. This latter mode will depend for effect on whether you can go down from 6 inches to 12 inches without finding roots worth speaking about. Taking the soil from the surface is sometimes as effectual as lifting and replanting.

We have lost Spinach this season for the first time. We attribute it to the dull drenching weather. Plants on ridges have not suffered.]

### NEW BOOK.

*The Weather Book: a Manual of Practical Meteorology.* By Rear-Admiral Fitz Roy. London: Longman & Co.

AFTER perusing this valuable work we have come to the conclusion that it is calculated to prove a great boon to mankind in general, and to seamen, farmers, and gardeners in particular. When we recollect the direful effects of storms sometimes on land, but more especially at sea, and when we reflect on the great saving of life and property which might have resulted from a few hours' previous warning of those disastrous storms, we cannot but hail with satisfaction the appearance of this volume, in which the Admiral has explained much that will tend to impart that knowledge so fraught with safety.

"This small work," the author says, "is intended for many rather than for few, with an earnest hope of its utility in daily life. The means actually requisite to enable any person of fair ability and average education to become practically 'weather-wise,' are much more readily attainable than has been often supposed. With a barometer, two or three thermometers, some instructions, and an attentive observation, not of instruments only but of the sky and atmosphere, meteorology may be utilised."

In Chapter II. the author mentions the instruments necessary for ordinary purposes. For such purposes they need not be so extremely delicate, and, consequently, expensive, as those very fine instruments employed in highly scientific investigations. Those most essential are pointed out to be the barometer, two thermometers, one of which kept moistened will serve for a hygrometer. This indicates lower than the dry bulb thermometer in the same situation, the difference being in proportion to the dryness of the air and consequent evaporation, being sometimes as much as 12° or 15° in this country, 20° or even more elsewhere; and about 7° of difference is considered healthy for inhabited rooms. A rain-gauge is stated to be interesting and useful, though not a necessary adjunct everywhere. The direction of the wind should be noted; but wind-vanes, or weathercocks, are seldom placed well or correctly. When set by a magnetic compass the variation of this from due north is seldom correctly allowed for. A line towards the pole star gives the true north and south. The direction of the horizontal movements of the lower clouds should be ascertained, and those of the upper

clouds should always be noticed likewise, for when different from the lower the wind will shift to the direction from which those upper clouds are coming.

Instructions are then given respecting the indications of the barometer, and the change of weather which usually takes place, and which may be expected on its rising and falling, in connection with the direction of the wind, the temperature of the air, and its moisture or dampness.

In treating of the wind the author gives the following observation:—"Another remarkable peculiarity is that the wind usually *appears* to veer, shift, or go round with the sun (right-handed, or from left to right), and that when it does not do so, or backs, *more* wind or bad weather may be expected, instead of improvement, after a short interval."

"A sudden fall of the barometer with a westerly wind is occasionally followed by a violent storm from N.W., or N., to N.E."

"Instances of fine weather with a low glass occur, however, rarely, but they are always preludes to a *duration* of wind or rain, *if not both.*"

"There may be heavy rains or violent winds beyond the horizon and the view of an observer, by which his instruments may be affected considerably, though no particular change of weather occur in his immediate locality." This is sometimes the case; and although such instances are the exceptions and not the rule, they are occasionally adduced as proof of the indications of the barometer being not trustworthy.

"If a fall [in the barometer] takes place with a rising thermometer and increased dampness, wind and rain may be expected from the south-eastward, southward, and south-westward."

"In winter a considerable fall with rather low thermometer (from 30° to 40°), foretells snow. Exceptions to these rules occur when northerly winds with wet (rain, hail, or snow), are impending, before which a barometer often *rises* on account of the direction of the coming wind alone, and deceives persons who from that sign only (the rising), expect fair weather *immediately.*"

The author does not wish to discourage attention to what is usually called "weather wisdom." On the contrary, every prudent person will combine observations of the elements with such observations as he may obtain from instruments; and will find that the more accurately the two sources of foreknowledge are composed and combined, the more satisfactory their results will prove.

We have heard it said that sailors and shepherds are good judges of coming weather; and there are many old sayings and proverbs relating to the subject, doubtless founded on facts and observations, that are worthy of being taken into account, in combination with the indications of instruments. At p. 21 of the work before us we find some of the more marked signs of weather "useful alike to seaman, farmer, and gardener." If we might speak prospectively in behalf of the latter class, we should say that their acknowledgements are due to the Admiral, for we have no hesitation in giving our opinion that his work will be of advantage both to gardeners and their employers.

Our hints will only admit of giving a very few of those which are termed the more marked signs:—

Whether clear or cloudy, a rosy sky at sunset presages fine weather; a sickly-looking greenish hue, wind and rain; a dark (or Indian) red, rain; a red sky in the morning, bad weather or much wind (perhaps rain); a grey sky in the morning, fine weather. So long as we can remember we have heard a rhyme which seems to correspond with part of the above:—

"The evening red and the morning grey,  
Foretell the fitness of the coming day."

But to return to our author: "A bright yellow sky at sunset presages wind; a pale yellow, wet: therefore, by the prevalence and kind of red, yellow, or other tints, the coming weather may be foretold very nearly; indeed, if aided by instruments, almost exactly. When birds of long flight—Rooks, Swallows, or others—hang about home, and fly up and down, or low, rain or wind may be expected."

In subsequent chapters there is much interesting information respecting climate in different parts of the world, in the tropical and temperate zones of both hemispheres, and in the polar regions; and as phenomena and peculiarities are noticed, explanations with reference to their causes are given. From the great mass of information that has been collected, it appears that much has been recently turned to most useful account. In the year 1838, a system of meteorological observations on an

extensive scale was strenuously advocated by Sir William Reid the author of the first "Law of Storms," and chiefly in consequence of his exertions, officers of the Royal Engineers at detached stations, and Consuls in foreign parts, were requested to collect and transmit such information to this country. By wind and current charts published of late years, navigators have been enabled to shorten their passages materially, in many cases as much as one-fourth, in some one-third of the distance or time previously employed.

In treating of the gulf stream, the author says, "It has been much discussed, especially in Scotland, whether the gulf stream has really so much effect upon our climate as has been usually thought. It has been chiefly questioned, because experiments have been made with thermometers close in shore, within twenty or thirty fathoms, where the water has been affected more or less by rivers or the land near it, and has not been found nearly so warm as the winds or water of the Atlantic; but this seems to be rather a fallacious ground of argument. There is no doubt that along the coast of Norway, as well as the coasts of Scotland and the Hebrides, the warming effect is such that all ice is kept out of the harbours there. The climate is mild all the year round, even at the North Cape; while on the western or opposite side of the Atlantic, ice comes down in-shore to a very much lower latitude, even below Newfoundland." We think he adduces perfectly convincing proof of the correctness of his opinion, and we may add, long may that stream continue to flow as it does. We do complain of our climate; but better bear the ills we have than wish for such a change. Were its course to become diverted, the eastern coast of the new world might be benefited, but Devonshire would soon lose its greenhouse climate, and Cacti and south of Europe plants would quickly disappear from the Scilly Islands, where they flourish in winter in the open air.

There is so much interesting and varied matter in this useful work, that our limits will only permit us to slightly glance at a few of the subjects. At chapter XIII. we come to the utilisation of Meteorology; but to this we must advert in a second notice.

(To be continued.)

## PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

CYPRIPEDIUM STONEI (Mr. Stone's Cypripedium).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Diandria.—A superb Lady's Slipper, imported from Sarawak, Borneo, by Messrs. Low & Son, Clapton Nursery. Blooms in October. The petals yellowish blotched with purple; the lip, or alipper, purplish, with net-like red veins.—(*Botanical Magazine*, t. 5349.)

HELIPTERUM SANDFORDII (Major Sandford's Helipterum).—*Nat. ord.*, Compositæ. *Linn.*, Syngenesia æqualis.—Native of Western Australia. Raised by Mr. Thompson, of Ipswich, from seed sent by Major Sandford, of Swan River. Flowers yellow. "Likely to be a good bedding-out plant for our summer flower-borders."—(*Ibid.*, t. 5350.)

PHALANOPSIS LOWII (Mr. Low's Phalanopsis).—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Diandria.—A beautiful native of Moulmein, and introduced thence by Messrs. Low & Son, Clapton Nursery. Petals and sepals white tinged with purple; lip purple tipped with white.—(*Ibid.*, t. 5351.)

DRACENA PHRYNTOIDES (Phrynium-like Dracena).—*Nat. ord.*, Asparagaceæ. *Linn.*, Hexandria Monogynia.—Native of Fernando Po. It is a night-flowering plant, its white flowers opening during the night and closing again by ten o'clock. Blooms in August. Leaves like those of the Arum and white-spotted.—(*Ibid.*, t. 5352.)

ACROTREMA WALKERI (General Walker's Acrotrema).—*Nat. ord.*, Dilleniaceæ. *Linn.*, Polyandria Trigynia.—Native of the mountains at altitudes of from 2000 feet to 4000 feet, in central Ceylon. "Its deeply-plaited leaves and humble growth remind one of our Primrose; but the young foliage is pale and deeply tinged with rose, while the flowers more resemble a Buttercup." Flowers yellow, open in June.—(*Ibid.*, t. 5353.)

PANSIES.—*Princess Alice*, pale straw and purple blotch, raised by Mr. Dean, as were the two following:—*Mrs. Moore*, purple, yellow, and rose-coloured; and *Leotard*, yellow, crimson, and purple. All, but especially the last-named, very attractive. *Double-purple* has before been noticed in our pages. It is very rich and striking, and is now to be had of Messrs. Carter & Co.—(*Florist and Pomologist*, 177.)

**VIOLETTE HATYVE PEACH.**—"No Peach is more melting and delicious. The tree is hardy and long-lived in almost all soils." (*Ibid.*, 1st.)

**POMPONE DAHLIAS.**—"Little *Whitemina*, bluish, tipped with rosy pink; *Little Darling*, a bright amaranth rose, of exquisite shape; *Little Philip*, reflexed in shape, and creamy buff, edged with rosy pink." The flowers are gems; but until they can be obtained on stems less than 5 feet or 6 feet high they will be comparatively little valued.—(*Floral Magazine*, pl. 125.)

**VARIEGATED JAPANESE HONEYSUCKLE (*Lonicera reticulata*).**—"We have had occasion more than once to notice this golden-netted, very striking plant, discovered in Japan by Mr. Fortune, in gardens near Yedo. He says, "In Japan it produces a pretty effect when trained over trelliswork, or allowed to ramble on the ground like our common English *Vinca*, or *Periwinkle*. It will, probably, prove quite hardy in this country, and will, I think, be useful in cool greenhouses and conservatories."—(*Ibid.*, pl. 126.)

**LARGER GLITTERING NERINE (*Nerine corusca major*).**—Native of the Cape of Good Hope. Flowers crimson. Introduced by C. Leach, Esq., King's Road, Clapham.—(*Ibid.*, pl. 127.)

**MAUVE-COLOURED NOLANA.**—Raised by Messrs. Carter & Co., Holborn.—(*Ibid.*, pl. 128.)

### WHAT A WORKING MAN CAN DO.

SAMUEL GIBSON, a distinguished member of the Manchester Botanists' Society, born at Sowerby Bridge, Yorkshire, his father being a whitesmith; died May 21st, 1849, at Mytholmroyd, near Hebden Bridge, Halifax; only went for a short time to a Sunday-school; was apprenticed to his father; was a very ingenious mechanic, and an expert and elegant turner; worked as a spindle and fly-maker at Hebden Bridge; began to employ his leisure in the study of Botany (1818); opened a whitesmith's shop on his own account (1820); and followed the business for the remainder of his life. His contributions to the "Phytologist," and other publications, bear ample testimony to his industry, and to his devotion to science. At his death he left a valuable herbarium, containing a collection of the flowering plants, Ferns, and their allies, of Great Britain, complete to within twenty specimens; extensive collections of Mosses, Lichens, *Jungermannia*, and marine Algæ; about 1000 specimens of British and other seeds and seed-vessels, ingeniously and neatly mounted between thin plates of glass; about 140 specimens of British woods and plants, prepared and mounted for the microscope. In 1826 he commenced the study of Entomology, and collected a very valuable series of British insects, arranged in thirty-four boxes. In Conchology he made valuable and extensive collections of British, marine, fresh-water, and land shells, as well as a considerable assortment of foreign specimens. In Geology he collected and arranged a cabinet of the fossil shells of mountain limestone, shale and coal measures, which was considered unique. Situate in a country village remote from books and men of science, and destined to earn his bread by a laborious employment, this intelligent and excellent man, by his energies and industry, overcame all the difficulties that beset him, and accomplished very much in the way of collecting new objects in almost every department of local natural history. His example gave an impulse to the study of nature in the surrounding districts. He suffered a long illness prior to his death, and his means became circumscribed; but he found a resource in his collections, a good part of which he sold in order to obtain the means of subsistence. The rest he left to his widow and children.—(*Mayhall's Annals of Leeds*.)

**COAL TAR DESTRUCTIVE TO VERMIN.**—Since the discovery of the antiseptic properties of coal tar, numerous experiments have been made with this substance in order to ascertain whether it possesses any deleterious qualities in relation to the insect world, or to those lower quadrupeds which are considered as pests by the farmer and housekeeper. Some of these trials have led to very satisfactory results. The "Journal de la Société d'Horticulture" informs us that an agriculturist, M. Thenard, having lately caused certain frames to be coated with coal tar, was surprised to find the Cabbages growing near the places where the frames were standing quite free from the unwelcome visits of the *Italia*, or beetle, so destructive to cruciferous plants. The observation was not lost upon him; he

immediately caused 1500 kilogrammes of sawdust to be mixed-up with 2 kilogrammes of coal tar, and then to be strewed over several acres sown with Rape seed. The consequence was that no beetles ever infested the plants from the moment of their appearance to the time when they were got in. He has been repeating this process for the last five years, and always with the same success, while his neighbours' fields suffer more than ever from the invasion of the obnoxious insect. Instead of sawdust, sand or even earth may be advantageously used; but care must be taken not to use coal tar in an excessive quantity; for since its virtue resides in the strong empyreumatic odour it emits, a very small dose will be sufficient; whereas a large quantity would kill the plants themselves. We have had personal experience of the efficacy of strong resinous smells in removing insects; for, several years ago, we succeeded in ridding a garden of vast colonies of ants, which had literally taken possession of it, by pouring spirit of turpentine upon the ant-hills. In twenty-four hours not an ant was to be seen.—(*Galignani*.)

### THE DISTRESSED LANCASHIRE WORKINGMEN BOTANISTS.

SINCE I made an appeal in your paper on behalf of the above-named distressed persons, I have received as donations towards aiding them, £31 15s.; for collections of Mosses, £16 7s.; for collections of Ferns (green), £6 5s. 6d.; for other things, £8 4s. 3d.; in donations of clothing to the value of £40; and the two naturalists I named have received a good help from Mr. Dean, of Appleton House, Warrington, for collections of butterflies and moths, for which they are very thankful. They are very worthy men, and one (John Kinder), has studied and been a collector of insects for over thirty years, and has a most excellent character.

I have given out 113 pairs of stockings and socks, 9 blankets, 27 pairs of shirts for men and boys, 24 shifts for women, 10 dresses for women, 9 suits of clothing for men, some of which I have been helped out with by two of our schools here—that is, the committees of the schools, who have kindly furnished me with things that I was short of to complete suits; and I have given out 25 pairs of flannels, and numerous other things, all of which Mr. Dean has booked for me, and I have helped fifty-four families, comprising botanists, cottage gardeners, naturalists, and deserving widows of such men, and I feel confident that your numerous readers who have thus contributed have done a good work.

I have in my hands a few pounds that are to be given out in weekly instalments, and have more promised, which will enable me to do a great deal of good.

The kind-hearted "Mother" from Ipswich has sent to Roger Schofield and John Whitehead, since I last noted it, one week 2s., and 2s. 6d. the last two weeks, and now 2s. 6d. each to them.

I shall still be happy to get collections from the botanists for any person, and hope all who have sent for collections and have not received them, will let me know as soon as possible, for some may have been neglected by accident.—JOHN HAGUE, 36, Mount Street, Ashton-under-Lyne.

### ENTOMOLOGICAL SOCIETY'S MEETING.

THE December Meeting of the Entomological Society was well attended (the President, F. Smith, Esq., being in the chair), in consequence of the Meeting having been made a special one, with the view of taking into consideration certain proposed alterations in the bye-laws, chiefly with reference to the annual election of the Curator by the Society at large instead of by the Council, which proposals were adopted after a sharp contest.

A considerable number of new works, presented to the Society since the last Meeting, were placed on the table, including a valuable series of publications on different orders of insects by the Smithsonian Institute of Washington, as well as the "Proceedings of the Entomological Society of Philadelphia," established in 1861—a gratifying proof that, amidst the political excitement of the United States, Science still maintains her peaceful career. It was suggested that a special vote of thanks should be passed on these grounds; but some of the members thought it better not to introduce the slightest allusion to such exciting topics as the war now raging in America.

Percy C. Wormald, Esq., was elected a member of the Society.

Mr. S. Stevens exhibited several boxes of Butterflies and Beetles collected at Salwatty, near New Guinea, by Mr. Wallace, containing a great number of rare and beautiful species.

Mr. Moore exhibited some pieces of a white saccharine matter collected on the leaves of Eucalypti, in North Western Australia Felix, being the exudation from the larvæ of *Paylla Eucalypti*, a small Neuropterous insect. This material is collected and eaten in considerable quantities by the natives, and is called Lerp. It is described in the first volume of the "Transactions of the Royal Society of Van Dieman's Land."

Mr. Hewitson sent portions of the stem of a Laurel tree, which had been bored to the length of 4 feet or 5 feet from the ground by some larva, most probably that of a *Zeuzera*. This was the more remarkable, as the Laurel is ordinarily very free from the attacks of insects.

Mr. G. R. Waterhouse exhibited and read some remarks upon *Quedius umbrinus*, *Oxytelus picus*, *Haploenemus nigricornis*, and *Latridius rugosus*, four minute British species of Beetles hitherto confounded with other species.

Mr. McLachlan exhibited a small species of Two-winged Fly belonging to the family *Muscidae*, which had been reared as a parasite by Mr. Parfett, of Exeter, in the case of *Limnephilus marmoratus*, one of the species of Caddice Flies, for which, being undescribed, the name *Hydrotachina Limnephili* had been proposed. This was the first instance in which a Dipterous insect had been observed to be parasitic upon one of the *Trichoptera*, the larvæ of which are aquatic.

Major F. Parry read descriptions of a number of new exotic species of Stag Beetles (*Lucanidae*), and made some severe but well-deserved comments on a catalogue of the species of that family recently published by Mr. Thomson, in the "Annales" of the French Entomological Society.

Professor Westwood also commented on the systematic arrangement adopted by Mr. Thomson, as well as upon the strange latinity of his descriptions.

## FLOWER-GARDENING WITHOUT FLOWERS.

ALLOW me to introduce to your readers an idea I have long entertained, and which, to some small extent, I put in practice during summer, of substituting plants with contrasting foliage, instead of contrasting flowers, and producing what was very effective as a flower-border without a flower in it. There are a great many plants suitable for this purpose, and if we give our attention to the subject, many things will come to hand. Should *Centaurea argentea* prove useful, it will be a great acquisition. Then we have *Cerastium tomentosum*, and better still, the variegated *Alyssum*. The *Geranium* tribe furnishes white, green, and yellow; and for contrasting colours we have *Perilla*, *Cattell's Beet*, and *Mountain Spinach*. Our experiment was made on a border 11 feet wide, with a south aspect, planted in a formal style—that is, in what we call a diamond pattern. To relieve the stiffness, a few plants of *Arundo donax variegata*, and of *Humea elegans* were placed in the centres of a few of the beds; the effect was good, and we mean to try it again, perhaps using *Lobelia* for blue, and *Saponaria* for pink—more so, as both are such neat growers. *Arundo donax* does not seem to be appreciated as an ornamental plant. I can only say it is deserving of attention; it may not be quite hardy, but we winter it in an orchard-house, where no fire heat can be applied. A few degrees of frost did not seem to hurt it. *Farfugium grande* was good here in beds, and others I have no need to mention. Some of our moderns will perhaps say, Why not have scroll or embroidery work? It is the substitution of the dead for the living, of inanimate for animate nature. Works of this kind may be admissible in certain cases, but however fantastic the design, or neat the execution, the effect on our whole system is cold and chilling. When we look on living beings, animal or vegetable, the effect is pleasing, genial, and warming; but this glow of feeling is never produced by looking on any combination of pounded brick, broken stone, and shining spar.—A. DAWSON, *Road Ashton*.—(*Scottish Gardener*.)

## HORTICULTURE AND HUMANITY.

If there is one thing more than another that should be kept entirely separate from politics, it should be Horticulture. In the present struggle which assumes such a personal shape to every one of us, it is almost as difficult as for an editor of a

magazine like this to ignore his personality as he ought to do. Still we think it should be done, and horticulture be considered as common ground—as one of the humanities of life, due alike to loyalist and rebel, Christian and pagan—to man in its widest sense.

Of its humanising influence we have an instance now before us which we cannot withhold from our readers. In one of the Pennsylvania regiments, a subscriber and former contributor to the pages of the "Gardener's Monthly" fell wounded at the battle of Antietam. Within a few feet of him, wounded in the same charge—perhaps wounded by each other's bayonets—lay a soldier of a Georgia regiment. As is the custom in our service, the wounded of the enemy and our own are all treated alike together in the same hospital, and these two were carried together with the rest. Our correspondent, in the last of two letters we have received from him, writes: "The rebel prisoners of whom I before spoke are all recovering, and they are for the most part friendly with our men. I may say all but one, who belongs to a South Carolina regiment, and keeps almost entirely to himself. In talking with the one who fell on the field near me, I discovered that he too was interested in horticulture, and there seemed at once a bond of sympathy between us. He showed me a pod of seed which he had gathered as a memento from the vegetation that formed his bed one night during the terrible campaign before Richmond, which I found to be the *Passiflora incarnata*, or wild Passion Vine. That particular flower was very suggestive to us both; for each felt that the vessel of agony might be passed from our lips, for we have had our share at least of it. His father also has a great love for horticulture, and is interested particularly in the cultivation of the Grape. On his plantation near Macon he has a very fine vineyard, on which it was his pride to collect all the varieties of note he could get. He made me promise that as soon as possible after the war shall be over, if we both live through it, I should go down and spend a month with him, assuring me, both for himself and his father, that I should be welcomed as if we had never met on the field of mortal combat together.

I promised to try to get him a few cuttings of the newer kinds of Grapes to take with him when he is exchanged, and if you can help me in this I shall be obliged. I suppose these would not be considered contraband, and that the officers will let them pass.

Some of our comrades, listeners to our conversation, jokingly said "we should be in Richmond before the next vessel with exchanged prisoners, and his cuttings would die before they reached the next rebel wharf." "Well," says he, in the same spirit, "I shall have to go nearer home to be exchanged, that's all." It has often been asked how can North and South ever be united again after fighting together as we have been; but my intercourse with rebel soldiers assures me there will be no difficulty on that score, if those who hold the reins of power will only let us. Horticulture alone will be no mean restorative to this desirable consummation. I could not help noticing the different effects our little garden talk had on the squad of our comrades about us, beyond what any other topic of conversation had, that had ever been mooted since I had been in the hospital. The young man tells me that Mr. Fields, the well-known nurseryman at Macon, was still with his business there quite recently.

How touching to the humane sensibilities is this simple narration. If we ever had any doubts as to the wisdom of the American Pomological Society's recent action at Boston, in retaining for the present all its southern names on its list of officers, until they could be heard from, we should have none after reading this. May we not wish, as horticulturists, without expressing any sympathy for the cause that parts us, that the long agony of our parting will soon be over?—(*The American Gardeners' Monthly*).

## THE BIRDS' CAUSE PLEADED.

CANNOT some understanding be arrived at between the antagonists and friends of birds? Surely the subject is not in its most intricate forms invested with difficulties so insurmountable as some would have us think. Few subjects in these our days, when once received into the columns of a leading journal, go to rest without an issue—a verdict either *pro* or *con*. Yet, as a hitherto-looker-on, excepting in the last Number or two of this Journal, few subjects seem to me so little understood, so badly ventilated, as this.

Here is the question at issue. Should birds of all species, birds of prey excepted as a matter of course, be strictly preserved, or even passively, in a highly cultivated country? Or, should birds, great and small, be indiscriminately destroyed, either with or without extenuating circumstances?

It is "passing strange," yet true, that the advocates for the preservation of birds, with few exceptions, in *THE JOURNAL OF HORTICULTURE*, have advocated the cause of their favourites very weakly. Take the following paragraph as in substance given by a past correspondent:—"P.S.—I do not allow any birds whatever to be destroyed here." On the other hand the advocates for their destruction have been endeavouring to prove the great mischief they do, though they let, here and there, a little praise peep forth, as they proceed, as if to show a certain amount of impartiality, which, nevertheless, is not sufficient to hide the real texture of the undergarment from view. I do not blame them, for I can bear witness myself to the annoyance small birds are to the gardener at certain seasons. Fancy, after taking all the pains possible with your fruit trees for a whole twelve-months, and just when you expect your returns for the same, a small army of birds assail your garden, and take away your best fruit, like foragers in a legitimate warfare. Such a loss will, at times, raise the ire of the most even-balanced temperament.

I could not take a more general example than the rook to begin with. Wherever corn is sown, or ripening—if Beans are planted, or Potatoes set—more especially if the weather is dry—there you will find an army of rooks bent upon the most active mischief. Under those circumstances they are really exceedingly troublesome, and, indeed, if unchecked, hurtful; but the rook's activity does not end here. Pray watch him in his stately walk through your field of young corn, see him busy around those yellow-tipped patches: there he serves us—he is destroying grubs. See his beak, how dirty it has become in a war with one of man's greatest enemies; watch him, as he grubs up and around those dwarf and deformed insect-eaten Turnips, as he scours your pastures, and your fore and after fallows, and say can you even find wherewith to recompense him? In the former instance, the distinctive division, you can easily stop him, you have a practical preventive; but are you—is not man—powerless and impotent to combat with myriads of grubs?

The sparrow I consider to be as useful a bird as any, in some instances, most certainly as a town bird. The good he does there alone amply repays any injury he may be guilty of in the country; but even there I believe his shortcomings are few. Among them we find him to be exceedingly destructive to the grain crops, commencing on them when very young and green, and destroying a great quantity more than he actually consumes. Sparrows are, in some winters, very destructive to the buds upon trees, not omitting fruit trees. They studiously make a certain amount of semi-cunningness answer the purpose of incessant hunting for food in the fields in winter, as they will sit upon surrounding trees and watch for hours for an opportunity to pounce down and glut themselves upon the contents of swine-troughs and corn-stacks, protruding their whole body into the latter in search for grain. I once found one which had hung himself in a recurved straw in a wheaten stack. In their favour it must be said that they consume during the year a vast amount of seeds from weeds in indifferent-cultivated land. They, also, assuredly destroy a vast quantity of insects in the summer months, more especially caterpillars, which I believe are their favourite food for their young. But here, as I would with equal pleasure write a few lines in confirmation of views in general opposite to mine, I must make the admission, that I think it may be advisable, even if we could, not to leave them totally undestroyed; as when we come to consider the general safety of their nests from the reach of boys, the breeding capacity, and the general shrewdness of this bird, with the destruction of the hawk, named from its known fondness of the sparrow as a prey, we cannot help coming to this conclusion—leave the sparrow to take care of himself. I do not say, Destroy every one you can; I simply wish to give as my opinion, that if left undestroyed, he would in numbers in a few years almost equal the locusts of old.

The blackbird, who can deny his usefulness the whole year round, excepting in a dry season, when the fruits abound? He never attempts to peck or destroy our fruits in moist weather. He is driven to feed upon any fruit within his reach when he really can get no other food; even when he eats it, it does not agree with him, he suffers in health in consequence. And now you who read my assertions with incredulous look, will you walk through your little forests of Brussels Sprouts, and ask

yourself the question, What do those blackbirds do here? and you cannot fail to say, or I misjudge you, Why they must be catching the caterpillars as they hasten down into the ground, driven there for protection by the past frosts, and to propagate their own, preparatory for another summer, to give fresh illustration to our national bard's phrase—

"The worst of creatures fastest propagate."

Years ago I received a severe check, when destroying one of those beautiful birds. It proved also to be a good illustration of the useful and injurious capabilities of this bird. Having charge of the fruit department in a large garden, I shot a blackbird as he stood beside the Box-edging upon a border, pecking one of my best dessert Gooseberries, as I supposed. Hastening to the spot, judge of my remorse, when, instead of one of my Gooseberries, his beautiful yellow beak lay buried in one of the wounds he had punctured in a huge snail, and I felt sorry. When picking him up again I felt pleased—beneath his extended wing even now, lay one of the very fruits which I had suspected him of purloining. I say I then felt pleased, though the case was really little altered. He was driven, undoubtedly, from want of more suitable food, to where he knew the berries grew, and was possibly going with it to his helpmate, whom, perhaps, he had then to support, when, finding a snail, he left the one to partake of the other: and herein lies the pith of the whole bird controversy, however simple and commonplace. Was it just to judge him in his injuries only?

So with the tomtit, poor fellow. I believe he is oftentimes unjustly blamed. Let those who consider him so universally destructive but initiate themselves more into his manner of living. Let them follow him from branch to branch, as he labours untiringly and incessantly, and you will see him peep into, beside, and beneath each bud, and extract from it your enemies; and if he does, when he knows an insect is within, peck the bud to pieces to get at it, even if he at times consume your flower-buds, have you no thought for the great good he otherwise does? No individual bunch of Apple or Pear blossom expands, upon which the tomtit has not previously been at work insect-hunting. But he will also as certainly, if the humour takes him, destroy your bees. No exquisite will knock at your door with greater assurance than does he at the mouth of the hive; but this simple fault of his is so easily provided against, that it gives rise to no inconvenience. It also gives additional proof, more especially if done in frosty weather, that he is fond of insect food, which he cannot then very readily attain.

Adverting to the troublesome Gooseberry caterpillar, we are here surrounded by wood, and birds are very numerous; so also, in general, are the above caterpillars in spring. I knew sparrows were very fond of caterpillars, which they give their young whenever they can find any. To make the birds acquainted with the whereabouts of the insects, knowing how fond birds are of fresh-moved ground, I procured a fork and freshened-up the soil around two or three of the worst bushes. Having finished, I strewed a little mustard seed round also, as an additional inducement, and so left it for a while. Returning in twenty minutes or so, instead of seeing upon the fresh-moved ground a host of sparrows, some half a dozen or so chaffinches only were there. Nothing daunted, I went to each bush, and shook therefrom some of the insects, which also fell upon the new-moved ground. The birds returned, they ate the seeds, found the caterpillars upon the ground, then upon the bushes, and, pleasing proof, from that day until the next spring, very little trouble was I put to by caterpillars. And so I do each spring; but remember, from that date until the fruit season commences, I studiously avoid the use of a gun in that quarter. Some birds there are, as the blackcap, the bullfinch, and the hawfinch, which I cannot say much for as regards the good they do; but we cannot make a computation in justice to them of their actions through the year. I would raise an enduring monument to the following—the hedge sparrow, of all birds are there any more useful? the wren, titmouse, robin, and wagtail. They should be preserved. We should all take an active part in their preservation. I do not know a single instance of injury done by them, save a little roughness by the robin sometimes; yet it is to be regretted, that the habits of the assiduously industrious hedge sparrow and wren (I have one of the latter busy insect-hunting in the stove each winter; I tell him when shutting-up time comes by rattling the syringe, though in severe weather he will at times fly behind the pipes) endanger materially their number, their

nests being so readily taken by boys and others. I used to make a practice of giving each lad a penny if he would show me near to home a hedge sparrow's nest, with a promise to leave it unmolested, until one day, after giving a young villager my contribution, having cause to go through the village, I caught the young urchin, with both arms extended, showing one of his nesting compeers, in one hand the nest, and in the other the penny which I had given him.—W. EARLEY, *Digswell*.

## EXTRACTS FROM A TOO-MUCH NEGLECTED BOOK.

CHRISTMAS TIME.—December 21.—Mild, but snowing a little; we may yet have sleighing for Christmas.

It is a very busy time within doors just now; various important labours connected with Christmas cheer are going on. Cake-jars are filling-up with crullers, flat, brown, and crisp; with dough-nuts, dark, full, and round; with raisened olecakes, with spicy, New-year cookies, all cakes belonging to the season. Waffles, soft and hard, make their appearance on the tea-tables; mince-pies, with their heavy freight of rich materials, are getting under way; and cranberries are preparing for tarts. Ducks and turkeys are fattening in the poultry-yards; inquiries are heard after any grouse or woodcocks that have been shot on the hills; after any salmon-trout, or bass, that may have been caught in the lake. Calves' head soup and calves' foot jellies are under consideration; and fresh oysters are arriving in the village from the coast by scores of kegs; in short, the activity in the rural housekeeper's department is now at its height.

But at this busy season, during these Christmas preparations, the female Vatal is supported and cheered by a sort of holiday feeling which pervades the whole house; there is a dawn of the kindness and good-will belonging to Christmas perceptible in kitchen and pantry; the eggs are beaten more briskly, the sugar and butter are stirred more readily, the mince-meat is chopped more heartily than on any other occasion during the year. A pleasant reflection this, and one upon which it is sometimes necessary to fall back for consolation when the pies are a little burnt in the baking, and the turkey proves rather tough after boiling.

But the larder, though an important item, is very far from being the only object of attention in these Christmas tasks. Greens are put up in some houses. Santa Claus must also be looked after. His pouch and pack must be well filled for the little people. Hoary heads, wise and grey, are just now considering the merits of this or that nursery-book; weighing sugar plums and candies; examining puppets and toys. Dolls are being dressed by the score, not only your wax and pasteboard beauties, such as may be seen in every toy-shop window, but also other members of the doll family which are wholly of domestic manufacture, such as those huge babies of cotton and linen, almost as large as the live baby in the cradle, with pretty painted faces, and soft supple limbs. These "rag-babies," as they are sometimes called in the nursery—Moppets, as we are instructed to name them by great dictionaries—are always pets with little mammas; no other dolls are loved so dearly and so constantly as these.—(*Miss Cooper's Journal of a Naturalist in the United States.*)

## WORK FOR THE WEEK.

### KITCHEN GARDEN.

THE operations here must now depend upon the state of the weather. If frosty, all manures ought to be carried or wheeled on where they are wanted. *Asparagus*, if the beds are not soiled-up for the winter, no time ought now to be lost in getting them done. *Cauliflowers*, during the present very mild weather the glasses may be left off night and day, to prevent them from drawing. Divest the plants of dead leaves, and look frequently for slugs. If the autumn-sowing failed, it will be advisable to sow in a box, which may be placed in a forcing-house, and when the plants are of sufficient size prick them out in a frame on a slight hotbed. *Celery*, if it continues to grow vigorously, it will be necessary to earth it up, so that whenever frost may set in it will not be injured so much as it otherwise would. Some gardeners dig out trenches now, so that they may receive the benefit of the frost in the spring; *Cauliflowers* are planted in

them, and dwarf Peas or Lettuces between, which will be off by the time the trenches are wanted for the *Celery*. *Herbs*, they may be taken up and planted in boxes or pots, and introduced into heat as wanted for use. *Lettuce*, any young plants in frames should have the glasses left off night and day during mild weather. *Mushrooms*, save horse-droppings for spring-beds, the droppings are most valuable now, as the horses get more dry food than during the summer. *Potatoes*, if young ones are wanted very early, some Early Frame, or any of its varieties, may be planted in a slight hotbed. If it is not convenient to plant them immediately, they may be laid in a forcing-house till they begin to shoot. Dung should now be prepared for forcing the various culinary vegetables which are required early; a considerable quantity of leaves may be used with it.

### FLOWER GARDEN.

Except in particular cases little more can be done in this department than paying attention to order and neatness. During these long evenings it is advisable to take a retrospective view of the operations of the past year, for the purpose of avoiding for the future any mistakes that may have been made. Let us hope that the rising generation of amateurs and gardeners will avail themselves of the facilities for improvement which THE JOURNAL OF HORTICULTURE and the other gardening periodicals of the present day afford; and although we may not see a Pine sufficiently heavy to satisfy the appetite of some, the extinct Polmaise system revived, or the pot-culture of fruit trees generally adopted, we may still hope, by the combination of theory with practice, to realise great results in the various departments of gardening. This makes us rejoice to see Mr. Darwin seek the assistance of Mr. Beaton and other practicals.

### FRUIT GARDEN.

Prune Gooseberries, Currants, and Raspberries in open weather. When the frost sets in lay a coat of manure about 3 inches thick around each bush. Where the Gooseberry and Currant bushes are old and covered with moss, a good dredging of quicklime put on when the bark is moist will entirely destroy it, rendering the stems clean and the bark healthy. Make a point of regularly examining all the choicer kinds of fruit that may be approaching ripeness or are found not to be keeping well, so that everything may be used at the proper time, for the finest Pears are worthless if allowed to get over-ripe before being used, and the same is the case with many varieties of Apples.

### STOVE.

Here all is still and quiet. Keep a moderate heat, from 55° to 60°, and give plenty of air. The *Ixoras* to be elevated near the glass to set their bloom, and to be kept comparatively dry. *Stephanotis*, *Allamandas*, &c., may be potted, and trained preparatory to starting in a week or two, and the staking of all specimen plants to be proceeded with as fast as possible.

### GREENHOUSE AND CONSERVATORY.

The weather has been so mild that many hardwooded plants are growing too freely. As this young growth will be found very tender, abundance of air must be given to the plants, and great precaution must be taken to prevent the ingress of frost, which in the present state of the young wood would do serious injury.

### FORCING-PIT.

Continue to introduce such plants as are generally used for forcing, especially the sweet-scented things—Lily of the Valley, Roses, Sweet Briars, Lilacs, and bulbous plants.

### PITS AND FRAMES.

Plants of a succulent character will require much attention during damp weather. *Geraniums*, *Calceolarias*, *Petunias*, and *Verbenas* are liable to become mouldy. Remove all mouldy leaves as soon as they are discovered, or they will be sure to contaminate others, and thus spread all over the pit or frame.

W. KEANE.

## TO CORRESPONDENTS.

\* \* We request that no one will write privately to the departmental writers of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By so doing they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed solely to The Editors of the "Journal of Horticulture, &c.," 162, Fleet Street, London, E.C.

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

We cannot reply privately to any communication unless under very special circumstances.

**ARRANGEMENT OF GREENHOUSE (Patelin).**—Wood planks would do for letting out heat just as well as slides, or a thin iron brick with a ring to draw it out by, as there is no necessity for having them very tight. You may have a tank of any size under the stages for rain water; but you will require an over-dow-pipe to prevent the house being flooded, and you should have a wooden cover for the tank, if all the rain water from the house passes through it, or it might cool the house very much in spring. Ashes and tan are both good, the latter is much liked by many plants, but is apt to breed worms. Ashes when once heated will retain heat well, but as the pipes beneath will generally give plenty of heat, we would prefer cocoa nut fibre or clean sand to either for plunging in. With respect to the angles of roofs, see what Mr. Fish says in another page.

**PEARS LONG-KEEPING.**—“Are not some sorts of Pears keeping this year longer than usual? I have still some fruit of Reurc Superfin sound and good; also of Baroque de Mello, Marie Louise, and Duchesse d'Angoulême.—E. B., Dent.”

[We shall be glad of information on this.]

**ASPHALT WALKS (A Lady Subscriber).**—In our No. 48, New Series, you will find full directions for making them. Bricklayers' limy rubbish, coal ashes, and gas tar form the compound. Either gravel or spar, broken small, will do for the surfacing. See also page 734 in this Number.

**BELLADONNA AMARYLLIS (A. S. P.).**—It was wrong to grow it in heat after it had flowered, and you will not see a bloom on it for the next two years. See what Mr. Beaton says about it in another page to-day. Many of the Caladiums are apt to rot if the roots are not ripe when they go to rest, but bicolor is not of the number. The roots which perished of it could not be half ripe—that was the sole cause.

**CHRYSANTHEMUM (Idem).**—Nothing is more common than Chrysanthemum plants producing some flowers not true to the usual colour.

**LARCH SUCCEEDING SCOTCH FIR (A Constant Reader).**—It is neither a safe nor a good practice to plant Larch or any of the Conifer tribes after Scotch Fir; but the Larch is most likely of them all to pay. It will never do, however, to sow it anywhere but in nursery-beds. You must use two or three-year-old plants. If the land is at all good, Elm, Ash, and Poplar would be the best to succeed Scotch Fir; and for all country work the Black Italian Poplar is a better wood than that of the Scotch Fir, and comes to hand in one-half the time that the Scotch Fir would.

**HEATING A SMALL FERNERY (J. Hill).**—We should have liked a section, so as to show the height of the fireplace and the fernery to be heated. You cannot take the pipes down from the boiler at the back of the parlour fire. If that boiler has an open top, the pipes and cistern must be below that level. If the top is close, you may raise the flow and return pipes above that level, but the flow must go from the top. It matters not so much about the size of the boiler, as the exposure of it to direct heat; and hence we do not think you will get heat enough from it to suit tropical Ferns, for then in your fernery, 12 feet by 13 feet by 11 feet, you would need about 80 feet of four-inch pipes. For the hardier exotics, and the tenderer British Ferns, you would get heat enough from a small close boiler, for about 40 feet of piping would suit your purpose.

**CENTAUREA CANDIDISSIMA (H. B.).**—It has no other name, and we are not aware if seeds of it can be had; but it comes easily from cuttings, and when it is planted out it makes abundance of them.

**COLEUS VENSCHAEFFELTI (Idem).**—We believe this will do out of doors if the plants are full-sized at the time of planting. We had some out last summer, and have seen others, and that is all that we or any one can yet say about it.

**WOODLICE (Idem).**—We are not aware that phosphorus or any other paste will kill these troublesome insects. It is not very likely that new bread would harm them. Scalding them, and trapping with moss in pots or boxes, are the only sure modes of dealing with them according to all experience.

**LIVING HOT-WATER PIPES (M. X.).**—The water will flow well enough on the level, but quite as well if the pipes rise 2 inches or 3 inches to the open cistern. Of course, the return-pipe must be lower than the upper, at least, as it approaches the boiler, so as to enter at its bottom. It will also be as well if the return-pipe starts lower than where the down enters the cistern.

**CUMBER-BIT (A Young Gardener).**—We do not exactly understand the construction of your bed and chamber, nor are we sure that your flag-covering is strong enough to prevent cracking; hence, in general, we prefer tiles. If there is heat enough you can avoid the bad smell, if the fire is sound, by leaving on a little air at the top, and prevent making a smell by not cracking your flue with putting water on it. You would not require to go back far to find that practice disapproved of. Instead of its pouring on the flue, secure a moist atmosphere by setting pans and basins along the flue. Your could not have a better place than that proposed for raising your Cucumber. Eighteen inches from the glass would do, and you could easily secure 10° more heat by covering the box with a hand-light or large squares of glass.

**DENDROBIUM NOBILE—PHAIUS TANKEVILLEI (Orchidophilus).**—Water your Dendrobie showing flower without delay, giving a little for several days until the earth gets moist enough, which is better than soaking or dipping so as to moisten at once. Do not think of shifting the plant now. You may use a little weak manure water. Your Phaius may yet show bloom, but it is doubtful, if the shoots are now a foot in length. If not, we would say that the plant had been kept too shaded in summer, and too moist in autumn to ripen the buds. Although, therefore, we would not quite banish hope, we would treat the plant so as to make sure for next year—that is, encourage growth in the sun all summer, and curtail water early in autumn.

**VARIEGATED HOLLIES (D. M. P.).**—No variegated Holly, or any other variegated plant, comes true from seeds.

**STOCKS FOR AND CUTTINGS OF ROSES (E. L.).**—The Dog Rose stocks from the hedge-grows should be cut and trimmed before they are planted, and the sooner they are now planted the better. If you could plant them in rows, or two rows, along the sides of one of the walks in the kitchen garden—say between two rows of Strawberries, and melch them and the Strawberries together, you would find them much more convenient for budding; for then you could bud them all without once stepping off the walk. And if you were, at the same time, to stick-in cuttings of the best Roses round the stocks, some of them would root, and the standard stems would make centre stakes to your pillar Roses on their own roots, and in two more years you might arch over the walk from end to end with the very best Perpetual Roses, and not lose one of your standards the while. The most singular thing about Rose-cuttings happened this season near to us. A gentleman set a man to work to work a piece of clay ground for Rose cuttings; he told the man to work-in 4 inches deep of the cocoa-nut refuse dust, but the man misunderstood the order, dug the ground first, then put the stuff all over the top of it. The gentleman put in the cuttings, not knowing the difference, and now the cuttings are all rooted in the middle, and only well callused at the bottom. The same gentleman has had the refuse dust between his Strawberry rows for the last three years, and says “nothing will beat it.”

**GALVANISED IRON WIRE CABLE (S. P. A.).**—Messrs. Newall, Wire Cable Makers, Strand, London, supply all kinds, and would send you a list of prices if you asked them.

**WORK ON ROSES (H. P. E.).**—“The Amateur's Rosarium” by the Rev. R. Thomson, is the “latest” work and may suit you. You would puzzle us if you were to insist upon being told which is “the best.” One work may be fuller upon one mode of culture, and a second work may be more full upon other modes.

**ENTOMOLOGIST'S WEEKLY INTELLIGENCER (C. G., Tonbridge).**—We do not know anything about this periodical.

**ROSE-BEDS AT KEW (Mrs. F.).**—The oblong Rose-beds at Kew are 6 feet wide and 18 feet long, and there are no dwarf Roses in them, or tall Roses either, only botanical abstracts of Roses, which few ladies care to see in their own gardens. But, doubtless they will turn over a new Rose-leaf at Kew when they get through their heavy works about the new conservatories, and it is very likely, before many years are over, that both at Kew and at Hampton Court we shall see all the Roses on their own roots doing as the climbing Roses and the China Roses have already done on their roots on the west side of the grand conservatory. The climbing Roses at Kew will be splendid in two or three more years, and very likely they will festoon them on chains as they did the festooning of *Cissis discolor* in the Victoria Lily-house, which all of us admired so much.

**SEEDS FOR A KITCHEN GARDEN (A Five-years Subscriber).**—It is not easy to give a correct estimate of what seeds you may want for your garden, 76 yards by 69 yards (rather more than an acre); but, assuming you to grow Potatoes elsewhere, the following will be about the quantities that might be wanted in a great many cases; but, of course, the requirements of families differ so much that it would hardly meet the wants of all!—Broad Beans, 4 quarts; of French Beans and Scarlet Runners, each 1 quart; Peas of various kinds, 12 quarts; Mustard and Summer Spinach, 1 quart each; Cress and Winter Spinach, 1 pint each; Radish, 1 quart; Brussels Sprouts, Cauliflowers, and Savoy, each 1 oz.; Onions, 10 ozs.; 12 ozs.; Carrots and Turnips, each 8 ozs.; Lettuces of sorts, 4 ozs.; Endive, Parsley, and Parsnips, 2 ozs. each; Broccoli of four or five kinds, half an ounce each; Kale of two kinds, half an ounce each; Cabbage of three or four kinds, including the Red, half an ounce each; Leeks, 1 oz.; Celery, 2 or 3 packets; and a packet each of Basil, Sweet Marjoram, Scorzoneria, Salafy, Rampion, and any other thing that way that may be wanted. Roots of Garlic and Shallots may perhaps be wanted in a new garden, and Cucumber and Melon seeds are not unusually included in a seed-bill. We may also observe that in small seeds, as Onion, Turnip, Carrots, &c., it is best to sow thickly. The expense of seed is not a serious affair, and they are easily thinned out; but Broad and Scarlet Runner Beans need not be planted thicker than wanted, unless the seed be of doubtful quality, in which case some judgment is necessary.

**GLADIOLI (A Constant Subscriber).**—If they are bedding varieties let them remain in the soil, covering the surface over each clump 6 inches or 8 inches deep with coal ashes.

**GERMAN IVY (M. G. T.).**—This climber is not an *Ipomæa*, as had been thought by many, but the old name German Ivy is the best popular name for it. The same treatment as given to Tom Thumb Geraniums will do for it, but a very few degrees of frost kill it. The heat of the Orchid-house is not too much for it. We have had it to screen Orchids where old strong plants of it in a rich border made many shoots from 40 feet to 50 feet long in one season, and we never saw an insect on it. Out of doors it makes good imitation for common Ivy on rustic work; and if allowed root-room in a window-sill box it would soon make an Ivy casement all round. But in winter it is of no use if the frost cannot be kept from it. Where a shoot of it touches the ground it roots faster than a Strawberry runner.

**TRELLIS FOR HOUSE CLIMBERS (N. D.).**—We have no more liking for the green diamond wooden trellis than your employers. There are cast-iron studs with a wedge end to drive into the joints, and an eye-card to pass wire through, which is the best contrivance we know, provided the wire is galvanised, and is stretched in horizontal lines, with a stud at every 4 feet or less. Sometimes people place such wire up and down the face of the wall, but that is the wrong way, as every twining shoot twists round and up the wire faster than one man could undo them; and if they are allowed one month's possession in the height of summer, they swell their growth so fast that it is difficult to manage them, or get them off all their own way for two or three years, and lots of the iron studs had it all their own way before the plants could be put in order again. But perhaps on your rough stone wall, “roughly dashed,” so that you cannot hit on the joints, wooden uprights would be better; and if these were 1 inch thick, and 2 inches wide, and not more than 5 feet or 6 feet apart, you could easily fix galvanised wire against them, with staples also galvanised. But galvanised iron net would not do, as twiners would get fixed in the net worse than in the upright wire, and old leaves and dirt would soon accumulate between the wire and the wall, making it very difficult to keep the place tidy.

**PRUNING RHODODENDRONS (P. B.).**—It is very seldom indeed that Rhododendrons, require pruning, but if they are too much crowded and get naked at the bottom, they require cutting back just after flowering, or immediately before flowering-time, and they will break from the hard old wood almost better than any other plant if the roots are good. Rhododendrons, Kalmias, Ledums, Azaleas, and all such Americans ought to be thinned as soon as they interfere with each other, and then none of them would require pruning in a lifetime.

**NAMES OF FRUITS (Dr. Davies).**—There must be some mistake about the Apple now sent for Hanwell Soaring; that which came formerly was a roundish-ovate Apple, awfully acid. This is a round one and quite delicate and mild in flavour. This is doubtless your seedling from the Kilmston, which it is not unlike in appearance. No. 2, marked Red Calville, is Emperor Alexander; No. 4, Joséphine de Malines, is Winter Nellis; No. 3, Lovedon's Pippin, is Court-Pendin-Plat; 10, unknown; 12, unknown; 13, is very much like Bull's Golden Reinette; 13, Pear, is the true Joséphine de Malines; 14 is not Beurré d'Amanlis, more like B. Diel; 17, unknown. Your seedling from Mère de Ménage is a good deal like Sturmer Pippin in appearance, and may prove equal to it in quality; but at present it is unripe. The light and the highly-coloured large Apples are the same kind, and are not unlike Mère de Ménage. All the others are correct. *Apples (Blason).*—1, Drap d'Or; 2, Forge; 3, Manks Codlin; 4, not known. *Pears.*—5, Winter Nellis; 6, not known. (R. K.)—23, Golden Knob; 24, Nonpareil; 25, Golden Reinette; 27, Braddick's Nonpareil; 28, Yorkshire Greening.

**NAMES OF PLANTS (J. M.).**—We believe it is a selected variety of *Phacocoma prolifera* Barnesii, with brighter-coloured flowers. At any rate it is the form Mr. Barnes used to show in such fine condition when an exhibitor of stove and greenhouse collections. (G. Bowers).—Specimens too damaged to be identified. It is useless to send unprotected specimens to be smashed by the post-office stampers.

## POULTRY, BEE, and HOUSEHOLD CHRONICLE.

### POULTRY SHOWS.

JANUARY 1st, 2nd, and 3rd. GLASGOW. (Pigeons and Canaries.) *Secs.* Mr. T. Buchanan. Entries close December 22nd.  
 JANUARY 6th, 7th, and 8th. KENDAL. *Secs.* Mr. George C. Whitwell, and Mr. T. Wilson. Entries close December 23rd.  
 JANUARY 7th and 8th. CORK AND SOUTH OF IRELAND. *Sec.* J. C. Beale, Esq., Cork. Entries close December 20th.  
 JANUARY 8th and 9th. PERTH. *Sec.* Mr. D. Brown. Entries close December 31st.  
 JANUARY 13th and 14th. GLOUCESTER ORNITHOLOGICAL. *Sec.* Mr. G. Cummings, 89, Southgate Street.  
 JANUARY 21st and 22nd. LIVERPOOL. *Sec.* Mr. J. T. Lawrence, 3, Cook Street. Entries close January 5th.  
 FEBRUARY 10th and 11th. DEVIZES. *Secs.* Mr. J. Long and Mr. J. S. Mullings. Entries close January 23th.

### THE PAST YEAR.

THE approach of Christmas is not without its effect on most people. We have met with those who declare they are not naturally lazy—they say work is a pleasure, pastime, and recreation. We don't believe them. It is none to us. There is a great fuss made about the words "if" and "but." They deserve it, *but* they are not the kings of the company, and *if* any other can make a good resistance, why should it not? The past of a man may be full of lessons, but the future is full of hope. The future scorns "if" and "but"—it tacks its faith on "then." Those who have a weekly or daily task are strangely lazy when the end of the year is at hand. Turn the year, and *then*. The truth is, we like to put all we can to the account of the future, in order that we may extract what we may in the way of pleasure from the present. The days are short, the mornings are dark, and things are stationary. The shortest day is past; but we are told there will be no real difference for a fortnight. Then, say we, it should be a holiday. "What!" says a friend who had just dropped in, "a holiday! How long?" "Till the days lengthen," say we. "My stupid friend," he says, "have you considered? The commercial year is made up of fifty-two weeks, and the exports and imports amount to—" "Stop, sir," say we, and we think of Robert Macaire, who, having breakfasted with Bertrand at a restaurant, and having, as he said, *unfortunately taken no purse that morning*, was compelled to offer either some shares in a company he was about to form, or Bertrand's hat. Now albeit the latter was a "Goss," and by no means a new one, the waiter took the hat; and we preferred our correspondence to our friend's "rifacimento" of McCulloch and Adam Smith. We therefore wished him good morning, and began to open letters.

"T. W. S. M. B. F." writes he has been trying for years to get a prize, and has succeeded at last at the Crystal Palace, and there is no report. "W. W." thinks it would save trouble if the previous exploits of a pen were written over it. He, like all complainants, disavows any idea of finding fault, but cannot make out why he should win at Birmingham and be only com-

mended at the Palace. He forgets the effect of a bilious attack he had a short time since. He was ill only three days, and hardly knew himself; but then it is nonsense to say fowls are ever bilious. Now we will go to our arrears.

Three weeks since Birmingham, and no details save the report. It is not enough to know there was fair weather, but we want to know how the glass stands. We will go to stern figures. Spite of distress in the north and croakings in the south, Bingley Hall was visited by the largest number that has ever attended the Poultry Show—60,961 people were admitted. The receipts at the doors were £1257 5s. 6d. Such success is well deserved.

While speaking of the Crystal Palace we cannot talk of increased numbers; but we can talk of an attendance produced entirely by the attraction of the poultry, and we can give some of the reasons that limit the attendance. First, the abominable railway accommodation. We know numbers who would attend but for that; and the aristocracy who attended numerously on the Tuesday were all there early in the morning, and all gone by twelve o'clock—they would not bear the squeeze. The railway accommodation that suffices for the four or five hundred daily visitors before the Poultry Show, is left to do duty for the time of the quadrupled numbers. No allowance is made for the time of year and the fact that nearly all want to go at the same time; and a family that has paid for first-class tickets is enabled, after a hard struggle, to get two in a third-class compartment made for ten and carrying sixteen, two in a second-class, and two in a first. People tire of this and forget to call it pleasure. Another drawback is the transformation of the centre of the Palace into a huge carpenter's shop and unpacking-room. Enough of that, and we will proceed to our chickens, remarking on those points that may possess interest after the Show.

The Cochins were not as good as at Birmingham, but the Spanish were better. It seemed as though the two breeds could not supply two shows with pens of equal merit. The coloured Dorkings were chiefly remarkable for the great success of Lady Holmesdale. This Show is held in the heart of the Dorking country; but Messrs. Vernon, Wakefield, Priest, and others hold their own and take their places in the prize lists. We were glad to see the Rose-combs well represented. The Single Cock class in Dorkings was declared by the Judges to be the best they ever saw. The Spanish were superior to those at Birmingham. Mr. Martin was very successful. The Game were excellent, and the awards were remarkable for the number of new names they brought before the public, not, however, to the exclusion of Messrs. Archer, Hindson, Vernon, and other well-known prizetakers. The Golden-pencilled were weak, and the Silvers formed a bad class; they may be good layers, but as specimens of the breed they are bad. The Golden were better than the Silver-spangles. In all the Hamburgs there were many faulty combs. Poland maintained their upward tendency in quality and numbers. Mrs. Pettat, with Messrs. Adkins and Dixon, sent perfect birds. Malays were faultless, but not so numerous as usual. The Game Bantams formed a very large class. The White Geese weighed 61 and 53 lbs., the Grey, 70 and 58 lbs. The Aylesbury Ducks, 22½, 21½, and 20 lbs. Rouens, 18, 17, and 16½ lbs. The Black Ducks were beautiful. Turkeys weighed 63 and 61½ lbs.; young birds, 56 and 55½ lbs. There was a beautiful show of Pheasants.

### DURATION OF THE CRYSTAL PALACE POULTRY SHOW.

#### CARRIAGE OF POULTRY.

I THINK I am not the only one of your readers who is of opinion that the Crystal Palace Show is just one day too long. Surely three clear days of exhibition ought to suffice.

My own birds at the recent Show were absent from home close upon ten days! and as I live only 150 miles from London, the journey is not long. They are at the place of exhibition a whole week, which I think is too long.

While I am writing, will you permit me to touch upon another point, which, if taken up by a number of first-class exhibitors would tend greatly to increase the number of entries at poultry shows, and thereby assist to solve the problem of the day of "How are we to make poultry shows answer?" I allude to the present heavy expense for carriage. For one pen of Cochins and two of Pigeons packed in light baskets, and the distance only 150 miles from town *via* Great Western Rail, I had half a

sovereign to pay for bare railway carriage there and back, besides incidental expenses. Now, I think that if a club or society were formed which would open a negotiation with all the railway companies to try to induce them to carry show poultry, and at greatly reduced prices, great advantage would be gained by all the societies by a considerable increase of entries; and it may be reasonably expected that, on the penny-post principle, railway companies would be rather gainers than losers by agreeing to a very liberal scale of reduction. The simplest mode of doing it would be to induce all companies to carry exhibition poultry, &c., free on the return, if unsold. This is already done in many cases, and prevents unfair and dishonest advantage being taken of a reduced rate both ways by sending poultry as if for exhibition, which may not *bono fide* be so.—W. H. BEADON, *Cheddon, near Taunton.*

### THE BLACK BANTAMS WITH COLOURED LEGS AT THE DARLINGTON SHOW.

HAVING noticed in the last Number of your valuable Journal a letter from "JUSTITIA," in which he insinuates that the pens of Black Bantams which I exhibited at the last Crystal Palace Summer Show, and which were claimed, were not shown in their natural state, but with coloured legs, I feel it my duty, in justice to myself and the arbitrators of that Exhibition, to state publicly, which I now do without the least hesitation, that not the least particle of colouring matter, or any kind of stain whatever, was laid on, or came in contact with the legs of the birds referred to by either myself or any other person previous to their being dispatched to that Show. As to the position the highly-commended pen held being an inducement to their present owner to purchase them, they were in the catalogue at £3, while my first-prize pen was only in at £2; and the gentleman referred to being present and claiming them himself, and he a well-known judge of poultry, attending most if not all of our principal exhibitions, you will agree with me that he could not have been expected to purchase birds of any description, without first consulting his own judgment in the matter.

If a maturer development of the birds have produced the change in the colour of the legs, surely there is no reason to blame me in the matter, for they were naturally a good dark colour, and fit to "pass muster" at any exhibition before the most exact and scrutinising judge, at the time that I sent them to that Show.

Your correspondent "WILTSHIRE RECTOR," says, in his "Plea for Bantams," that he has had Black Bantams laying at the age of twenty weeks and three days. Allow me to state in support of his assertion, that two out of the four pullets sent to the Crystal Palace Show were laying when a few days short of seventeen weeks, and at the end of nineteen weeks I had a sitting of eggs from them under a hen. When hatched the chickens were weaklings and did not live many days.

In conclusion, I cannot refrain from saying, that if parties writing to your Journal were compelled to give their proper names instead of being allowed to shield themselves behind fictitious appellations, it would be much more easy for your readers to discern the true lover of justice from those who write only from personal animosity.—E. HUTTON, *Pudsey.*

[We have the real name and address of "JUSTITIA." If he intended any reflection on Mr. Hutton, he was not justified in so doing; but we do not think he did. The owner of the Bantams when exhibited at Darlington has not denied that he knew their legs were coloured, and until he does so there is but one conclusion, and no one else ought to be suspected.—EDS.]

### PENGUIN DUCKS.

If any of your readers have kept Penguin Ducks, and will have the kindness to observe one little point, and communicate the result, I should be greatly obliged. On examining the skeleton, I find that certain bones of the leg are longer than in the other breeds. I formerly kept these birds alive, and as far as I dare trust my memory, they could run considerably faster than other Ducks. Is this the case? It would, perhaps, be a good way to test their running powers to call the two kinds, when hungry, from a distance to their food, and see which arrived first.—CHARLES DARWIN, *Down, Bromley, Kent.*

### HYBRID BETWEEN THE COMMON PHEASANT AND THE SILVER PHEASANT.

CAN you inform me what sort of birds a cross with a common cock Pheasant and a Silver Pheasant hen would produce? Would they produce what are called Spangled Pheasants?—J. D.

[We believe we are correct in saying there has never been a cross between the common and Silver Pheasants. Such a bird is desirable, and would be highly prized; but we do not think it possible.]

### SALT DOES NOT INJURE PIGS.

I DO not pretend to have much knowledge about "grunters," but it appears from some statements which have appeared in your widely circulated Journal, that salt is a most dangerous thing to give them in their food. I am living in a pig locality where salt is generally mixed with their food, and I have not heard of a single case of injury to the animal arising from it. The prevalent opinion is, that the animal relishes its food far more with a little salt in it than without it. I was extremely doubtful about giving it to them until my neighbours persuaded me, and I must confess that the pair I am owner of are no worse for the saline ingredient.—J. E., *Co. Fermanagh.*

### BEEES AND BEE-HIVES

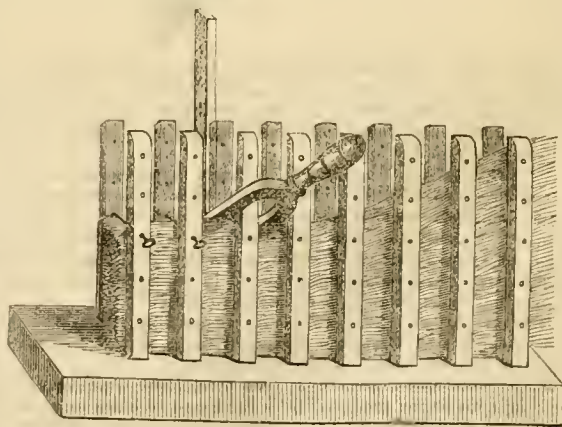
IN THE INTERNATIONAL EXHIBITION.

(Concluded from page 688.)

FRANCE.—In this department we found some very well-made common straw hives, and some straw storifiers, which do not appear one step in advance of those used by the Count de la Bourdonnaye in the last century, and described by Wildman as nearly identical with his own. M. HAMET exhibits a so-called observatory-hive, which is, however very inferior to those of English make.

We cannot find any reference to French hives in the official catalogues, but on quitting the court we accidentally discovered an octagon storifier by M. Vignon; a frame-hive by M. Debeauvoys; and a square storifier by M. Gaillard. We saw nothing to remark in the two former, but may refer to the latter at some future opportunity.

AUSTRIA.—KOLB, J. F., *Maria Enzersdorf, Lower Austria*, No. 599, circular hives made of straw and of rushes, and of both combined; also, square straw lager-hives of various descriptions. There are two machines, one for making round hives, and the other for making the sides, doors, &c., of square hives. The principle of each being the same, we engrave the latter, as being most readily understood. It will be perceived

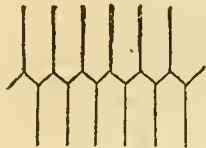


that the straw is subjected to pressure by means of a lever, and confined by means of iron pins passing through holes in the uprights. The binding or stitching is applied before these pins are removed, and the result is a straw fabric of great firmness and solidity. The extreme cold of German winters is provided against by these straw hives being 2 inches thick.

MELICHER, DR. L., *Vienna*, No. 601.—A moveable-comb hive of wood covered with traced straw, affording, we should think, a

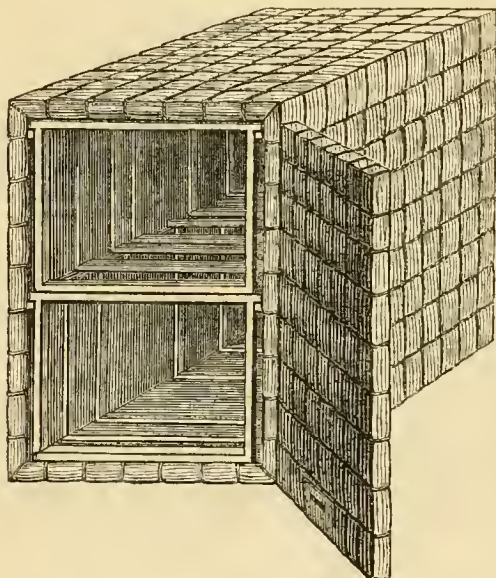
most complete nursery for the wax-moth and other vermin. A clumsy hive of two-inch wood. A tall bar-hive three stories high, and a "Schew-glass moveable comb-hive," of no particular novelty or merit.

NACHTMANN, J., *Hermagor, Carinthia*, No. 603, exhibits Carinthian hives, which are made of straw, and do not differ much from the hive delineated below, except that the brood-room only is fitted with frames, the honey-room having simple bars. Herr Nachtmann also shows some strips of hard wood an inch wide, engraved on both sides thus:—



This is placed between two bars, one side of each of which has previously been coated with wax, and this side being placed in contact with the engraved bar the whole is subjected to pressure in any kind of press, and the result is the foundation of worker-combs ready laid for the bees in wax on the surface of each bar.

OETTL, J. N., *Puschwitz, Bohemia*.—We engrave Herr Oettl's hive as the type of a kind extensively used in Germany. It will be perceived that it is a frame-hive with two sets of frames ranged one above the other, the lower forming the "brood-room," and the upper the "honey-room." Deprivation is



effected, and operations are performed, by opening the hive either at the back or front, as represented. There is also a wax-filtering pot in tin, wherein the wax rises through a perforated tin horizontal divider inserted and fastened at about 4 inches or 5 inches from the top.

WURTEMBERG.—WEITZEL, E. (Society for bees' breeding), *Sonnenberg*, No. 2729.—A neatly-executed model of a bee-shed with twenty-six wooden hives, eight on each side, the same number in front, and two over the doorway. Each hive is fitted with nine frames, and space is left above the frames for a honey-room. The boxes being placed in pairs, have side communication as if intended for collateral working.

RUSSIA.—KLIKOVSKY, PROFESSOR, *Kazan*, No. 303.—Models of a unicomb-hive of rather a pyramidal shape, and of a storifying-hive, both of them on a very small scale.

ROCHEFORT, COUNTESS OLGA, *Ossa Circ, Perm Gov.* No. 154.—Oleaginous honey produced from the lime-tree blossom, growing on a ferruginous soil on the estates of the Countess Olga de Rochefort at the foot of the Uralian Mountains, and used medicinally throughout Russia and Persia for diseases of the chest and respiratory organs, &c. Obtained by cold pressure. This honey is very remarkable as being produced entirely without the aid of bees, and has, of course, a very strong flavour of the blossom from which it is derived. It is moreover stated to be most valuable as a medicine, and superior to cod liver oil in cases of consumption. The Jury have marked their appreciation of its merits by their award of a medal.

SWITZERLAND.—MENZEL, PROP., & GRABERG, *Zurich*, No. 120.—New contrivances to guide bees in constructing their combs. Of these "new contrivances" the artificial combs are doubtless valuable, but have been many years in use in Germany, and are so fully described by our correspondent "G. F. B.," that we need not further allude to them here.

## BEES IN BUILDINGS.

WOULD any of your apianian correspondents who may have tried keeping our little favourites in buildings or working through windows, &c., oblige me with the result of the experiment, giving height from ground, aspect, thickness of wall, &c.? as I am thinking of trying a stock or two in a building with a N.W. aspect next season, but should like the opinion of some of your correspondents; and if this should meet the eye of a "RENFREWSHIRE BEE-KEEPER," I should be exceedingly obliged if he would favour me with the history of a hive referred to in *THE JOURNAL OF HORTICULTURE*, No. 51, page 507, March 18th, 1862, and No. 25, page 202, which was an observatory-hive. Would he be so kind as to say whether this stock prospered and swarmed or not, with such particulars as may seem to suggest themselves to him?

What can be the cause of vagrant swarms generally preferring a high situation, such as a roof, or in the tower of a church, &c.? so contrary to the usual practice of apianians. Are we wiser than they? or is it in accordance with their instinct? It strikes me the charm of these situations is in their equable temperature and freedom from disturbance. Perhaps Mr. Wyndham Jones might throw a little light on the subject if he would be so kind as to favour us with the promised result of his inquiries and observations at Tatton Park. Any replies to my queries would oblige—A NORTH-STAFFORDSHIRE BEE-KEEPER.

[We should be obliged by replies to the above inquiries, not only from the correspondents especially alluded to, but from any others who may have had experience in this mode of keeping bees.—EDS. J. OF H.]

NEW USE FOR GUTTA PERCHA.—One of the most ingenious applications recently made of gutta percha is that of forming artificial hoofs for horses' feet. Many skilful devices have been resorted to to attain this result, but the adoption of gutta percha will, doubtless, supersede all others as soon as its efficiency becomes recognised. What is required is a substance possessing the consistence of horn, to retain the nails of the shoe, that will readily soften by heat, so as to mould itself into the required form; that it be indissoluble in water, seeing that the horse's hoof is generally in contact with moisture; and that it be capable of uniting perfectly with the hoof. The gutta percha is first cut into nut-size fragments, and softened in hot water; the pieces are then mixed with half their weight of powdered sal-ammoniac, and melted together in a tinned saucepan over a gentle fire, keeping the mass well stirred. The mixture should assume a chocolate colour.—(*Cincinnati Gazette*.)

## OUR LETTER BOX.

RABBIT JUDGES AT THE CRYSTAL PALACE (*A Constant Reader*).—We do not know their addresses. Ask Mr. Houghton, Secretary of Poultry Show, Crystal Palace, Sydenham, enclosing with the inquiry your address on a stamped envelope.

JUDGES AT BIRMINGHAM (*Patelin*).—We have received your note on this subject, but think it best not to insert it, because we have reason to believe that next year all will proceed in accordance with common sense, and further discussion might only hinder so desired and desirable a result.

WILD DUCKS WITH TAME.—Please to correct a mistake in my reply to "J. R." respecting the rearing of wild Ducks. It occurs in your publication of the 23rd instant, at page 773, the second column, and thirtieth line. It should have stood thus—the young ones "at each reproduction became much larger, and the legs *lost* the fineness and elasticity so easily recognisable in the first parents." I would not trouble you, but in the above sentence the word *took* being printed in mistake for *lost* alters the meaning of the paragraph altogether.—EDWARD HEWITT.

CUP-COMBED DORKINGS (*P.*).—It is a common error considering that a cup-comb is a grave defect in a Dorking. It is no such thing. There is no specific comb for a Dorking; and the only rule relative to its comb of the slightest importance is that which requires similarity of comb in a pen. A double back, or the presence of a few sprigs, does not constitute a cup-comb. This last is circular, or cup-form at the back.

AMERICAN WILD TURKEY (*C. A.*).—You can have the American wild Turkey from Mr. Eaily, Mount Street, Grosvenor Square.















